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ABSTRACT

Mergers and acquisitions are important business strategy for growth. Many mergers and acquisitions have failed, however, due to a mismatch between strategic, organizational, and increasingly, information systems factors. Given that a large number of enterprise systems have been deployed in the last decade, their integration post merger is crucial to organizations that pursue mergers and acquisition as a growth strategy. This paper discusses issues that are important to the integration of information systems in a merger and acquisition environment. The need for information systems fit is emphasized; the role of information systems plays and its involvement in the integration life cycle are elaborated. An information systems integration success model is discussed and issues related to enterprise systems integration are presented. The paper concludes by highlighting the need for enterprise systems integration for companies to position themselves favorably in the merger and acquisition environment.

Keywords

Enterprise systems, enterprise resource planning, systems integration, mergers and acquisitions.

INTRODUCTION

Many corporations pursue mergers and acquisitions as a leading strategy for growth. An acquisition or merger may result in an increase in sales, profits, and market share or a competitive advantage (Bower, 2001). The former may be achieved through synergies brought about by the elimination or consolidation of operations and products. The latter is obtainable through the acquisition of new technologies, patents or work processes. Despite their great promise, however, not all mergers and acquisitions work; in fact, the majority of them may be considered failures. Some estimate that up to two thirds of the mergers or acquisitions failed to meet the expected revenue, market share or profit increase goals (House, 2003). As a result, many acquisitions were later divested, leaving the company less valuable in the end (McKiernan and Merali, 1995).

In the past merger and acquisition decisions were based mainly on the strategic and organizational fit of the businesses involved. Recent research has shown that the IS/IT fit, or a lack thereof, can just as well contribute to the success or failure of mergers and acquisitions. In the past decade or so many companies have deployed various enterprise systems such as enterprise resource planning (ERP), customer relationship management (CRM) and supply chain management (SCM) as the backbone of their application portfolio. An assessment of the IS/IT fit dictates that enterprise systems be scrutinized closely to see how well they can be integrated in a post merger company. This paper examines issues that are related to the integration of enterprise systems in a merger and acquisition environment. The objectives are to raise the awareness of mergers and acquisitions as a strategy among enterprise systems developers and to stimulate research on enterprise systems integration post merger.

FINDING A GOOD MATCH

Many factors go into the selection of a target company to acquire or merge. Jemison and Sitkin (1986) suggest two dimensions, strategic and organizational fit, as important determinants of acquisition success. Strategic fit measures the extent by which the target company can contribute to, augment, or complement the strategic goals of the acquiring firm. Organizational fit measures how well the two firms match in their respective administrative systems, corporate cultures, and personnel characteristics. Careful evaluation of these two dimensions is needed to ensure the selection of the most suitable company to acquire. Moreover, they need to be constantly monitored during the implementation stage to make certain that the right strategic goal is achieved. Much has also been written about implementation failures due to clashes of cultures or problems with the retention, motivation, and integration of key personnel (e.g., Kubilus, 2003; Walsh, 1989).

Besides strategic and organizational issues, recent research indicates that problems with integration of information systems have also contributed to merger and acquisition failures. Several researchers contend that the IS or IT fit should be explicitly considered prior to acquisition (e.g., Buck-Lew, Wardle, and Pliskin, 1992; McKiernan and Merali, 1995). However, in reality, the information systems function is usually treated as a second class citizen in merger and acquisition activities (Calabrese, 1991; Kublius, 2003; McCartney and Kelly, 1984). IS professionals are often not involved in the negotiation stage of a merger or acquisition or given enough information to evaluate IS issues (McReil, 1989). As a result, information systems integration can be difficult even after personnel and business operations have been integrated (Sumi and Tsuruoka, 2002). It is not surprising that the literature is full of reported merger and acquisition failures. Some estimated that up to two thirds of mergers and acquisitions had unmet expectations (House, 2003). From 33 to 60 percent of the acquired companies were later divested and 80 percent of the merged companies had their shareholder value destroyed (McKiernan and Merali, 1995).

INFORMATION SYSTEMS/M & A STRATEGY ALIGNMENT

It is generally agreed that information systems strategy should be aligned with the business strategy. It follows then IS professionals should understand merger and acquisition strategies. Bower (2001) distinguished five types of mergers and acquisitions, each with distinct strategic objectives:

Overcapacity M & A: Deal with overcapacity in mature industries; the objectives are to eliminate capacity, gain market share, and create a more efficient operation,

Geographic roll-up M & A: The objective is to roll-up competitors in geographically fragmented industries to expand geographically,

Product or market extension M & A: Extend into new products or markets; the objective is to extend a company's product line or market coverage,

M & A as R & D: As a substitute for R & D; in lieu of in house R & D, the objective is to build a market position quickly through acquisitions, and

Industry convergence M & A: Invent a new industry by exploiting eroding industry boundaries, the objective is to establish a market position quickly by culling resources from existing industries whose boundaries are eroding.

Depending on the type of merger or acquisition and its strategic objectives, the information systems function should devise an IS integration strategy accordingly. Bower (2001) did not address IS strategy directly, however, it seems that overcapacity mergers and acquisitions would have a heavier emphasis on consolidation in all business areas including information systems than others do. When mergers and acquisitions are used as a means to obtain new products, enter into new markets or create new industries, a more strategic view of the information systems function is warranted.

Mergers and acquisitions can also be classified based on the strategic interdependence of the two companies involved and the need for organizational autonomy of the acquired company. As shown in Figure 1, these two dimensions result in four types of mergers and acquisitions: holding, preservation, symbiotic and absorption (Haspeslagh and Jemison, 1991). Figure 2 presents four types of IS integration strategies for the four types of mergers and acquisitions. Two dimensions are used to classify IS integration strategies: standardization of applications and distribution of computer architecture. An absorption merger or acquisition, for example, needs to maximum operational consolidation; therefore, it makes sense to standardize most if not all applications and roll-up data centers in a centralized architecture. On the other hand, a preservation merger or acquisition requires autonomous operations and, therefore, non-standardized applications and distributed architecture may be more appropriate.

ROLE AND INVOLMENT OF INFORMATION SYSTEMS

Information systems can play either a reactive or proactive role in mergers and acquisitions (McKiernan and Merali, 1995). In the reactive role, the IS function accommodates other operational considerations, whereas a proactive IS creates opportunities for gaining a competitive advantage or facilitates operational and organizational changes. To standardize computer applications and centralize operation in support of an absorption merger or acquisition is an example of the reactive role. A similar role can be played by the IS function in an overcapacity merger or acquisition. A proactive role requires strategic thinking on the part of IS to *enable* a firm to pursue its merger and acquisition strategies. When Monsanto implemented SAP, for instance, it designed a global system that would be flexible enough to handle any potential mergers or acquisitions in the future (Sliwa, 2000). Strategic information systems are critical for mergers and acquisitions that aim to obtain new products, enter into new market, or create new industries. Even in an overcapacity merger or acquisition, IS can play a proactive role by facilitating operational and organizational integration. If a company can do more mergers and

acquisitions because its IS function can support those activities more efficiently and effectively, it has a competitive edge over its competitors.
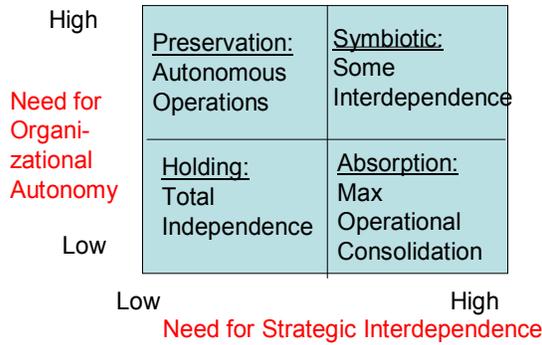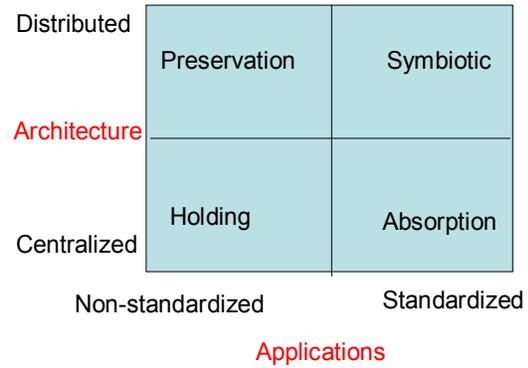

Figure 1. Acquisition Type

Figure 2. IS Integration Strategy

The involvement of information systems in mergers and acquisitions can be analyzed using the merger integration life cycle (McKiernan and Merali, 1995). The life cycle describes activities involved in a merger or acquisition in six stages: target selection, target evaluation, planning for post-merger integration, integration implementation, post-integration review, and acquisition strategy. During target selection, information on major business functions including IS is collected. In reality, however, information on IS is often not available, or not collected due to a lack of time or involvement of IS professionals (Bohl, 1989). This affects directly the next stage, target evaluation. The failure to conduct a proper evaluation of the IS infrastructure of the target company has been cited as a reason why IS contributed to mergers and acquisition failures (Fiderio, 1989; Hoffman, 1990). During the planning stage, plans for integration of various business areas including IS are devised. However, the emphasis is often on short term gains from consolidations without regards to long term implications for information infrastructure (Kennedy and Worth, 1990). The lack of strategic planning for IS has limited companies' ability to use it to gain a competitive advantage in the merger and acquisition environment. During the integration implementation stage, unrealistic schedule and budget goals set earlier due to a lack of consideration of IS in the previous stages often cause implementation problems (Fiderio, 1989). Besides early involvement of IS, implementation success hinges on a host of variables related to organizational maturity and IS maturity, which will be discussed in more detail in the next section. During post-implementation review, evaluation is normally based on short term economic gains rather than strategic implications. To get ahead in the merger and acquisition game, however, a company should additionally assess both the acquisition process and the IS integration process. This allows the institutionalization of the merger and acquisition process and the position of IS to support such a process. Results from the post-implementation review may provide input to the final stage, the acquisition strategy stage. IS participation during this stage is crucial for companies to take a proactive look at IS as a strategic weapon to position itself favorably in the merger and acquisition environment.

AN IS INTERGRATION SUCCESS MODEL

In addition to aligning the IS strategy with the business strategy and having the IS play an active role in the integration life cycle, other factors exist that can impact the success of IS integration in a merger or acquisition. Stylianou, Jeffries and Robbins (1996) developed a research model to test factors that affect the success of IS integration. Their research model was later modified by Robbins and Stylianou (1999) in a similar study, which defined IS integration success using five measures: the ability to exploit merger opportunities, the ability to avoid merger problems, the end user satisfaction with the integration process and integrated systems, improved IS capabilities to support mergers, and improved IS resource utilization during the integration process.

Both Stylianou, Jeffries and Robbins (1996) and Robbins and Stylianou (1999) found IS integration success affected by a number of independent variables that may be classified as either organizational maturity or IS maturity as follows:

Organizational maturity: merger experience, IS participation in merger planning, quality of merger planning, top-level support for IS, and quality of communications of merger activities to IS.

IS maturity: Quality of IS integration planning, quality of IS communications of integration activities to end user areas, end user involvement, and quality of technical support to users.

This success model is useful in defining the contribution of IS to the success of a merger or acquisition. Specifically, it makes explicit the capability to support mergers, the ability to exploit merger opportunities and avoid merger problems the objectives of IS integration. The two groups of independent variables also help the IS function focus on factors the affect its ability to achieve its objectives. The literature describes other factors that may also have an effect on IS integration success such as the retention of the integration expertise in house (Iansiti, 1998) and the ability to recover from integration mistakes (House 2003). These additional success factors can be easily incorporated into the success model.

ENTERPRISE SYSTEMS INTEGRATION ISSUES

As more and more companies deploy enterprise systems such as ERP, SCM, and CRM, integration of these systems becomes a top priority in mergers and acquisitions (Stedman, 2000). Because these systems are very complex and difficult to implement, their integration with different cultures and management styles from merging two companies presents enormous hurdles (Radcliff and LaPlante, 1999; Stedman, 1999). In addition, since this kind of projects are so resource intensive, they may compromise the implementation of other IT initiatives. Exxon/Mobil's merger in 1998 was especially noteworthy as it resulted in the largest SAP systems integration project at a time when the two companies had to contend with the Y2K issue (King and Nash, 1998).

Another problem is that companies merging often had implemented enterprise systems licensed from different vendors. Even if there were only one vendor involved, it is not uncommon to have multiple copies running in the same organization. A major impetus for the adoption of ERP software in the late 1990's was to be Y2K compliant. As companies rushed to meet the Y2K deadline, they threw in a copy of ERP at each location and for each business that they compete in. As a result, a firm may have multiple copies or instances of the same enterprise systems that are un-integrated. A 2003 Hackett Group survey, for example, found that an average company now has 2.7 copies of ERP (Worthen, 2003). One company reportedly has as many as 64 copies of SAP running in different business units (Sliwa, 2000)! Integration of these multiple instances of ERP is very expensive and will be the major systems implementation project for large corporations in the next decade (Berinato, 2003).

Due to customizations and release variance, integration of enterprise systems from even the same vendor can be extremely difficult if not impossible (Kubilus, 2003; Stedman, 1999). Consequently, some firms chose not to integrate their enterprise systems initially (Caldwell, 1998; Sliwa, 2000). The decision on which enterprise system to keep has also been made irrespective of technical or even financial considerations. When Standard Register acquired Uarco, the former had PeopleSoft's ERP whereas the latter had Baan's. After the merger the new company stayed with Standard Register's legacy system because it was Y2k compliant. After 2000 the company moved to Baan's because the combined company had more experience with it than with PeopleSoft (Caldwell, 1998). Another example is the merger of Dow Chemical with Union Carbide. Dow was and still is an SAP R/2 user whereas Union Carbide had implemented SAP R/3. Some industry observer believed that the new company would move to R/3 since it was the newer version (Collett, 1999). In the end, however, the merged company decided to standardize on the R/2 system, which has been an integrated system that supports Dow Chemical's global business operations in 135 countries since 1998.

Besides the software itself, other factors likely will contribute to the success or failure of enterprise systems integration after a merger. Some guidelines have begun to emerge in practitioners' journals (e.g., Kubilus, 2003; Radcliff and LaPlante, 1999). They include top management support and involvement, user participation and leadership, realistic goals and open and constant communication. Empirical validation of these and other factors in a more systematic way seems a promising research opportunity.

CONCLUSION

This paper has discussed issues that are important to the integration of information systems in mergers and acquisitions. Like all business initiatives, it is essential that a company identify its merger and acquisition strategy first and then align its IS integration strategy to support its merger and acquisition activities. A firm should also realize that IS can play a proactive as well as reactive role in mergers and acquisitions and that early and substantial involvement of IS in the integration life cycle is critical to the success of mergers and acquisitions. A number of organizational maturity and IS maturity variables have been discussed to help achieve IS integration success.

As more and more companies deploy various enterprise systems to process business transactions, enterprise systems integration becomes even more important in mergers and acquisitions. Whereas in the past, distributed architecture and non-standardized applications may be desirable for achieving local autonomy, such an integration strategy can prove costly in the long run. Many of the existing enterprise systems, even if from the same vendor such as SAP, cannot exchange data easily

because they are of different versions and have been heavily customized. As a result, a number of companies are undertaking expensive and time consuming projects to consolidate their enterprise systems (Berinato, 2003; Worthen, 2003). Companies that can successfully integrate enterprise systems will reap huge savings and in a position to aggressively pursue their merger and acquisition strategy; those that can't may end up being acquired.

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