Critical success factors in the alignment of IS plans with business plans

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Abstract

The alignment of IS plans with business plans is not an easy task and knowing which are the critical areas to manage will certainly enhance the success of such efforts. Although there is a large amount of research on critical success factors (CSFs), past studies usually examine CSFs of specific systems implementation (e.g., MRP) and total quality management (TQM). Relatively few studies exist on the CSFs related to aligning IS plans with business plans. This paper presents the results of an empirical study of IS executives on the relative importance of various CSFs for aligning IS plans with business plans. The results indicate that top management commitment to the strategic use of IT, IS management knowledge about business, and top management confidence in the IS department are the top three CSFs. Implications of the results are discussed. © 1999 Elsevier Science Ltd. All rights reserved.

Keywords: Critical success factors; Information systems planning; Alignment

1. Introduction

Strategic information systems (IS) planning has consistently remained among the top ten issues facing senior executives over the past 10 years (Brancheau et al., 1996). A key aspect of strategic IS planning is the alignment of IS plans with business plans through coordination between business and IS planning functions and activities.

The need for aligning IS plans with business plans has been emphasized in both prescriptive (e.g., King, 1978) and empirical studies (e.g., Teo & King, 1996). Basically, these studies show that alignment between IS plans and business plans is necessary to ensure that the IS function supports...
organizational goals and activities at every level (Lederer & Mendelow, 1989a) in order to achieve business value from IT (Teo & King, 1996) and better exploitation of IT for strategic advantage (Goldsmith, 1991). Such alignment also helps to identify critical applications for development (Lederer & Sethi, 1991) and ensure that adequate resources are allocated to such applications (Lederer & Mendelow, 1989a, b).

Due to the importance of aligning IS plans with business plans, it is useful to examine the critical success factors (CSFs) for such alignment. Briefly, CSFs are those factors that management need to pay special attention to (Rockart, 1975) in order to enhance the chances of successful IS planning alignment. Past research has investigated CSFs in manufacturing resource planning (MRP) implementation (Ang et al., 1995; Burns et al., 1991), quality management (Black & Porter, 1996; Saraph et al., 1989), strategic alliances (Rai et al., 1996), data management (Guynes & Vancecek, 1996) and strategic IS planning (Ang & Teo, 1997). However, none of the existing research has examined CSFs in IS planning alignment and this paper is an initial attempt to do so. The results should prove useful in enhancing our existing knowledge on how to better align IS plans with business plans, thereby facilitating successful IS planning efforts.

1.1. Background

Past studies generally focused on IS planning methodologies (Lederer & Gardiner, 1992), IS planning problems and benefits (Lederer & Sethi, 1991, 1992), impact evaluation (Premkumar & King, 1991; Teo & King, 1996), stages of growth (King & Teo, 1996), role of steering committee (Raghunathan, 1992), research agenda for IS planning (Boynton & Zmud, 1987), process and content dimensions of IS planning (Das et al., 1991), and alignment between business and IS planning (Teo & King, 1996).

Research on aligning business plans with IS plans has examined the nature of such alignment in terms of one-way relationship with business plans influencing IS plans (King, 1978), two-way relationships with business and IS plans influencing each other (King & Zmud, 1981), and integrated relationships with business and IS plans being developed together concurrently in the same planning process (Goldsmith, 1991). Other researchers have proposed a typology of alignment relationships (Synnott, 1987) and empirically tested a stage hypothesis of IS planning alignment (King & Teo, 1996).

Researchers have also examined the strategic alignment of IT with the enterprise, rather than alignment of planning processes alone. For example, Brown and Magill (1994) proposed a model of antecedents for IS alignment decisions. Henderson and Venkatraman (1993) proposed a comprehensive framework of IS strategic alignment incorporating four fundamental domains of strategic choice: business strategy, IT strategy, organizational infrastructure and processes, and IT infrastructure and processes.

In terms of mechanisms for alignment, Lederer and Mendelow (1989a) proposed three main mechanisms – content, timing and personnel. Content linkage is concerned with consistency between business plans and IS plans. In an empirical study of 131 firms, Zviran (1990) found evidence that IS objectives are associated with organizational objectives. Furthermore, there is a correspondence between each organizational objective and specific IS objectives.

Timing and personnel linkages are less often emphasized in IS planning methodologies compared to content linkages (e.g., King, 1978). Timing linkage is concerned with whether IS plans are
developed before, after or simultaneously with business plans. For consistency, business and IS plans should also have the same planning horizons. Personnel linkage is concerned with whether participants in the strategic business planning process are also involved in the strategic IS planning process and vice versa. This is to ensure that a common frame of reference exists between business and IS planners.

In contrast to Lederer and Mendelow’s three mechanisms of linkages, Reich and Benbasat (1996) defined linkage in terms of intellectual and social dimensions. The intellectual dimension is a refinement of content linkage in that the content of IT and business plans should be internally consistent (i.e., the IT mission, objectives, and plans are consistent with stated business mission and objectives) and externally valid (i.e., the plans are comprehensive and balanced with respect to external business and IT environments). Similarly, the social dimension is much broader than personnel linkage as it emphasizes that both business and IS planners should understand each other’s objectives and plans.

Researchers have also examined the factors influencing IS planning alignment. For example, through interviews with senior executives, Pyburn (1983) found that the style of senior management decision making, the volatility of the business and the applications development portfolio, the complexity of the IS organization and management tasks, and the status and physical location of the IS manager influenced planning practices and consequently the degree of alignment between business and IS plans.

In a study of IS management and general management, Nath (1989) found that some differences exist between IS and business management with regard to the importance of various factors in IS planning alignment. Specifically, IS management identified educating upper management in IS, upper management commitment to IS, and a strong set of organizational goals and objectives concerning IS; while general management identified educating upper management in IS, ability of IS management to keep up with advances in IT, and educating IS management in business goals and objectives, as important.

Lederer and Mendelow (1989a) conducted interviews with 20 top IS executives and found four main reasons why IS planning alignment is difficult. The reasons are: unclear or unstable business mission, objectives, and priorities, lack of communication, absence of IS management from business planning process, and unrealistic expectations and lack of sophistication of user managers. The results also suggested that the presence of top management mandate for coordinating the plans distinguishes IS executives who did not report the difficulty from IS executives who did.

In contrast, Teo and King’s (1997) study found that a single variable, namely business competence of the IS executive accounted for over 9% of the variation in the degree of alignment between business and IS planning. This indicates that business competence may be more important than technical competence in facilitating IS planning alignment.

Another aspect of IS planning alignment that has been examined is its impact on organizational performance. For example, Das et al. (1991) cited an A.T. Kearney study which showed that organizations that aligned business and IS plans outperformed those who did not. Chan and Huff (1993) found that IS strategic alignment was consistently related to various dimensions of IS effectiveness although mixed results were obtained with respect to IS alignment and various dimensions of IS performance. Teo and King (1996) found evidence that greater alignment led to reduced IS planning problems and increased IS organizational contributions to organizational performance.
In summary, research on IS planning alignment has examined the nature of alignment, factors influencing such alignment as well as impact of such alignment. Few research studies, if any, have specifically investigated CSFs for IS planning alignment. This study represents an initial attempt to do so. The method, results and implications are given below.

2. Method

2.1. Sample and procedures

The sample was taken from the Key Business Directory of Singapore (Dun & Bradstreet, 1996/1997). A cover letter, stamped reply envelope and a copy of the questionnaire were sent to the senior IS executives in 600 firms. About 2–3 weeks later, follow-up calls were made to those who have not responded to persuade them to respond. A follow-up mailing was also carried out about one month from the date of initial mailing.

2.2. Instrument

A questionnaire survey was used to collect data for this study. Items in the questionnaire were derived from a review of past research literature on IS planning. Respondents were asked to indicate the extent of importance of each item in influencing the alignment of IS plans with business plans on a five-point Likert scale ranging from 1 (not important) to 5 (very important). They were also asked to comment on the IS planning process and its associated problems in their firms. The questionnaire was pretested with eight MBA students. Based on their feedback, modifications were made to enhance the clarity and comprehensibility of the items. The questionnaire was then pretested by another eight MBA students and reviewed by two faculty members. Since there were no major comments, the questionnaire was deemed ready for use with actual respondents.

3. Results

3.1. Response rate

Eighteen firms declined participation citing busy schedules, company policy not to respond to questionnaire and absence of IS planning as reasons for not responding. A total of 175 questionnaires were received, of which six were rejected due to missing responses. Hence, there are 169 usable responses, giving a response rate of 28.2%. Of these 169 firms, 136 (80.5%) carried out strategic IS planning and are used for data analysis in this paper.

3.2. Demographic characteristics

The demographic characteristics of respondents are shown in Table 1. Respondents are from a wide variety of industries, with a predominance of banking/finance/insurance, computer/telecommunications and manufacturing. The number of employees, annual
Table 1
Demographic characteristics

<table>
<thead>
<tr>
<th>Demographic characteristics</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Company business</strong></td>
<td></td>
</tr>
<tr>
<td>Banking/finance/insurance</td>
<td>19.1</td>
</tr>
<tr>
<td>Chemicals</td>
<td>1.5</td>
</tr>
<tr>
<td>Computer/telecommunications</td>
<td>22.1</td>
</tr>
<tr>
<td>Engineering/architecture</td>
<td>2.9</td>
</tr>
<tr>
<td>Hotels/travel</td>
<td>8.1</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>11.8</td>
</tr>
<tr>
<td>Retail/wholesale</td>
<td>5.9</td>
</tr>
<tr>
<td>Civil service</td>
<td>8.8</td>
</tr>
<tr>
<td>Others</td>
<td>19.9</td>
</tr>
<tr>
<td><strong>Total number of employees</strong></td>
<td></td>
</tr>
<tr>
<td>Less than 100</td>
<td>18.4</td>
</tr>
<tr>
<td>101–500</td>
<td>30.9</td>
</tr>
<tr>
<td>501–1000</td>
<td>18.4</td>
</tr>
<tr>
<td>1001–2000</td>
<td>12.5</td>
</tr>
<tr>
<td>Above 2000</td>
<td>19.1</td>
</tr>
<tr>
<td>Missing data</td>
<td>0.7</td>
</tr>
<tr>
<td><strong>Annual revenue</strong></td>
<td></td>
</tr>
<tr>
<td>Less than $10 million</td>
<td>11.0</td>
</tr>
<tr>
<td>$11–50 million</td>
<td>18.4</td>
</tr>
<tr>
<td>$51–100 million</td>
<td>16.9</td>
</tr>
<tr>
<td>$101–500 million</td>
<td>20.6</td>
</tr>
<tr>
<td>Above $500 million</td>
<td>25.0</td>
</tr>
<tr>
<td>Missing data</td>
<td>8.1</td>
</tr>
<tr>
<td><strong>IS budget as a percentage of total sales</strong></td>
<td></td>
</tr>
<tr>
<td>0 to 1/2%</td>
<td>8.8</td>
</tr>
<tr>
<td>1/2 to 1%</td>
<td>13.2</td>
</tr>
<tr>
<td>1 to 2%</td>
<td>17.6</td>
</tr>
<tr>
<td>2 to 4%</td>
<td>11.8</td>
</tr>
<tr>
<td>4 to 7%</td>
<td>14.0</td>
</tr>
<tr>
<td>7 to 12%</td>
<td>8.8</td>
</tr>
<tr>
<td>Above 12%</td>
<td>16.2</td>
</tr>
<tr>
<td>Missing data</td>
<td>9.6</td>
</tr>
</tbody>
</table>

revenue and IS budget as a percentage of total sales are fairly evenly distributed. This implies that strategic IS planning is carried out in a wide variety of firm sizes.

3.3. Alignment of IS plans with business plans

The questionnaire listed 18 CSFs for aligning IS plans with business plans. Recall that the respondents were asked to rate the degree of importance of each item on a five-point Likert scale ranging from 1 (not important) to 5 (very important). The results are shown in Table 2 (in descending order of importance).
Table 2
Business-IS planning alignment

<table>
<thead>
<tr>
<th>Business-IS planning alignment</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Top management is committed to the strategic use of IT</td>
<td>4.34</td>
</tr>
<tr>
<td>2. Information systems (IS) management is knowledgeable about business</td>
<td>4.26</td>
</tr>
<tr>
<td>3. Top management has confidence in the IS department</td>
<td>4.20</td>
</tr>
<tr>
<td>4. The IS department provides efficient and reliable services to user departments</td>
<td>4.12</td>
</tr>
<tr>
<td>5. There is frequent communication between user and IS departments</td>
<td>4.07</td>
</tr>
<tr>
<td>6. The IS staff are able to keep up with advances in IT</td>
<td>4.10</td>
</tr>
<tr>
<td>7. Business and IS management work together in partnership in prioritizing applications development</td>
<td>4.06</td>
</tr>
<tr>
<td>8. Business goals and objectives are made known to IS management</td>
<td>4.06</td>
</tr>
<tr>
<td>9. The IS department is responsive to user needs</td>
<td>4.03</td>
</tr>
<tr>
<td>10. Top management is knowledgeable about IT</td>
<td>4.00</td>
</tr>
<tr>
<td>11. The IS department often comes up with creative ideas on how to use IT strategically</td>
<td>4.00</td>
</tr>
<tr>
<td>12. The corporate business plan is made available to IS management</td>
<td>4.00</td>
</tr>
<tr>
<td>13. There is a set of organisational goals and objectives for the IS department</td>
<td>3.91</td>
</tr>
<tr>
<td>14. User departments view IS staff as competent</td>
<td>3.88</td>
</tr>
<tr>
<td>15. The IS management actively participates in business planning</td>
<td>3.74</td>
</tr>
<tr>
<td>16. Top management actively participates in IS planning</td>
<td>3.71</td>
</tr>
<tr>
<td>17. The planning horizons for business and IS plans are similar</td>
<td>3.55</td>
</tr>
<tr>
<td>18. Users actively participate in IS planning</td>
<td>3.48</td>
</tr>
</tbody>
</table>

3.3.1. CSF #1: *Top management is committed to the strategic use of IT* (mean = 4.34)

Top management commitment to the strategic use of IT is viewed as the #1 factor that may influence the alignment of IS plans with business plans. This is perhaps expected since past research has frequently emphasized the importance of top management support and commitment in any development and implementation process, e.g., total quality management (Black & Porter, 1996), statistical process control (Harris & Yit, 1994), MRP (Ang et al., 1995), CASE tools (Orlikowski, 1993) and expert systems (Guimaraes et al., 1996). The importance of top management commitment to IT is emphasized by an IT director who commented that “it is difficult to use IT strategically because top management do not view IT as a strategic tool for competitive advantage. Consequently, alignment between business and IT is weak”.

Top management can demonstrate their commitment to the strategic use of IT in several ways. First, they can elevate the status of the top IS executive such that he or she reports directly to the CEO (Raghunathan & Raghunathan, 1989). Such an elevation of status would pave the way for closer relationships of IS with user departments. Second, top management can allocate appropriate and adequate resources (e.g., funds, manpower) for the development of strategic IT applications. These resources are often necessary to ensure minimal delays and bureaucratic bottlenecks in critical IT projects as evident in the following quote from an IT manager: “IT projects often get delayed and lack critical resources because top management is not committed to spending on IT”.

Third, top management can initiate the setting up of an IS steering committee. The presence of the CEO as a member of the IS steering committee will send a clear message to the rest of the
departments regarding the importance of the IS function in the organization. Fourth, top management can play a leadership role in terms of providing directions for strategic IS initiatives rather than a controlling role in determining details of IS planning activities. The reason is that too much top management involvement in IS planning activities can often result in overemphasis on bureaucratic procedures and reduced flexibility of response to unexpected situations.

3.3.2. CSF #2: Information Systems (IS) management is knowledgeable about business (mean = 4.26)

The relative high ranking of this CSF is consistent with the results of Teo and King’s (1996) study which found that business competence of the IS executive is a key factor in facilitating greater alignment between business and IS planning. Note that IS management knowledge about business is even more important than top management knowledge about IT (which is ranked CSF #10). This result is also consistent with Armstrong and Sambamurthy’s (1996) study which found no relationship between top management’s IT knowledge and the extent of IT deployment in the firm. In contrast, CIOs with high strategic IT and business-related knowledge were found to enjoy significantly greater participation in top management teams. Furthermore, such knowledge also significantly influenced the extent of IT deployment in business strategies and value chain activities. Note that business knowledge encompasses business strategies, organizational work processes, products and services, industry’s recipes for success, and competitors’ strengths, weaknesses and potential actions.

This implies that it is no longer sufficient for IS management to be concerned only about the technical aspects of the IS function. Increasingly, IS management is expected to be knowledgeable about the business and to play an important part in business strategy formulation and implementation. If IS management is not knowledgeable about the business, it becomes very difficult for them to recommend appropriate IT applications to support business strategies. Such lack of knowledge about business is likely to be a significant hindrance to the firm’s ability to exploit IT strategically, and may also adversely affect the reputation of the IS function in being only technically-focused rather than business-focused. The urgent need for such knowledge is evident from the following quote from a Business Systems manager: “There is an urgent need for IS manpower with better strategic planning capabilities and business knowledge in order to facilitate the strategic deployment of IT”.

3.3.3. CSF #3: Top management has confidence in the IS department (mean = 4.20)

This item is related to CSF #1 above since top management needs to have confidence in the IS department in order to be committed to the strategic use of IT. Without such confidence, it will be very difficult for top management to allocate appropriate resources (in terms of funds, personnel, etc.) for the planning and development of strategic IT applications. Indeed, past research (Lederer & Sethi, 1988) has shown that the lack of availability of resources is a serious problem in IS planning. One IT manager laments the lack of top management support in the following quote: “Top management does not support IT wholeheartedly because of its perceived poor track record in delivering quality IT applications on time and within budget. This has aggravated our ability to satisfy users”.

On another level, if top management has confidence in the capabilities of the IS department to deliver appropriate systems that are crucial for the successful implementation of firm’s strategies, the role of the IS department is more likely to be elevated from a supporting role to a more strategic
role. Such confidence may also be reflected in the top IS executive being a part of senior management team or being only one level away from the CEO (Raghunathan & Raghunathan, 1989). Furthermore, the extent of participation of top management in IS planning or the participation of IS management in business planning is often determined by top management’s perception of the IS department.

3.3.4. **CSF #4: The IS department provides efficient and reliable services to user departments (mean = 4.12)**

The efficiency and reliability of services provided by the IS department will play an important role in determining user departments’ perception of the IS department. Indeed, for IS to be successful in any organization, it should be perceived as efficient, effective and reliable by user departments. If user departments do not have good perceptions of the IS department due to poor efficiency and reliability of services provided, it becomes more difficult for user departments to share and formulate business strategies jointly with the IS department as evident in the following quote from a respondent: “There is a lack of IT credibility among users and this has significantly hindered IS planning efforts”.

User departments may also resort to developing their own IT applications rather than wait for the IT department to do so. This may create future problems in terms of “islands of automation” where data could not be shared among different departments due to lack of standards during application development. Poor performance by the IS department may also lead top management to allocate minimal resources to the IS function or outsource a major portion of IS activities to an external vendor. This may adversely affect the long-term viability of the IS department in the organization.

3.3.5. **CSF #5: There is frequent communication between user and IS departments (mean = 4.07)**

A fundamental premise of information systems in organizations is that they must serve user needs. Hence, frequent communication between user and IS departments is often necessary to ensure that IT applications are developed according to users’ requirements. Systems that fail to meet users’ needs are often underutilized and are a waste of the firm’s valuable resources. One chief information officer commented that “communication between user and IS department is our key problem. Coordination and feedback need to be improved”.

Frequent communication between user and IS departments also enable them to share a common frame of reference with regard to various organizational issues. This is necessary for the internal consistency and external validity of output plans from the planning process (Henderson & Sifonis, 1988). Through frequent communication, user departments become more knowledgeable about IS, while IS departments become more knowledgeable about the business. This will greatly facilitate partnership between business and IS management, and consequently facilitate the use of IT to create business value for the organization.

3.3.6. **CSF #6: The IS staff are able to keep up with advances in IT (mean = 4.10)**

Due to the increasing importance of IT in many organizations, IS staff are often expected to take on a leadership role in planning and implementing new technologies and systems. By keeping up with advances in IT, IS staff will be better able to suggest appropriate applications to support business objectives and strategies. Such applications may be crucial to the firm’s long term survival.
Another reason for the importance of this factor is that the field of IT changes very fast. Existing technologies may quickly become obsolete as new technologies emerge. By keeping up with advances in IT, the firm may develop or maintain its reputation as a technological leader in the industry. Furthermore, past research has shown that capitalizing on new advances in IT can often give the firm a competitive edge. The sustainability of such advantage depends on many factors such as whether the firm continues to innovate as well as the strengths and weaknesses of competitors. Failure by the IS staff to keep up with advances in IT can adversely affect perception of the IS department as evident from the following quote: “Sometimes, business managers hear about some latest technologies and questioned us about it. Often, we are not able to give a convincing reply because all our IT staff are busy “fire-fighting” problems daily. This has adversely affected the reputation of the Computer Services department and the morale of our staff”.

3.3.7. CSF #7: Business and IS management work together in partnership in prioritizing applications development (mean = 4.06)

The importance of this item is consistent with past research (Lederer & Mendelow, 1987) which suggested that a direct two-way relationship between business and IS management is crucial for successful IS planning. Other researchers have stressed the need for partnership and shared vision between business and IS management in order to leverage IT applications for strategic advantage (Feeny et al., 1992). Note that partnership is greatly facilitated if business and IS management understand each other’s goals, problems and limitations. Such understanding enables joint decision on criteria used to evaluate IT projects and ensures that priority is given to the development and implementation of critical IT applications. The lack of partnership can be a problem as evident from the following quote from an IT manager: “partnership between business and IS is difficult in my firm because IT is only viewed as a nonstrategic support function. Often, users and IS department identify projects, list them out and implement them in a monorail fashion without giving much thought in prioritizing them in terms of which projects are more feasible? Which will turn out to be a greater success? Or whether there are any resource constraints”?

3.3.8. CSF #8: Business goals and objectives are made known to IS management (mean = 4.06)

Normative approaches to IS planning (King, 1978) have advocated linking or aligning IS plans to business plans. In order for such alignment to take place, business goals and objectives must be made known to IS management. In doing so, it becomes easier for IS management to devise appropriate IS plans to support business goals and objectives.

However, what happens if the firm does not have a business plan, or has one that is full of generalities and budget information that may not be useful for IS planning? In such cases, IS management often needs to rely on the firm’s vision or mission statement, or on formal and informal communication with user departments. Business management needs to realize that if business goals and objectives are not made known to IS management, it will not be possible for IS management to formulate IS plans to support business strategies. One data processing manager commented: “in my company, business plans are closely guarded due to the competitive nature of our industry. IS planners are often not given a chance to peruse business plans and this has made our understanding of business strategies limited”.
3.3.9. **CSF #9: The IS department is responsive to user needs (mean = 4.03)**

This item is related to CSF #4 above since efficient and reliable services by the IS department will not be useful if such services do not serve user needs. The role of the IS function has moved from technically oriented backroom operations to business-oriented front-line support. Information systems are no longer just used to automate operations, but are increasingly used to reengineer business processes and contribute to the firm’s long term success. As such, it is vital that the IS department be responsive to user needs. In doing so, IS can play a key role in ensuring that IT applications serve business need and not become a “white elephant” where resources are wasted on IT applications that are not aligned to what the firm or users require.

On another level, by being responsive to user needs, the IS department’s inputs into business strategy formulation and implementation are likely to be viewed as important and useful. Furthermore, the status of the IS department may also be elevated as users find them to be competent and responsive to their needs.

3.3.10. **CSF #10: Top management is knowledgeable about IT (mean = 4.00)**

Top management is responsible for a wide range of organizational processes and activities. Primarily among these is the allocation of resources to competing projects. Since the resources in any organization are usually limited and investments in IT are usually costly, it is important for top management to be knowledgeable about IT in order to objectively evaluate proposals for purchase or upgrade of hardware and software. Such knowledge about IT encompasses the potential and limitations of an organization’s IT infrastructure, IT action of competitors and the potential of emerging technologies for the organization’s business (Armstrong & Sambamurthy, 1996).

Also, by being knowledgeable about IT, top management will be better able to evaluate payoffs from IT investments and have more realistic expectations of what investments in IT can or cannot achieve. Top management must realize that IT is not a panacea for all organizational problems. Rather, IT should be viewed as a resource to be deployed judiciously to support or influence business strategies in terms of streamlining business operations, reengineering business processes, forging electronic links with suppliers and customers, etc. Top management’s insufficient knowledge about IT is often a major problem as evident from the following quote: “top management does not know enough about IT. Hence, they cannot make good decisions. They only think of saving money and cutting costs rather than upgrading IS staff needs”.

3.3.11. **CSF #11: The IS department often comes up with creative ideas on how to use IT strategically (mean = 4.00)**

This item is related to CSF #6 above since by keeping up with advances in IT, the IS department will be more able to produce creative ideas on using IT strategically. Innovation and creative ideas can often be a source of competitive advantage and can make existing ways of doing things obsolete. By coming out with creative ideas for the strategic use of IT, IS management demonstrates the strategic relevance of IT to the organization. Such strategic relevance may be in terms of broad parameters such as adding business value and contributing to long term success of the organization, or in terms of more specific impacts such as improving operational efficiency and customer service. One chief information officer attributed the firm’s high growth rate to IT in the following quote: “IS planning alignment is a major factor in our rapid growth rate. Our IS staff is doing a great job in coming out with ideas on how to use IT strategically”.

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3.3.12. CSF #12: The corporate business plan is made available to IS management (mean = 4.00)

This item is related to CSF #8 above since by making corporate business plans available, business goals and objectives will be made known to IS management. Calhoun and Lederer (1990) found that there is a significant correlation between the quality of communication of strategic business plans and the extent of strategic IS planning. However, there was no significant relationship between the quality of business plans and the extent of strategic IS planning. Taken together, this means that having a high quality business plan is not enough. It is crucial for these plans to be communicated and made available to IS management in order for appropriate IT applications to be developed and implemented to support business goals and objectives. One IT manager commented: “in my firm, access to business plans is limited. Often, such plans are not detailed enough. This has made planning alignment between business and IS difficult”.

3.3.13. Remaining CSFs (means < 4.00)

The means of the remaining CSFs are below 4.00 (i.e., they are less critical than those discussed above. Organizational resources and activities should be channelled to achieving the CSFs (especially those with higher means). Among items with lower means are top management and user participation in IS planning, IS management participation in business planning, and similarity of planning horizons for business and IS plans. This is quite unexpected since two out of the three mechanisms of linkages, namely, personnel and timing, advocated in past research, are ranked lowly. It seems that the emphasis is predominantly on the third form of linkage, namely content.

Of the two linkages – personnel and timing – personnel linkage has been emphasized more frequently than timing linkage. Presumably, timing linkage may be more difficult to practice since IS plans are usually modeled after business plans rather than being developed at the same time as business plans. Consequently, business and IS planning horizons may differ. In contrast, the lack of emphasis on personnel linkage as CSFs is disturbing because past research has repeatedly emphasized the importance of top management/user participation in IS planning and IS management participation in business planning. Conceivably, personnel linkage may take the form of informal channels of communication among top management, user and IS management. However, some studies (Lederer & Mendelow, 1987) have suggested that oral information and communication is often inadequate in helping IS management develop strategic IS plans.

4. Concluding remarks

In interviews with IS professionals, Lederer and Mendelow (1989b) found that coordinating IS plans and priorities with business plans and priorities is one of the main difficulties in IS planning. This paper on CSFs for aligning IS plans with business plans should help to mitigate some of the difficulties in IS planning. Specifically, the list of CSFs enables practitioners to concentrate on a set of factors that will enhance the alignment of IS plans with business plans. By evaluating each CSF in the context of its organization, practitioners will be better able to design appropriate strategies for better IS planning alignment.

For researchers, this paper is an initial attempt to derive a set of CSFs for aligning IS plans with business plans. Researchers can investigate the reasons why there appears to be an emphasis on content linkage rather than personnel or timing linkages. Practitioners should realize that by
placing less emphasis on timing and personnel linkages compared to content linkages, they could be missing out on other important or potentially effective mechanisms for aligning IS plans with business plans. This is especially relevant in cases where there is an absence of business plans, or lack of comprehensiveness of business plans, for such content alignment to take place. In such situations, both timing and (especially) personnel linkages may often serve as useful surrogates for content linkage.

References


