THE ROLE OF INFORMATION SYSTEMS IN MERGERS AND ACQUISITIONS

By

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ABSTRACT

This paper starts off by presenting an historical background on mergers and acquisitions. It talks about the differences between mergers and acquisitions and the reasons why they are carried out in the first place, which range from getting rid of management to cut costs and eventually sell the firm to trying to establish a global presence. The paper then goes on to discuss the specific types of merger and acquisition strategies, which are absorption, merger of equals, and stand alone. These strategies are related to the enterprise, federal, and decentralized business processes, respectively. The importance of Sarbanes Oxley to mergers and acquisitions and information systems is also discussed. Seven factors are then considered in relation to the different strategies and a comparison and analysis is conducted for two cases of mergers and acquisitions – Shibaura Mechatronics and Kvaerner are the acquirers - to see how they fair based on these considerations and the reason the merger was conducted. It was found that due diligence, the involvement of IT in the merger process, and organizational culture were important regardless of the reason for conducting the merger, at least under conditions similar to the cases observed.

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Introduction

Mergers and acquisitions have been a fundamental strategy for creating value and wealth for firms for the greater part of the past two centuries. Mergers and acquisitions have generally come in waves, with the last wave occurring during the years of 1992 to 2000 and quite possibly the largest wave experienced in the history of the United States occurring during the years of 1981 to 1089, or the “mega-merger” period (Brown). The mega-merger period, related to a developing economy and to deregulation, may not be matched in intensity again, but this does not diminish the significance of mergers and acquisitions to companies involved in them.

The importance of mergers and acquisitions cannot be stressed enough, because firms engaging in them are willing to pay millions, if not billions, of dollars, for smaller firms because of the perceived value that these companies may bring them, whatever this may be and for reasons only the acquiring firm’s executives fully understand. A survey conducted by Bain and Company in 2005 found that 55 percent of company executives agreed that "acquisitions will be critical to achieving our growth objectives over the next five years" (Rigby).

A merger and an acquisition are basically similar concepts and are therefore often mentioned together when discussing the process or processes whereby one firm combines with another. For the purpose of this thesis, mergers and acquisitions will be treated in the same manner, but the differences in the two terms should still be delineated. According to the Merriam-Webster dictionary, a merger is the “absorption by a corporation of one or more others” (2009 ed.). Another term for a merger is a takeover and takeovers can be either hostile or friendly (Schnitzer). A hostile takeover involves presenting an offer to the stockholders of the target (or prey) company, typically in the form of a stock price above the current market price. By doing this, the potential acquirer (or predator) hopes to entice the stockholders to give up their shares. This is necessary because the executives of the company being sought after do not wish to merge and the potential acquirers must go directly to the shareholders to accomplish the merger. One recent and widely publicized hostile takeover attempt was that involving Microsoft and Yahoo! in early 2008. Microsoft wished to expand its search engine capabilities and compete with Google. It offered what it thought to be a reasonable price for Yahoo!, but the company's CEO did not accept the offer. The subsequent appeal to Yahoo! stakeholders ultimately failed. A friendly merger, of course, as its name suggests, occurs when the acquirer and the target mutually agree on a merger and the terms and conditions thereof.

An acquisition is essentially a hostel merger since it involves the use of cash in order to fund the attainment of another company (Mastracchio & Zunitch). A friendly merger usually does not require the purchase of any of the target's assets since both companies are consenting to the agreement and the merger is viewed as beneficial to both parties. The funding for the target company comes from the common stock of the acquiring company. If the outcome of a merger is to have two companies dedicated towards advancing each other's overall interests, then a friendly merger is the way to go. A friendly merger also allows the target company to achieve any stock appreciation of the merged entity that may occur as a result of the merger. However, friendly mergers are usually more costly than acquisitions since legal costs can be quite substantial. Also, some other reasons one might favor acquisitions to friendly mergers are that the process is usually much faster and simpler and that the acquiring company does not encounter any dilution in ownership such as that which takes place after a merger (Mastracchio & Zunitch).

Why Carry Out Mergers and Acquisitions?

Companies engage in mergers and acquisitions for a variety of reasons. Most, if not all, mergers and acquisitions involve some expression of economic and/or technological motivating factors (Brown). As a whole, however, the greatest underlying inducement behind mergers and acquisitions is company growth, which is needed either to sustain or increase market size or to simply survive in today's competitive environment (Mack). A not-so-legitimate, but not uncommon rationale for conducting a merger or acquisition is the desire to buy an unsuspecting company, get rid of the existing management, and slash costs. The target company can then be sold off for a higher cost than what was paid for it. Acquiring or merging with another company may also make the acquiring company appear healthier than what would otherwise be the case if the company were to report only earnings from its current, internal operations - also known as organic growth - on its financial statements.

Achieving economies of scale is perhaps the biggest reason why companies carry out mergers and acquisitions. The acquiring company wishes to use the enhanced size the M&A affords them in order to reduce administrative and operating costs. The impact of economies of scale is usually bigger when the two companies are in the same or similar industries because this makes it easier to collapse the company's functions into one easily manageable and less costly function and spread expenses across entities. IT costs are also saved in the long run when the company's information systems are integrated.

Globalization is another compelling reason for M&A activity. When a company seeks to reduce labor costs or to offer its products or services to people in other counties, merging or acquiring another company often presents an enormous opportunity for the acquiring firm. Globalization guarantees the firm more customers, which helps it produce constant revenue.

Ever since the euro became the only currency used across several European countries, the effort for U.S.-based companies merging or acquiring European companies has become drastically simpler since they do not have to deal as much with unstable currency (Global Policy Forum).

Diversification is the last major reason why companies may favor the M&A approach (Mack). Needs that cannot be fulfilled externally are usually sought after by acquiring or merging with the target firm. These needs are usually those that cannot, for economic or skill-based purposes, currently be provided by the acquirer. The firm may wish to expand its product line, or to acquire the skills and knowledge or the technology of the target firm. Acquiring or merging for the technology has special implications for both the target and the acquirer when considering information system execution across the two companies (Mack).

Types of Mergers and Acquisitions Strategies

The ultimate objective of most mergers and acquisitions is to align the strategies and business processes of the acquiring firm with those of the target company. Mergers and acquisitions can take the vertical, horizontal, and conglomerate form. Vertical M&As are between buyers and sellers, horizontal mergers are between competitors, and conglomerate mergers are between entities of unrelated business sectors. Vertical mergers, in particular, decrease competition and so are stringently regulated (Beechmont Crest). Besides the specific identity of a merger and acquisition, there are three basic strategies under which mergers and acquisitions can form. These are absorption, stand-alone, and merger of equals (Mack):

- **Absorption:** This occurs when the target firm is entirely taken in by the acquiring firm. The acquirer's business strategies supersede those of the target, leaving the target with no choice but to assume the acquirer's processes as its own. The IT implications behind this method are that the several disparities between the two organizations' business processes must be observed and given due diligence to figure out the magnitude of the situation and how the target firm's information systems must change in order to become aligned with those of the acquirer. Absorption is related to the central, or enterprise, business process.

- **Stand Alone:** This occurs when the targeted firm stays apart as a separate entity. There is only minimal integration of support services such as networks and data centers required to tie up loose ends and establish effective communication between the firms. Of course, the financial reporting of the targeted firm must also be incorporated into the financial statements of the target firm but, in relation to the other strategies, the stand alone strategy is the least intrusive. Achieving economies of scale is the most desired outcome of the stand alone strategy. The stand alone strategy is related to the selected sharing, or federal, business process.
- **Merger of Equals:** Also known as the "best of breeds" approach, this occurs when both the acquiring and target firm integrate the characteristics of each firms' information systems that are best suited for the new, integrated business model. All business processes are assessed and those that achieve the greatest advantages and results are chosen. Merger of equals requires the most amount of risk and change relative to the other models. This strategy is related to the decentralized, or business unit, business process.

The Rules Have Changed

Mergers and acquisitions can have many implications and impact critical elements of businesses such as that regarding the effective implementation and operations of information systems. Recent U.S. legislation that arose in 2002, labeled the Sarbanes-Oxley Act (SOX) of 2002, has had a profound impact on the information systems of publically traded companies, both large and small, especially regarding their internal control compliance. The act, a result of public outcries concerning massive corporate scandals that were uncovered during 2001, adds a significant financial burden for companies that sometimes prove too costly for some companies, causing them to opt out of their publically traded status (Holmes & Neubecker). Therefore, the new legislation must now be considered when contemplating whether to merge with or acquire another company and, if this option is taken, which type of merger and acquisition strategy to implement.

The importance of internal controls over financial reporting has been heightened by SOX. Internal controls over financial reporting are defined as:

> a process designed by, or under the supervision of, the CEO and CFO and implemented by the company's board of directors, management, and other personnel in order to provide reasonable assurance for the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principals (Miller and Rittenberg).

The new internal controls requirements necessitate that firms appraise the efficiency of both their operation and design each quarter (Holmes & Neubecker). They have also increased the significance of IT and the position of the CIO within the company. This is because both IT and the CIO need to handle the duties of data analysis, design, development, and maintenance.

Procedures that prevent theft, intrusion, and failures and those that facilitate with the operations of the organization must be implemented in accordance with SOX. Also, the information system needs to be able to obtain essential financial data at a moment's notice. The policies and processes associated with the compliance of the new information system regulations need to be implemented and integrated across all aspects and departments of the organization, including all related entities. The most difficult element of regulation compliance is dealing with the parts of the information system where information travels from one system to another and from systems outside the organization to the organization's systems. These parts require great accuracy and the monitoring of transactions to make sure they are properly authorized (Holmes & Neubecker). They will also be, or at least should be, prominent considerations of mergers and acquisitions because of the complexity involved in connecting the disparate information systems of the acquiring firm and its potential target.

Factors to Consider in M&As

Many studies have found that mergers and acquisitions typically fail in approximately 50% of the cases (Tichy). The term "failure" usually implies situations where M&A activity does not meet expectations or where the entire transaction ends in utter disaster for the companies involved. This gloomy insight into mergers and acquisitions makes it all the more crucial to take extra precautions and become better prepared when deciding whether to conduct a merger or acquisition. There are many factors that a firm may wish to consider, all of which are directly or indirectly relate to information systems. Some, such as culture, should be given greater weight than others. These factors, in no particular order of importance, are economies of scale, culture, performance parameters, ease of change, new working method adoption, customers, and geographical distance. Figure 1 below shows the significance of the factors when dealing with the two most extreme M&A approaches, enterprise and federated. The merger of equals approach exhibits much of the characteristics of the enterprise approach so, in this regard, both approaches will be considered to rely equally on each factor.

Figure 1: Matrix of M&A Factors for Enterprise and Federated Approaches

	Enterprise	Federated
Economies of Scale	X	
Culture - Retained		X
Performance Parameters -Integrated	X	
Ease of Change	X	
New Working Method Adoption - Less Impact		X
Customer Problems	X	X
Geographical Distance	X	

- **Economies of Scale:** The acquirer needs to be able to administer the technology of the companies to understand how the technology can be used to create synergy or gains in efficiency (Giacomazzi et al). The focus should not be on trying to exploit the technological assets for all they are worth but to make sure their distinctive capabilities can be used to run the business more effectively (James et al). This works well with the absorption or merger of equals strategy but can prove to be prohibitively expensive because of the design, implementation, and installation costs involved (Evgeniou). On the other hand, centralization of information systems could save money via a decrease in future IT costs.
- **Culture:** A lot of the time the acquiring companies are quick to assume that the target company's management expertise and technology are inferior to those of its own (James et al). However, this can be a fatal mistake. The acquirer must also understand that the information needs of the two companies may be different and divergences in cultural atmosphere, such as that dealing with risk taking and

investment, may result in conflict and impede acceptable resolutions on subjects such as information systems (Olie). This issue is more pronounced when the target company is based in another country and when the acquirer is looking to adopt the enterprise approach, which requires integrated information systems, policies, and management directives. It is imperative that a strong company identity be developed post-merger. If a company wants to retain its distinctive identity and business attributes, a federated approach is more likely to be favored. Regulations and accounting and legal requirements may also cause an acquirer to gravitate towards this approach when dealing with an international firm. Because of large diversities in company cultures, the less the integration of the information systems of companies, the less chance there is of a failed merger.

- **Performance Parameters:** With an enterprise approach, a unified information system may aid in the developing of a common organizational style, offering a single language and universal performance parameters and operating capabilities (McKiernan & Merali). If the merging organizations depend on the gathering of information as part of their corporate strategy, policies and guidelines can be incorporated into the information system. If the two organizations are in the same general business area, applications and business specific software can be coordinated and standardized and the redundancy and incapability problems associated with incongruent information systems would not be an enormous issue (Stylianou et al). However, differences in information processes and needs between the companies may not allow for such integrated information systems, limiting integration to financial data only (Olie). Also, it may be suitable to at first let the acquired business develop its technological potential before fully integrating (James et al).

- **Ease of Change:** An enterprise approach allows for an easy transition when business needs in the marketplace are constantly changing since information is well synchronized (Evgeniou). It offers a lot of flexibility when it comes to viewing and controlling information. This is especially important when time and speed demands on the business are great. However, information may not always well-informed due to the quick generation of information.
- **New Working Method Adoption:** Redesigning and conforming the business processes and organizational and managerial operations that employees of the target have grown accustomed to can be perilous to mergers and acquisitions, especially if knowledge generating processes are involved since they can be feeble but nonetheless essential (James). Trying to connect technological knowledge of two firms via information systems can be very difficult and tends to be an informal ordeal. The loss of key personnel as the result of M&A activity can destroy value associated with knowledge-generating processes. It can undercut innovation, cause resistance to change, and increase employee turnover.
- **Customer Problems:** Gaining, helping, and retaining customers would be affected whether choosing an enterprise or federated model. If an enterprise system were adopted, this may create difficulties with customer service since business units are usually consolidated, creating an overall smaller support system (James et al). On the other hand, when using an enterprise system, it would be a lot easier to keep track of and learn about important customers in order to create targeted offerings to them

(Evgeniou). Also, there would not be instances where the merged companies vie for the same customers without realizing it.

- **Geographical Distance:** When converging with an overseas company, determining where to locate hardware physically may be problematic. A centralized database and information system should be developed if there is an elevated need for communication between businesses and for organizational reports to be standardized. This can result in escalated technical problems such as the dependence on only one database in the case of outages or attacks, but everything would be stored in one place, avoiding redundancies (Pliskin et al).

Cases

Two cases will now be explored to further expand on the existing knowledge of the significance of information systems in mergers and acquisitions. The cases provide examples of both a success and a failure (at least in the sense of not being able to meet expectations). The existing cases will be used as sources for gaining further insight from the study of literature that has already been conducted. This suggests that data collection and investigation has been completed for the mergers involved. Since mergers and acquisitions are necessarily conducted by large companies with a lot of money and other resources, it would be difficult to gain access to and interview executives involved in the mergers and acquisitions. Due to these constraints, further research will not be required but rather an analysis of the cases that compares the outcomes of the mergers and acquisitions to the previously mentioned factors of consideration for mergers and acquisitions will take place. As part of the analysis, variables and concepts that add to the understanding of the cases and what caused them to be successful or fail will be discussed. The first case to be mentioned is that involving the acquirer Shibaura Mechatronics Corporation, a Japanese company, followed by that involving the acquirer Kvaerner, a British company. The Shibaura Mechatronics Corporation merger was considered a success while the Trafalgar House merger was considered a failure.

Shibaura Mechatronics Corporation Merger

Company History

Shiabaura Mechatronics Corporation has been an international corporate manufacturer of industrial equipment for more than 60 years (Sumi & Tsuruoka). Specifically, the company develops, manufactures, and maintains equipment used for the production of “semiconductors, media discs, and flat panel displays,” as well as equipment generated with sophisticated in-house technology, such as that of “vacuum, microminiature fabrication, dust free engineering, and electromechanical technology”(Sumi & Tsuruoka). Shiabaura Mechatronics must manage both make-to-stock and engineering-to-order assembly demands. Yearly sales at the turn of the 21st century were about $70 billion yen, or about $73.8 million current U.S. dollars, for the Japanese firm.

The business environment of Shiabaura Mechatronics during the 1990’s was one of rapid and sweeping restructuring in order to better keep up with new-age technological capacities and capabilities. Some plants had been combined and others had been dismantled in order to better integrate Shiabaura Mechatronic’s engineering function and increase productivity. Also, synergy was sought by means of separating out traditional products such as electric motors since this would allow the company to focus its resources on its key business aptitudes and merge with a company that operates in the business of creating equipment, equipment that would be used for the manufacturing of its electronic components. Shiabaura Mechatronics "regarded the M&A occasion as an opportunity for upgrading the existing systems" (Sumi & Tsuruoka).

Merging of Companies

Shiabaura Mechatronic only had six months to prepare for the merger with another company, the identity of which is unknown. The creation of the information system was done by the company's best and brightest, who also worked on outlining procedures for the company's operations simultaneously. In-house personnel, vendors, and outside workers organized as a task force to create the foundation for the systems software. After the information systems were designed, programming of the design was conducted throughout the merger period.

Shiabaura Mechatronics makes all adjustments, such as connecting its network with the network of the target, that it feels are necessary in the beginning phases of the merger process. In fact, integrating the data communications framework is the minimal action the company usually takes at this stage. An inspection of the target's communication environment as it relates to its external environment and its internal business structure is done beforehand.

Managers at the firm make arrangements before the merger actually begins because the firm feels this will result in the faster realization of benefits the merger may have to offer. Its information systems and those of its target are analyzed simultaneously. Implementation of the different systems is broken into sections that are permitted to stay the same, sections that call for immediate integration, and sections where integration is not as big an issue but can be done as consolidated operations progress. Accounting and personnel, purchasing, parts fabrication, and compensation must be integrated during the start of the merger so as to realize quick benefits and have these segments running right away. System control for information on sales and engineering and similar business segments are allowed to stay the same so as to be used to connect business processing systems, gain any advantages the existing systems have to offer, and prevent disorder.

The best aspects of the information systems of the two companies were chosen after considering their relative advantages and innovation and their ability to align well with Shiabaura Mechatronics' business setting. This made it easier for the firm because it could concentrate on working with segments, each of which relate to certain business functions, of the new information system that only have one part to it; the systems of both companies would not try to be simultaneously adapted for the merger. The segments would then be culminated into the new, overall information system of the integrated companies following the merger.

An oversight board created for the sole purpose of analyzing the changes and results to the information system subsystems was made up of managers of their respective functions. If anything was not going as planned, measures were developed to try to solve the problems. This facilitated in generating accountability and making sure the project schedules were in-sync with one another. In regards to staying on schedule, outsourcing activities helps Shiabaura Mechatronics free up resources, such as time, machines, and personnel, to allow the company focus on what is important and keep on track.

Shiabaura Mechatronics uses standard packaged software for most of its transaction systems, such as those for its sales support system, accounting system, and sales management system. The software is flexible, as it allows the company to quite effortlessly deal with the changes to systems that are likely to occur in an M&A environment.

The company has an information systems department headed by the C.E.O., who is also the acting C.I.O. This structure indicates the company's commitment towards placing a high priority on its IT function and, in return, the function's importance in mergers and acquisitions. Also, the significance of IT to Shiabaura Mechatronics is highlighted by its information committee, whereby information system solutions are generated in the presence of the company's corporate strategy board. The use of committees enables the company to stay small and quickly make necessary adjustments.

Kvaerner Merger

Companies' History

Up until the mid 1990s, the Trafalgar House Construction (THC) was the construction division of the company Trafalgar House, one of the largest contractors in Great Britain at the time (Carrillo). THC was also regarded as one of Great Britain's leading utilizes of IT in the construction business. Yearly revenues for Trafalgar House amounted to approximately 1.2 billion pounds or about 1.25 current U.S. dollars. In 1996, the company was purchased by the Norwegian Kvaerner group.

Trafalgar House operated in the businesses of mainly gas, oil, metals, and construction, as well as in businesses that are neither related to nor as essential to Trafalgar House's main business lines and financial bottom line. Kvaerner was involved in similar businesses pertaining to natural resources and had also established a foothold in the engineering industries of ship-building and pulping industries.

The reason for the acquisition of THC by Kvaerner was that Kvaerner wished to establish itself in the international contracting market and to obtain a construction business. Acquiring THC would allow the company to expand its operations as far as the Far East. As for THC, the time of the merger came during a time when it was in the process of making a drastic change with its senior management.

Merging of Companies

As was just mentioned, Kvaerner was going through a change in its structure of management. The company had previously been using a top-down management structure that had management playing a major role. This was changed to a bottom-up structure which contributed to a deficiency of real guidance within the company. THC had also been using the top-down management structure prior to the time of acquisitions but had to change to Kvaerner's new management style in response to the transformation taking place in this company. Just as with Kvaerner, this new management style led to a deficiency of guidance and direction. This problem was only amplified during the merger process because both companies were going through the same conversion.

Kvaerner has its IT department located in Sweden. Its configuration is intended to help the company realize benefits, including standardization and economies of scale, that are to be had during the integration of its information systems with those of THC during mergers and that should offer a competitive advantage. The department works toward making sure matters such as the standardization of wide-ranging software and communication standards are appropriately managed. Direction by the company over industry-specific software is maintained.

Since Kvaerner had no prior construction business, no consolidation of business segments was required when merging with THC. In regards to the information systems of the two companies, no effort was made by Kvaerner to inspect the systems of THC before the merger to fully understand what it was dealing with; no official diligence procedure took place before the acquisition. In turn, no approximation of the cost or time required to carry out information system implementation was carried out. Also, there was no preparation for information system integration.

There was only a makeshift meeting between IT managers when the merger was believed to be certain. The sole agenda of the meeting was to talk about networking issues that should be taken care of throughout the merger. Also, communication between information system officials at Kvaerner's offices in Sweden and the UK was not a crucial matter for the company. Kvaerner's IT managers were never required by upper management to divulge information on the company's information system structure in order to gain a better understanding of it.

Post-acquisition information system planning was not conducted by Kvaerner and its IT department had no insight into and was not informed about what it would be required to do after the M&A took place. What had been done by the company was establish several meetings among the IT staff whereby company information system standards to be implemented after the acquisition were talked about. These standards related to the network protocols that that were to be established between the acquirer and target companies.

After the acquisition of THC by Kvaerner, no evaluation of the merger's outcomes was performed to assess and carry out any necessary changes. It was found that the information system technology of Kvaerner was several years behind that of THC. Also, Kvaerner did not entirely know what it was getting itself into in regards to the running of a construction business and realizing what strengths IT had to offer the company. More importantly, IT management at Kvaerner was unsure what was required of IT even after more than a year of the M&A and what Kvaerner's corporate strategy was for that matter. Also, some of the information system segments developed during the merger was not being utilized to the best of their capabilities.

Discussion

Shiabaura Mechatronics appeared to do everything correctly in its merger with the other company. The company followed the merger of equals approach, which is similar to the enterprise approach. The main reason it decided to conduct the merger to begin with was to gain synergy through economies of scale. It had previously gained aspects of synergy by consolidating its businesses and now it was trying to realize efficiency by merging with a company that had technology that would fit well with its existing manufacturing process. The merger was essentially being used to improve its information systems.

Since the company used the merger of equals approach, it by necessity had to take into account the other company's technology. It analyzed both its and the other company's information systems and decided which aspects of both were the best for its needs. In doing so, the company was performing due diligence before the merger took place. Also pertaining to good cultural practices is the fact that Shiabaura Mechatronics involved the other company's IT personnel in figuring out the basis for its information systems. This practice accounts for the other company's differences in opinions and technical knowledge and does not take for granted that is has better processes that should be used to supersede those of the target company's. The practice should allow for a better relationship between the target and the acquirer after the merger.

Since Shiabaura Mechatronics and its target company are in the same general business area of the manufacturing of industrial equipment, it is best that the two companies have performance parameters (i.e. software and applications) that are standardized so as to avoid problems with incompatibility. This is just what the company has done. It combined both systems' communication networks in the beginning of the merger as well as both company's accounting, purchasing, parts fabrication, and compensation divisions. It also relied on standard software packages for the majority of its transaction systems because this permits the company to easily incorporate the information and processes of the target company since standard software packages usually are not as rigid as customized software; the company realized the benefit of such a layout before conducting the merger and thus adopted it because of its advantages.

Because Shiabaura Mechatronics was going through rapid restructuring at the time of the merger, and it was imperative that the company constantly kept up with current technology, it was best that the company adopted the enterprise or merger of equals approach, which it did. The standardization that these approaches bring during mergers is meant to help ease the constant changes that are likely to develop within the merged company after merger completion in regards to the controlling of information.

The adoption of new working methods is approach-neutral, but Shiabaura Mechatronics appears to have gone about appropriately conducting the merger. For instance, the company created an oversight board responsible for analyzing the alterations to its information system and quickly making adjustments and the company also created an information committee which became part of its strategy board. This foresight in management helps the company manage the new combined organization and its systems and permits the company to remain a cohesive entity. The combined company will be much smaller and, as a result, the loss of personnel, especially those of IT, will result from the merger, but resistance to change will be lessened. Also, technological innovations will not really be undercut because some information system segments were allowed to stay the same to gain advantages.

The enterprise approach adopted by Shiabaura Mechatronics does not create any foreseeable problems with its information system even though the enterprise approach would result in a smaller customer support system. This is because it is a manufacturing company and therefore would not be directly connected to any customers. Finally, in regards to geographical distance, it is not clear whether Shiabaura Mechatronics, a Japenese firm, merged with a foreign company. However, the merger resulted in a centralized information system, which would still be preferable regardless if the company merged with an overseas firm because, as discussed before, the company's business environment is one of constant change so there would be a great need for communication between business entities.

As for the merger between Kvaerner and THC, both companies seemed to have things in order to allow for a successful merger and information system implementation, at least as far as the companies' operations are concerned. For instance, THC was a very intensive user if IT. Also, part of the duties of Kvaerner's IT department was to help with standardization and to increase the benefits pertaining to economies of scale of merging company's information systems. However, Kvaerner did not perform due diligence with the information system of the other company so it did not fully understand what it was getting itself into and, therefore, how to realize efficiency through economies of scale. It did not know how to effectively operate a construction business and utilize THC's strengths. But, then again, the THC was in a business segment that was unrelated to any of those Kvaerner was currently in so it would be difficult to consolidate the two information systems in a way that would increase efficiency through economies of scale so a federate approach would be more likely for this company.

Because Kvaerner did not perform any pre-merger due diligence on the other company's information system, the company was automatically assuming that the information system of the other company was inferior to its own. Although the federated approach would favor a more distant, hand-off style information system integration, especially since the two companies are located in different countries, the fact that Kvaerner forced THC to follow its bottom-up organizational style created significant cultural problems because changing the organizational style of the company while retaining a large amount of the company's information system creates uncertainties and a lack of direction for employees and management. This also affects the company's new working methods adoption because, since managerial style has changed for THC, this can create angst amongst its employees since they will now have to follow an unfamiliar style and employee turnover can result.

The post-merger information system strategy was about as intricate at its due diligence process; very little care was taken and there was minimal preparation involved. However, networking issues to be attended to after the merger were discussed during a meeting between IT managers, even if the meeting was a last-minute event. A federated approach for merging companies in two different business areas would not require fully standardized performance parameters so network integration may be enough.

It is not clear whether the information needs of Kvaerner are constantly changing, but the company is not in a highly technical or fast-paced market so it is reasonable to assume that its information system does not need to be very flexible and federated approach is appropriate. Also, like Shiabaura Mechatronics, Kvaerner is involved in manufacturing so therefore does not have any direct involvement with customers and no customer problems occur as a result of the merger.

Before the merger took place, UK-based Kvaerner already had an IT department centralized in Sweden. This centralized communication would be preferable because the communication requirements after the merger would be elevated since the merger is between two geographically separated companies. Although Kvaerner made plans to implement an integrated communication network between the merged companies, this planning occurred after the merger and even Kvaerner did not communicate with its IT department during the merger so it can be assumed that the new communication network will not be up to standards. After all, after the merger, the IT managers were unsure of their new roles.

Conclusion

As mentioned before, it cannot be stressed enough how important information systems are in mergers and acquisitions. Since so many mergers fail due to oversight in information systems, care needs to be taken in this area of the merger process. The process is even more crucial when systems such as ERP and CRM are involved and when the enterprise merger approach is being adopted. However, regardless of the approach used, communication between the merging companies needs to be substantive and due diligence needs to be performed. Also, IT should be involved in the merger because they can offer important insight and knowledge about how to successfully integrate the information system. Shibaura Mechatronics followed the appropriate courses of action when conducting the enterprise approach model and, although

Kvaener did mostly the same with its federated approach model, it did not perform due diligence or involve its IT department in the merger process. It also did not realize the impacts that imposing its own bottom-up management style onto the target's organization would have on this organization, which not only resulted in confused and irate employees, but also left the IT department, an increasingly important business segment, without any direction and clarity on what it should be doing to help make the merger, which ultimately failed, a smooth one. This shows how significant factors not immediately related to the information system of a company, such as culture, can have on the information system.

This thesis focused on the importance of information system consideration in mergers and acquisitions and analyzed two case studies pertaining factors of the IS that should be paid heed. Future research that could be conducted on the topic would be to analyze the information system costs involved for each merger approach. Also, the degree to which each of the seven factors affects the IS merging process could be studied to figure out the ones to which to give the greatest importance.

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