ABSTRACT

Many cases of adoption of Enterprise Resource Planning (ERP) systems have been reported in the literature. Some of the adopted ERP systems fail to satisfy the customer’s requirements, despite the high spending and substantial efforts that have been put into the adoption exercise. This is undoubtedly unsatisfactory. A way to avoid this problem is to adopt a well-planned, managed, and controlled ERP procurement process. This paper describes our studies of three Chinese companies in Hong Kong which have adopted ERP systems. We report the experience of these companies, and discuss how the Chinese culture might have shaped the procurement practices in their ERP adoption exercises.

Categories and Subject Descriptors


General Terms

Management, Human Factors

Keywords

Acquisition, Adoption, Case studies, ERP, Hong Kong companies, Implementation, Pre-implementation, Procurement.

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ICSE’06, May 20-28, 2006, Shanghai, China.
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1. INTRODUCTION

Enterprise integration is undeniably a critical issue for companies in all business sectors striving to maintain a competitive edge [16]. Many business professionals now realize that integration is the key to success, by unlocking corporate information and making it available to any authorized user, anywhere, anytime. This awareness leads to the notion of a “connected corporation” based on well-integrated enterprise-wide application software, now commonly known as enterprise resource planning (ERP) systems or simply enterprise systems [8]. In general, an ERP system is a suite of client/server-based application modules that can link back-office operations to front-office operations as well as internal and external supply chains [30, 31].

As far as the business information systems are concerned, the decade of 1990 has been characterized by the adoption of ERP systems in many companies worldwide [3, 10, 29]. ERP systems are currently the prevalent form of business computing for many large organizations in both the private and the public sectors [15]. These systems are considered to be “the price of entry for running a business” [18]. As expected, the ERP market is one of the fastest growing markets in the software industry [4, 19]. A recent IDC (International Data Corporation) market analysis estimates that the ERP market is expected to reach $36 billion through 2008, increasing at a compound annual growth rate of 8.2% as systems replacement and upgrade cycles kick into high gears [22].

Why are companies rushing to adopt ERP systems to address their business needs? Why is there such a high demand? This is because ERP systems can offer tremendous benefits to the companies. In general, these systems help companies replace old and fragmented legacy systems, integrate data and applications, provide greater access to information, adopt best practices in organizational processes, and more closely link employees, partners, and customers [5, 19, 20].
Adoption of such systems, however, is not a simple and straightforward process that automatically delivers the aforesaid benefits. In fact, ERP adoption presents the greatest challenge for many companies today [3, 12, 21]. The acquisition of ERP systems is a high-expenditure exercise that consumes a substantial portion of the company’s capital budget. It is reported that the project cost may well exceed US$ 100,000 and the project duration may last for six months to two years [26]. Undoubtedly, ERP adoption is potentially rewarding if done successfully. Yet, it can be a very risky exercise too. Improper choice and implementation of an ERP system will adversely affect the company in its entirety, in several different business areas and at several staff levels, even to the point of jeopardizing the very existence of the company [25].

In general, an ERP life cycle consists of three major phases: (a) pre-implementation, (b) implementation, and (c) post-implementation [29]. The pre-implementation phase is also known in slightly varied forms and names such as the planning phase [31], the acquisition phase [13], or the procurement phase [17]. It is typically kicked off once the idea of ERP adoption is initiated and gains management support, and ends when the company completes the procurement of an ERP system from a chosen vendor. In the implementation phase, the selected ERP software is installed, customized, and tested until acceptance for use. Major activities in this phase also include business process alignment, hardware/software compatibility resolutions, and user training. The post-implementation phase begins with the formal release of the ERP system for use and maintenance as part of the company’s normal operations.

A large portion of the published work on ERP adoption is concerned with the implementation and post-implementation phases. Few articles [24, 26] in the literature have addressed the pre-implementation phase, and even fewer studies are concerned with ERP adoption of companies in the Asia-Pacific region. Nevertheless, researchers and practitioners may be interested in experiences in this region for at least the following two reasons:

- IDC forecasts that the growth rate for ERP systems in the Asia-Pacific region will exceed those of mature markets, such as the U.S., from 2004 through 2008, as enterprises in those fast-growing regions are moving ahead with their plans to overhaul their application frameworks with integrated solutions [6, 22].

- The majority of companies in the Asia-Pacific region is owned or operated by people who are heavily influenced by the indigenous Asian cultures. In Hong Kong, for instance, the effects of culture and common practices of Chinese communities permeate the operations in most organizations, as the vast majority of employees, including those in the senior management, are ethnic Chinese. It has been well discussed in many management studies [7, 14] that the cultural implications on different aspects of management and organization should not be neglected. The differences in culture between the East and the West have been reported to affect ERP implementations and operations in Singapore [28] and in Hong Kong [11]. Such cultural influences will be useful for reference by both ERP researchers and vendors in designing and perhaps marketing ERP solutions.

This paper focuses on the pre-implementation phase of the ERP life cycle. We shall report our experiences gained from the case studies of the ERP procurement processes in three Chinese companies based in Hong Kong. As a financial center in the region, Hong Kong is one of the world cities with the busiest commercial activities. On the other hand, Hong Kong is also unique as a place where both Chinese and Western cultures interact, not only in the daily lives of the people, but also in business as well as IT operations and decisions.

Although the number of companies studied is not large and, hence, can hardly be considered a representative sample in the statistical sense, we believe that their practices do reflect how different cultures may affect the ERP procurement selections and decisions in many companies in Hong Kong, and therefore our experiences should be of interest to ERP researchers and practitioners.

2. A CONCEPTUAL FRAMEWORK FOR OUR CASE STUDIES

ERP systems are complex enterprise-wide systems consisting of many different modules to support various functional areas in a company. There are presently numerous vendors offering ERP solutions. Among these vendors, the first-tier players include SAP, Bann, Oracle, and PeopleSoft, while the second-tier players include J.D. Edwards, QAD, and Lawson [4].

Because of the complexity of ERP systems and the large variety of vendors, the decision to adopt ERP and the subsequent procurement process must be properly managed, or else the entire ERP adoption exercise may fail. Similar to other sizeable and complicated systems, it is desirable to formulate a well-defined and systematic approach to help a company acquire an ERP system that best suits its needs [17, 23]. Many procurement process models have been advocated in the literature, but not surprisingly they are vastly similar in broad terms [29]. In this paper, we will limit our case studies to the pre-implementation phase whereby the major activities primarily aim at the procurement of a suitable ERP system.

The pre-implementation phase is typically kicked off soon after the idea of ERP adoption is initiated, which may originate naturally from the perceived business needs of the company, or be inspired by an external party such as a business or IT consultant. In any case, such a preliminary idea must first gain the support by the senior management, with the consent of commitment at least to the extent necessary for further considerations of ERP adoption should it be justified by the business needs of the company.

To frame our studies, we make use of a four-stage conceptual model for the procurement process, based on a review of the ERP literature. This framework takes a multi-faceted approach under the rationale that ERP adoption will have significant impact on the organizational, technological, and behavioral aspects of the company. The four stages in our framework are: (1) formation of acquisition team, (2) examination of business requirements and constraints, (3) formulation of evaluation criteria, and (4) evaluation and selection. Details of each stage will be described in Sections 2.1-2.4 below.
Alongside these four stages, there is an information search process that runs in parallel to support the activities in each stage. The information sources can be internal or external. For instance, in stage 2, while performing the examination of business requirements and constraints, the acquisition team has to collect information from different functional units of the company to identify the business requirements that were expected to be met through ERP adoption. Besides, if a competitor of the company has already adopted ERP solutions, the acquisition team might have to investigate the new business opportunities brought about by the ERP adoption of the competitor. Such information has to come from external sources. Moreover, at stage 4 when the ERP system is to be selected, the acquisition team needs to have detailed information about the candidate ERP systems. Such information would have to be sought from outside sources (most likely directly from the ERP vendors, but also possibly from existing customers of the ERP systems). Normally, the information search activities are more intensive at an earlier stage than a later stage. Figure 1 depicts the four stages and the information search process in the framework we use in our case studies.

2.2 Stage 2: Examination of Business Requirements and Constraints

Despite their complexity and sophistication, ERP systems should not be considered as “islanded islands”. As with any new technology, an ERP system must ultimately be integrated into a larger, more complex social and technological organization such as a business company [9, 23]. Realizing the best use of a technology requires the knowledge of not only the technology itself, but also the organization in which the technology is embedded. Thus, it is necessary to ensure that ERP systems are acquired in accordance with the overall business vision of the company. This business vision helps define the organization’s direction, goals, strategies, and business requirements (such as operational efficiency, supply chain optimization, e-commerce, customer relationship management, and process integration) that underpin the implementation of the project.

No company operates without constraints. Constraints will affect which ERP system should be selected. Four types of constraints are identified as follows.

- **Technical**: Examples are compatibility issues with legacy systems and the existing IT infrastructure in the company.
- **Organizational**: Examples are business processes, management structure, leadership, commitment, communications, and training.
- **Financial and time**: Examples are budget limits, hidden costs, duration of training required, and unanticipated fees of external consultants associated with the ERP acquisition.
- **Human resources**: Examples are the availability and expertise of both business and IT people for the formation of the acquisition team, which may include internal personnel and experienced external consultants.

2.3 Stage 3: Formulation of Evaluation Criteria

Once the business requirements are identified in stage 2, they should be translated into detailed critical and non-critical functional requirements to be met by the ERP system, together with the organizational and technological changes necessary for the successful implementation of the ERP system.

At present, apparently almost all well-established ERP products in the market offer a very broad range of functionalities. These products, however, exhibit individual strengths and weaknesses with respect to specific business requirements. PeopleSoft, for example, is normally regarded as having an exceptional Human Resources module [29]. Also, some ERP systems are known for their specialty in certain industries, such as SAP in Chemicals and Pharmaceuticals, Oracle in Energy and Telecommunications, and Baan in Aerospace and Defense industries [1].

Besides the above considerations, the acquisition team should further develop other evaluation criteria, which may be concerned with the ERP products under evaluation, or are more related to the vendors that provide the ERP products. Some examples of evaluation criteria are listed in Table 1.
2.4 Stage 4: Evaluation and Selection

With the functional requirements, anticipated organizational and technological changes, and other evaluation criteria related to the ERP vendors and products, the evaluation process can begin. An ideal ERP system should fulfill all the evaluation criteria, but in reality, this may be infeasible. Hence, the acquisition team needs to define the relative importance of each criterion, so that the criteria can be properly weighted at evaluation.

The ERP adoption subsequently has a significant impact on the company’s operations, and that it is the “first” ERP acquisition by the subject companies. This ensures that the subject companies had strong incentives to evaluate the candidate ERP systems adequately prior to their final procurement decisions.

As the three subject companies have requested to remain anonymous, they will be referred to as Companies A, B, and C, respectively, in this paper. Part of their background information at the time of our study is described below.

<table>
<thead>
<tr>
<th>ERP Vendor</th>
<th>ERP Product</th>
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</thead>
<tbody>
<tr>
<td>Vendor’s reputation</td>
<td>System functionality</td>
</tr>
<tr>
<td>Vendor’s financial position</td>
<td>Anticipated organizational and technological changes</td>
</tr>
<tr>
<td>Track record of ERP implementation</td>
<td>Process improvement over current systems</td>
</tr>
<tr>
<td>Service quality of implementation</td>
<td>Degree of transparency and fitness of information flow</td>
</tr>
<tr>
<td>Time required for implementation</td>
<td>Extent of required customization</td>
</tr>
<tr>
<td>Implementation strategy</td>
<td>Fulfilment of customer and supplier needs</td>
</tr>
<tr>
<td>Ability to meet future needs</td>
<td>Flexibility and adaptability of product’s architecture</td>
</tr>
<tr>
<td>After-sales support</td>
<td>Price</td>
</tr>
<tr>
<td></td>
<td>Reliability</td>
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<td></td>
<td>Scalability</td>
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</tbody>
</table>

In general, the evaluation of some criteria can be done quantitatively by measuring the degree of suitability of the ERP vendors or products for the company. But for some other criteria, such as the anticipated organizational and technological changes, it can be very difficult to obtain objective measurements in quantitative terms. In such cases, a qualitative evaluation might have to be adopted for pragmatic reasons.

Evaluation can also take the form of financial analysis, in which benefits and costs of using a certain ERP product or vendor are weighted in monetary terms. This kind of analysis can provide a convincing justification to support the choice of a particular ERP product or vendor. However, ERP adoption typically brings about a number of intangible benefits that are not easily converted into monetary terms. For those criteria associated with these intangible benefits, evaluation has to be more reliant on human judgment in non-financial terms.

3. SETTING OF OUR CASE STUDIES

3.1 Background of the Subject Companies

As mentioned in Section 1, our study is on the procurement of ERP systems by Hong Kong companies. The factors considered in selecting the subject companies for the present study are:

- The management and control of the subject companies are based in Hong Kong so as to ensure that they have full autonomy and discretion in the procurement of the ERP.
- The ERP adoption subsequently has a significant impact on the company’s operations, and that it is the “first” ERP acquisition by the subject companies. This ensures that the subject companies had strong incentives to evaluate the candidate ERP systems adequately prior to their final procurement decisions.

3.1.1 Company A

Company A manufactures and distributes food and beverages, and provides contract catering and management services. It was established in the 1940s by a Chinese family as a family-owned business and went public to become a listed company only about 10 years ago. Its products are sold widely in Hong Kong, Mainland China, and abroad, such as in North America, Europe, Australia, and New Zealand. Company A has opened manufacturing plants in Hong Kong, Mainland China, North America, and Australia. The company has around 2,300 employees, and has a total asset valued at approximately HK$1,800 million, with an annual net profit of HK$140 million.

Prior to the adoption of the ERP system, several applications, mainly written in COBOL language, were used in various departments and these applications were not integrated. The lack of system integration had caused problems to the company such as duplication of work, operational inefficiency, inability to fulfill customers’ increasing demand on better products, and unavailability of information for management control, sales, and production forecast. Driven by the needs to solve the above problems, the Finance Director had suggested replacing all the existing applications by an ERP system as a long-term solution. This idea was shortly supported by the Company Board of Directors, and finally the ERP system, iRenaissance from Ross Systems, was selected. It took the company about one year in making the ERP procurement decision and an additional period of 3.3 years for the implementation process.

3.1.2 Company B

Founded in the 1970s, Company B is a global technology and manufacturing firm that provides innovative automation and control solutions to its customers in the industrial, commercial, and consumer markets. It offers end-to-end solutions in consumer and industrial electronics, including product engineering and design, testing, supply chain management, contract manufacturing, and logistics services. Headquartered in Hong Kong, the company operates more than a dozen design, manufacturing and sales facilities in Asia, North America, and Europe. Its annual net profit is approximately HK$110 million.

When the company was established in Hong Kong, it had only 28 staff. Over the years, the company has expanded significantly to a total workforce of 3,000. It was found that the original information system, developed many years ago by a manufacturing software application provider, could no longer meet the company’s expansion needs. At the end of the 1990s, the company decided to adopt an ERP solution and eventually selected QAD MFG/PRO. The whole ERP acquisition exercise took about 11 months to complete (three and eight months for the procurement and implementation phases, respectively).
3.1.3 Company C

Company C is a large optical manufacturer and its business is in the design, manufacturing, and sale of optical frames and sunglasses. It was established by the Chairman about 30 years ago as a family-owned private business. It later went public to become a listed company in Hong Kong about 10 years ago. The company employs about 120 staff in Hong Kong and 4,000 staff in Mainland China. It has a total asset of more than HK$550 million and an annual net profit of HK$55 million.

The company has four major functional areas, namely sales and distribution, production planning, materials management, and financial control. These four areas were operated independently and there was no integration of the application systems used in these areas. Due to the growth of the company, the management found that it was very difficult to retrieve and consolidate the information from different application systems for monitoring the overall productivity of the company.

Subsequently, the management decided to adopt an ERP system with a view to improving the situations. SAP R/3 was eventually selected and procured. The procurement and implementation phases took about three months and two years, respectively, to complete.

3.2 Data Collection

Data collection in our studies was mainly performed in the following two ways:

- Interviewing key personnel in the acquisition teams, including the champions responsible for the entire ERP adoption projects; and
- Reviewing the relevant documentation (such as feasibility study reports, discussion reports, and minutes of team meetings) obtained from the acquisition teams.

4. FINDINGS AND DISCUSSIONS

It was evident that in all the three companies, the ERP adoption exercises were adequately supported by the senior management. All these companies agreed that management commitment and support had been crucial to the success of the ERP projects by making the necessary resources available and removing any obstacles that were beyond the control of the procurement team.

4.1 Stage 1: Formation of Acquisition Team

4.1.1 Composition of Acquisition Team

The acquisition team of Company A basically consists of the Heads of two departments, namely the IT Department (who took a leading role in the acquisition team) and Business System Department. There was no formal representation from the functional areas that were affected by the ERP adoption, except for the Business System Manager, who was responsible for coordinating all other user departments to solicit their feedback. Although Company A explained that a prior questionnaire survey had been conducted for the collection of users’ views on the ERP adoption exercise, the company admitted that the approach was indirect and, hence, might not be sufficiently effective for the purpose of addressing users’ concerns. This might be a plausible cause for the company to take the longest period (about a year) for making the procurement decision.

In contrast, the acquisition teams of both Companies B and C consist of representatives from the major functional areas affected by the ERP adoption. In particular, Company B claimed to have treated the ERP adoption exercise not merely as an expensive IT project, but rather as a critical enterprise-wide project. Its acquisition team was composed of the IT Director, Finance Director, Marketing Director, Engineering Director, and Factory General Manager (GM). Regular project meetings were held throughout the acquisition process. Consequently, Company B had the overall shortest project duration (including both the procurement and implementation phases), leading to a “successful” (claimed by the company itself) implementation, and earning the “Rapid Achiever Award” in the Asia-Pacific region from the ERP software vendor. On the other hand, although Company C also formed a cross-functional team (composed of the GM and the Heads of four major functional areas), no regular meeting was scheduled. Instead, the GM would call upon meetings with the Heads when the need arose.

4.1.2 Involvement of External Consultants

In all the three companies, no external consultant was recruited to aid the procurement process of the ERP systems. They considered that external consultants would generally not be familiar enough with the internal operations of the companies to offer proper advice on the selection of ERP systems.

During the interviews, we felt that all the three companies were very cost-conscious; they would be very reluctant to spend extra costs (say, for hiring consultants) without strong justifications. Instead of relying on the recommendation of external consultants, the companies emphasized more on: (a) the judgment and experience of the acquisition teams, and (b) the “word of mouth” and other information collected through their own networks in the same industrial sectors. To some extent, such practices are quite common and reflect the characteristics of Chinese management cultures.

4.1.3 Project Plan

The project plan for all the three companies were fairly informal; the acquisition process tended to be driven by people instead of tasks. As a result, the whole acquisition process was rather fluid and unplanned. Again this is a common Chinese practice, which differs from the ERP acquisition practices in the West, in which many companies will hire external consultants to assist themselves to establish a project and action plan [25]. This could be because more Western companies have realized the importance of corporate governance, and are more inclined to seek for professional advice from external consultants so as to render the acquisition process more transparent.

4.1.4 Prior ERP Knowledge

Company B was the only one among the three companies studied whose acquisition team members (the IT Director and the Factory GM) possessed prior knowledge on ERP. Specifically, the Factory GM had a favorable experience of using QAD products during his prior employment in the same industry. (Note that Company B eventually selected QAD MFG/PRO for adoption.)

1 Companies A and C only considered themselves as having a “satisfactory” adoption result.
During the interview, Company B explicitly attributed its successful ERP adoption largely to the prior knowledge of the Factory GM. Indeed, the company completed the ERP procurement phase within only three months and the implementation phase within eight months. Moreover, the company later won the “Rapid Achiever Award” in the Asia-Pacific region from QAD.

Interestingly, Company B also mentioned that the decision of acquiring QAD MFG/PRO had been a direct result of the Factory GM’s prior experience. The company considered that the implementation risk for the choice would be low, although it admitted that the procurement decision had been biased because an ERP system deemed fit for a particular company might not be suitable for the others.

4.2 Stage 2: Examination of Business Requirements and Constraints

The acquisition teams in all the three companies were composed of their internal staff members. As such, the teams were familiar with the business visions of their companies, the business requirements that the visions entail, and the status quo of the extent to which the business requirements were successfully met at the time when ERP adoption was considered.

Naturally, for all the companies, the decision to jump into the ERP wagon had been prompted by their own problems in meeting the business requirements and customer needs (such as customer dissatisfaction, inefficient operations, reduction in sales, lack of management and control information, and disintegration of application systems). The decision was not driven by the simple desire to acquire a sophisticated enterprise system, nor triggered by the successful ERP adoption of their competitors. We also note that these business requirements and customer needs were examined and subsequently translated into the required functionalities of the ERP systems in the next stage (see Section 4.3). In this way, all the three companies had improved the chance that the business problems they were confronted with would be solved by the acquired ERP systems.

With respect to the identification of various types of constraints, all the three companies had done quite well. All of them were fully aware of their own constraints in the ERP procurement process. One observation is worth mentioned here. For Companies A and C, a technical constraint that confronted them was that the existing hardware and software platforms did not fit with the shortlisted ERP systems. To overcome this technical constraint, the companies had prepared to increase the budget for upgrading the existing hardware and software (IBM RS/6000 with DB2 or Oracle as the database management system). Company B, on the other hand, took a different approach. Its acquisition team found that the existing hardware and software were particularly fit for a candidate ERP system (QAD MFG/PRO). This compatibility advantage, together with the prior knowledge of the QAD products by the Factory GM, largely determined the team’s eventual decision to select QAD MFG/PRO.

Furthermore, we notice that none of the three companies recruited additional IT staff to participate in the ERP acquisition process. This was quite different from the reported practice of some Western companies which had to employ additional IT staff for their ERP acquisition exercises.

4.3 Stage 3: Formulation of Evaluation Criteria

At the interviews, we asked the interviewees whether they did formally compile a comprehensive list of criteria similar to our Table 1 for detailed evaluation. We were told that no such list was prepared, even though they had taken into account most of the criteria in our Table 1 in an informal way. A plausible reason is that, as the ERP adoption exercise was the first one in each of the three companies, the preparation of a formal evaluation list could have been quite difficult for the companies without prior ERP acquisition experience. Note also that external consultants had not been recruited for the procurement process in all the three companies. We conjecture that, had external consultants been hired to participate in the procurement process, by virtue of their expertise and experience, a formal list of evaluation criteria would have been developed and used.

Despite this, the companies did rank some criteria as more important than the others for consideration to guide their procurement decisions. Table 2 lists the four most important criteria used by each company.

Company A assigned top priority to the price factor. Also, it emphasized on the system functionality factor, and the financial position of the vendor so as to ensure long-term future post-implementation support. Customers’ references were also important. The acquisition team had paid several site visits to the vendor’s referring customers. This allowed the company to observe directly from the customers who have adopted the ERP systems and learn from their experiences about the effectiveness of the ERP solutions.

For Company B, price was a primary concern for the selection of the ERP system. In fact, the Finance Director (an acquisition team member) was highly involved in monitoring the project spending. The company also preferred ERP systems that specialized in the manufacturing industry, and therefore placed great emphasis on the recommendations of ERP customers in the same industry. Also, short implementation time and low implementation risk were also considered very important. These factors partly explained why they eventually selected QAD MFG/PRO, as the prior experience of the Factory GM on the QAD products could help shorten the implementation period and lower the associated risks.

Table 2: The four most important criteria ranked by each company

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Company A</th>
<th>Company B</th>
<th>Company C</th>
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<tbody>
<tr>
<td>Price</td>
<td>Price</td>
<td>Ability to meet business/user requirements</td>
<td></td>
</tr>
<tr>
<td>System functionality</td>
<td>Customers’ reference</td>
<td>Vendor’s established history</td>
<td></td>
</tr>
<tr>
<td>Vendor’s financial position</td>
<td>Time required for implementation</td>
<td>Availability of interface in Chinese language</td>
<td></td>
</tr>
<tr>
<td>Customers’ reference</td>
<td>Implementation risk</td>
<td>Vendor’s reputation</td>
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</tr>
</tbody>
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For Company C, price was only a secondary issue because the company had a strong desire to perform a successful first ERP acquisition. They had budgeted about HK$10 million for the entire acquisition exercise, which was the highest expenditure among the three companies. Interestingly, the provision of a Chinese language interface was considered one of the primary concerns because many users (particularly those at the lower ranking) did not have sufficient English proficiency.

4.4 Stage 4: Evaluation and Selection

Initially, all the three companies had picked a number of candidate ERP systems for preliminary considerations. The number of candidate ERP systems picked by Companies A, B, and C were nine, three, and eight, respectively. Based on the initial candidate ERP systems, both Companies A and C shortlisted two of them for final evaluation. In the shortlisting process, Companies A and C had invited the software vendors to make presentations and demonstrations on their ERP products. These activities were followed by site visits to the software vendors. Thereafter, all the three companies used their primary evaluation criteria as listed in Table 2, and took into considerations other secondary criteria which were similar to those listed in our Table 1.

Only Company A has conducted a quantitative financial analysis. In the analysis, the company estimated the tangible and intangible benefits in monetary terms that might result from the ERP adoption. An example of tangible benefits is the amount of potential cost savings realized by the ERP adoption.

On the other hand, Companies B and C performed only an informal, qualitative analysis. The acquisition teams in these two companies considered it not practicable to quantify some of the intangible benefits brought by ERP adoption. According to our observations, we speculate that a more likely reason for not conducting a formal, quantitative financial analysis was that some team members in the acquisition teams were the real decision makers to recommend the final ERP system to the Company Board for endorsement, or had a strong influence on the Board’s decision. For example, in Company B, the Factory GM (who was experienced in QAD products), had a strong influence on the final decision of the Chief Executive Officer in selecting QAD MFG/PRO for adoption. whereas in Company C, the GM, who is also the leader of the acquisition team, was the dominant decision maker in making the final ERP recommendation to the Company Board. (He had occasionally assisted the Chairman in making strategic decisions.) In fact, for both companies, they had submitted no formal proposal (other than verbal recommendations) to the Boards for final endorsement. That explained why these two companies took a significantly shorter period for the procurement process (three months), compared to that for Company A (one year).

The situations in Companies B and C seem to suggest that the political model (which proposes that politics might supersede organizational goals) was applicable here. This model stipulates that the decision making process is strongly influenced by a few decision makers [26].

Finally, we observe, and none of the three companies denied, that to a certain extent, they had some “preferred” ERP systems in mind at the very initial stage of the procurement process (even before the commencement of information search). As such, they were inclined to collect information to justify the selection of their preferred choices, instead of objectively using the searched information to guide the selection process. For example, even before performing information search, Company B would like the resulting information to justify the selection of QAD MFG/PRO, whereas Company C would like to justify the selection of SAP R/3. The project leader in Company C told us that the acquisition team believed that a more expensive system, like SAP R/3, would be more likely to fulfill their business requirements. Apparently, they had not strictly followed the evaluation criteria in their final procurement decision, even though they considered these criteria the “most important” ones.

5. SUMMARY AND CONCLUSION

ERP adoption is a very expensive, complicated, and risky exercise that should be well planned, managed, and controlled. A contributing factor to successful ERP adoption is a proper procurement process. This ensures that the right ERP system is selected to meet the company’s business requirements and customer needs.

We have described our case studies of three Chinese companies which have undergone ERP adoption, and reported the experiences of how they carried out the adoption exercises, with reference to an ERP procurement framework. The idea is to study to what extent their ERP procurement processes have compiled with our conceptual framework (which was compiled from the literature), and also to investigate whether the Chinese culture had influenced the procurement process.

In general terms, our studies suggested that, at least in the three subject companies, the ERP procurement process had been less systematic and comprehensive as in the Western companies. We have made some interesting observations about the procurement processes in these Chinese companies, such as less organized project planning, reluctance to hire external consultants, less comprehensive selection criteria, and the bias in selecting ERP systems.

6. ACKNOWLEDGMENTS

We are grateful to C. Chan, F. Chan, B. Ho, N. Lau and V. Leung for their help in this project. We are also grateful to the three anonymous companies involved in the studies.

7. REFERENCES


