A qualitative study of the influencing factors on the decision process for acquiring ERP software

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Abstract

This paper focuses on the influences and characteristics of the enterprise resource planning (ERP) acquisition process (ERPAP) that were found during a multiple-case study of four organizations that had acquired ERP solutions. From organizational buying behaviour (OBB), Webster and Wind's (Prentice-Hall, Englewood Cliffs, NJ, 1972) served as the basis for categorizing the influences that surfaced during the study. While Webster and Wind's model presents a broad scope of variables that might affect organizational buying without distinguishing those variables that are dependent on specific buying situations, the research herein highlights variables (influences and characteristics) specific to the buying situation for ERP software packages. Numerous influences emerged, among the most notable of which was the influence of users. Five prominent characteristics were also noted. A future study of these influences could examine the extent to which they impact the ERPAP and could serve to help organizations minimize those that are shown to hinder it.

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Introduction

In today's intensely competitive international marketplace, information delivery is critical to successful business operations and management. For this, organizations require numerous applications to satisfy their information needs. They are also seeking, more and more, to integrate these numerous applications into one comprehensive, enterprise-wide information system. Organizations are, therefore, turning to packaged enterprise-wide applications such as Enterprise Resource Planning (ERP) software in response to their needs.

As a result of the increased demand for this type of software, the area of packaged enterprise-wide applications has become one of the fastest growing segments of the information technology (IT) industry with growth rates averaging 30 to 40 percent annually (Eckhouse, 1999). It was estimated that by 2001, worldwide sales of ERP software would exceed 22 billion dollars (Yankee Group, 1998; PricewaterhouseCoopers, 1998). It was further estimated that by the year 2002, packaged applications would represent a significant portion of most IT portfolios (Meta Group, 1998). With ERP packages costing several thousand, hundreds of thousands and even millions of dollars, the purchase of these types of software packages is a high expenditure activity for organizations that consume a significant portion of their capital budgets. It is also an activity that is fraught with a high-level of risk and uncertainty.

With such high cost and risk factors involved in such purchases, should it not be important for organizations to be cognizant of how they acquire these applications?

To this end, a research project was conducted to study the "how", that is, the process for acquiring ERP software. The research strategy that was used for this study was a multiple case design involving four organizations that had recently completed the acquisition of new ERP software. This approach was particularly well suited for this research because of the exploratory nature of the study and the newness of this subject area. The study was bounded by two external processes:

(1) it was preceded by the "go ahead" to acquire an ERP solution; and

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(2) it was followed by the implementation process. In the "go ahead" process, the necessary approval to proceed with the acquisition was given.

The ERP acquisition process was then initiated, and once completed, proceeded to the implementation of the software.

Further to a study of the process, though, a comprehensive research design needed to include a study of the influences on the process, given that the process is influenced somewhat concurrently and to varying degrees by several factors. Hence, the study for the acquisition of ERP software concentrated on two main elements:

(1) the "process" itself where "process" was defined as a set of interrelated activities and dynamic factors that begins with the specific commitment to the acquisition task; and
(2) the "influences" on the acquisition process.

For the purpose of this paper, the focus will be on the influences and characteristics that emerged with regard to the ERP acquisition process (henceforth referred to as ERPAP).

Literature review

A review of the literature in the field of management information systems (MIS) shows that research conducted in the area of ERPs has concentrated on implementation and post-implementation issues.

The type of problems and issues that arise from the implementation of ERP systems range from specific issues and problems that can come up during the installation of an ERP, to behavioral, procedural, political, and organizational changes, etc., that manifest subsequent to the installation. One research topic, that of critical issues that affect an ERP implementation, is the focus of the study that was conducted by Bingi *et al.* (1999). In a similar study, Brown and Vessey (1999) focus on implementation practices to uncover the implementation variables that appear to be critical to the success of ERP implementations. Another research area is that of organizational change. In this area, Boudreau and Robey (1999) present a framework to guide research on ERP-related organizational transition (i.e. organizational change as a process). Another study by Koh *et al.* (2000) uses a framework, based on a process theory approach, to understand and explain the ERP implementation experiences of organizations. Another subject of research within the area of organizational change is the roles of individuals within organizations. In this vein, Caglio and Newman (1999) propose a study aimed at understanding the change in the roles of management accountants within the wider socio-economic context of the organization in which new ERPs are introduced. Other interesting topics for research include user buy-in, commitment (management, team, organization, etc.), leadership, organizational culture, stakeholders, organizational learning and communications, to name but a few (Bingi *et al.*, 1999; Boudreau and Robey, 1999; Glover *et al.*, 1999; Miranda, 1999; Riper and Durham, 1999; Sieber *et al.*, 1999; Appleton, 1997; Best, 1997).

None of these studies on the subject of ERPs, however, addresses the acquisition process and its influences.

A review of the literature from the field of organizational buying behavior (OBB) was also conducted. Little research has focused on the ERP acquisition process itself (Verville, 2000; Heide and Weiss, 1995; Saarinen and Vepsälänen, 1994; Iivari and Ervasti, 1993; Geisler and Wen Hoang, 1992). According to Geisler and Wen Hoang (1992), whose study focused on the purchase of IT by service companies, most of the literature has not stemmed from research studies, but rather has been generated by practitioners who focused on the critical issues facing managers in the acquisition of IT and has been prescriptive in nature.

Research in the area of industrial purchasing/OBB has concerned itself with the development of integrated conceptual models and the empirical verification of hypotheses pertaining to specific aspects of industrial buying/OBB (Choffray and Lilien, 1980). For example, Robinson *et al.* (1967) developed a buygrid framework that incorporates "buyphases or buystages". These stages represent the sequence of activities often performed in an organizational buying situation. A model titled "General Model of Organizational Buying Behavior", developed by Webster and Wind (1972), focuses on the various influences that might affect buying situations and incorporates the concept of the buying center whose response to purchase is

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analyzed as a function of four classes of variables (influences):
(1) individual;
(2) interpersonal;
(3) organizational; and
(4) environmental.

Another model ("Model of Industrial Buyer Behavior"), developed by Sheth (1973), attempts to describe and explain all types of industrial buying decisions, and is characterized by three main elements:
(1) the psychological characteristics of the individuals involved;
(2) the conditions that precipitate joint decision making; and
(3) the conflict resolution procedures affecting joint decision making.

Hillier (1975) proposed a model that concentrates on individual involvement in organizational buying, buyer-supplier functional inter-relationships, and industrial buying as a corporate process. Yet another model, developed by Choffray and Lilien (1980), addresses the issues of individual differences in choice formation and inter-organizational differences in buying behavior. These models provide exhaustive lists of variables that might affect organizational buying (Choffray and Lilien, 1980). They do not, however, distinguish those variables that have a consistently major influence across product classes from those whose influence is of lesser importance, nor do they distinguish those variables that are dependent on specific buying situations.

Further to these, a number of empirical studies (Heide and Weis, 1995; Dholakia *et al.*, 1993; Laois and Xideas, 1994; Mitchell and Boustani, 1994; Lehman and O'Shaughnessy, 1974; Hakansson and Wootz, 1974; Quallis and Puto, 1989; Brand, 1972; Carter, 1971) have dealt with particular aspects of industrial/organizational buying behavior, but none with the influences affecting the specific buying situation for ERP software.

While the literature from the area of industrial purchasing/OBB is rich as to the study of various aspects of purchasing within organizations, no studies have been found that have focused on the influences that affect the purchase of ERP software, not to mention the acquisition process for this type of technology.

Research methodology

Due to the nature of the study, the research strategy was a multiple-case design with four organizations that had recently completed the acquisition of an ERP solution. The rationale for the multiple-case design was that as a research strategy, the focus could be directed to understanding the dynamics and complexities present within each case, these being the processes, critical issues, and influences of the software acquisition within the organization (Yin, 1989; Miles and Huberman, 1994). Since the area of ERP acquisition is a relatively new area of research, the case study approach provided the means for in-depth analysis of the construct of the ERPAP. This approach proved to be particularly well suited for this study because it unveiled a multitude of factors and dimensions that make the acquisition of ERP software such a complex process.

Site selection for the study was made according to the following criteria:
- the acquisition had a significant impact on the organization;
- the acquisition was significant, totaling several hundred thousand dollars or more;
- the type of packaged solution that was acquired was of a complex nature such as ERPs;
- the acquisition was a new purchase; and
- the acquisition of the software was recently completed.

Data collection

Data collection was done in three parts. The first part consisted of semi-structured interviews. Interviews were conducted with 19 individuals and each lasted approximately one hour and 15 minutes. All of the informants were directly involved in the acquisition process and were selected based on their roles in the acquisition project. For OMEGA, five individuals were interviewed: the Director of Information Technology, the Manager of Capital Equipment Purchasing, the Project Director, the Project Control Officer and the Technical Project Manager. Five individuals were also interviewed for the LIMA case. They were the Global Network and Corporate Chief Information Officer (CIO), a Contract Administrator, the Technical Project Manager, the Senior Adviser of Information Systems (SA-IS) and

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the Director of Billing Services and Outsourcing. For GAMMA, the Financial Systems Project Manager, an IT Engineer from Information Technology Planning (Technical Team Leader for the Financial System), a member of the Procurement Group, an IT Analyst from Information Technology Development (Technical Team Leader for the Materials Management and Inventory System [MMIS]) and the Manager of Inventory Management (member of the Reengineering Group) were interviewed. Four individuals were interviewed for the Keller case and they were the VP of Information Systems, the VP of Personnel, the Corporate Materials Manager, and a Plant Manager.

Open-ended questions were used throughout the interviews. They allowed for flexibility and provided the "possibilities of depth; they [also] enable[d] the interviewer to clear up misunderstanding[s] (through probing), to ascertain a respondent's lack of knowledge, to detect ambiguity, to encourage cooperation and achieve rapport, and to make better estimates of the respondent's true intentions, beliefs, and attitudes" (Kerlinger, 1986, pp. 442-3). As it so happened, the informants sometimes gave unexpected answers that indicated the existence of relations (activities, tasks, and influences) that were not originally anticipated and this added to the richness of the cases.

For this study, the opening question for determining the influences was, "Describe in your own words what you perceived as the influences that most affected the ERP software acquisition process", and for the characteristics, "Describe in your own words what you perceived as the key characteristics of the ERP acquisition process". Following the informant's response, follow-up (probing) questions were used to clarify issues or to delve for more information. These follow-up questions also allowed for the development of ideas without constraining the exploratory nature of the study. The same interviewing protocol was observed with all of the informants.

Validity

All interviews were audio-taped for subsequent transcription and for verification of accurate interpretation. Member checks were performed during which the informants were asked to review the transcription of their interviews for verification of the content therein and, if necessary, to amend or add to them. Follow-up questions were asked, when required, to further clarify ambiguities, discrepancies, or to re-confirm information. Feedback was also obtained from other individuals who were independent of the study as an additional means of verification.

The data from this study was validated using a triangulation method. According to Robson (1993, p. 383):

> The by-products of triangulation are as useful as its primary purpose in validating information. It improves the quality of data and in consequences the accuracy of the findings.

In addition, validity, according to Maxwell (1996, p. 87), refers to the "correctness or credibility of a description, conclusion, explanation, or other sort of account". Hence, to contend with validity threats, a triangulation of sources (diverse range of individuals and organizations), methods (of data collection: interviews, archival information, documents) and theories (theoretical base [OBB]) was done. For example, the triangulation of data sources within one case was repeated in each of the other three cases and then for all of the cases together. The results show that while each of the cases is different with regard to the type of software solution that was being acquired, the same process was developed, similar tasks were performed, similar influences impacted the process and similar characteristics emerged.

Limits of the study

The limitations of this study can be linked to the choices that were made regarding the research and specifically relate to the newness of the research topic, that being the acquisition of ERP software, the minimal amount of research that has been conducted to date in this area, and the methodology that was used for the study.

Given the lack of literature on this specific subject, the case study approach was selected as the best means to gain the maximum knowledge and understanding about packaged software acquisition activities, issues, dynamics and complexities. However, each method has its strengths and drawbacks, and the case study approach is no exception. It is more limited than surveys in terms of generalizability. While surveys enable precise extrapolation of results to a defined

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population (Maxwell, 1996), case studies are more limited in their focus. As such, a single or a few cases are poor representations of a population of cases and may be poor grounds for generalization. This having been said, a single case as a negative example can establish limits to grand generalization (Maxwell, 1996; Yin, 1989). Hence, case studies are of value in refining theory and suggesting complexities for further investigation, as well as helping to establish the limits of generalization.

Although the generalizability of the study's findings to a greater population is yet to be determined, "there is no obvious reason not to believe that the results apply more generally" (Maxwell, 1996, p. 97). This study appears to have "face generalizability" based on the "similarity of dynamics and constraints" on the organizations within this study to other organizations (Maxwell, 1996). Moreover, the outcome of this multiple case design gives us "confidence that [our] emerging theory is generic" (Miles and Huberman, 1994, p. 29) and therefore applicable for the acquisition of packaged software by other organizations, in addition to those involved in this study. Since "the generalizability of qualitative studies", according to Maxwell (1996, p. 97), "usually is based [. . .] on the development of a theory that can be extended", we believe that the results of this study provide a step towards the generalization of the theory (model) to a larger population.

The cases

The four organizations (pseudonymously named, with the exception of Keller) that participated in the study were:

(1) OMEGA, a large international carrier, provides air transportation services for passengers and cargo both to domestic and international arenas. OMEGA purchased PeopleSoft's ERP solution (finance, human resources, and payroll applications) for the sum of US$86 million. The ERP acquisition process that OMEGA went through took approximately nine months and was completed by the summer of 1996. Its subsequent implementation was completed in the scheduled timeframe and was regarded a success.

(2) GAMMA is a holding company for a gas and electric utility and non-utility energy business. GAMMA completed the purchase of Oracle's ERP solution (finance and related applications) at a cost of US$6.5 million in March of 1997. Its ERP acquisition process took approximately six months from start to finish. This case is especially significant because it highlights the need to verify sources of information.

(3) LIMA – LIMA Inc. is a North American-based overseas carrier which maintains commercial relations and operates facilities that allow domestic network operators and other service providers to exchange telecommunication traffic with 240 countries and territories. LIMA International was founded in 1995 and currently has 200 employees worldwide. Its headquarters are located in the Washington, DC area and it is the global carrier subsidiary of LIMA Inc. LIMA started but did not complete the purchase of a proposed US$10 million packaged ERP solution (international billing system). Owing to the strategic nature of the intended purchase, an impasse on the issues of code ownership and cost brought the business negotiations to a halt. The ERP acquisition process that the organization went through was, nevertheless, quite rigorous and presents some interesting insights and lessons that would be of value to other organizations; among them, the influence of new management on the overall process.

(4) Keller Manufacturing Company was established in 1895, as a manufacturer of farm wagons and did so until 1943, when it began manufacturing household furniture. Today, this organization has over 700 employees in three manufacturing plants in the USA (two of them located in Indiana [Corydon and New Salisbury] and one in Culpepper, Virginia) and manufactures over 2,000 different oak and maple legs, seats, and other components (with over 100 separate procedures) that are required in the assemblage of its products. Keller Manufacturing purchased an ERP solution (manufacturing execution system) from Effective Management Systems (EMS) Inc. for approximately US$1 million. Keller's ERP acquisition

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process took approximately 11 months and was completed in August of 1996. Regarded as a great success, the implementation of EMS' software was completed within the scheduled timeframe with only a few minor problems.

Influences on the ERPAP

In keeping with the nature of the study, this section presents the influences that emerged relative to the ERPAP from the four cases. The discussion of these influences does not, however, include an analysis of their degree (high, medium or low) of impact on the acquisition process. Beyond the scope of the research discussed herein, an analysis of the degree of impact the influences had on the ERPAP remains for a future study.

The influences, as presented below, have been classified according to the four categories of Webster and Wind's (1972) "General Model of Organizational Buying Behavior":
(1) environmental;
(2) organizational;
(3) interpersonal; and
(4) individual factors.

The generalization of these categories provided overall coverage of the various buying behavior patterns that emerged within the buying scenarios of the cases presented herein.

Environmental influences

Several environmental influences were noted in each of the cases. They are categorized as physical, technological, cultural, political and legal.

Physical influences

In the cases of OMEGA and LIMA, the capability of the vendor to support their geographically-dispersed operations within North America and abroad was an important factor in their decision process. Given the strategic nature of the ERP software to the core operations of both these organizations, any and all problems with the software had to be able to be met with an immediate response and hasty resolution from the vendors, whether by telephone or, when necessary, with on-site visits by the vendors' technical staff. Would the vendor itself be able to provide technical support or would support need to be provided through a third-party organization? The issue of remote support called into question concerns regarding the quality of support that would be provided locally, the reliability of the service provider if said provider was a third-party organization, timeliness, availability of expertise, service and supplies, and cost, among others.

Also of concern for LIMA, besides the geographical location of the vendor, was the geographical location of its own primary customer for the new system, who is based in the USA (another influence on their decision process). Although procurement activities (in the ERPAP) were done by the Canadian operations, the new software solution would be run in Canada, the USA and elsewhere, with the primary users being based in the USA. There was, consequently, concern that their primary users would not receive the support that they would need from the vendor and, perhaps even, from LIMA Inc. Since the geographical boundary that exists between LIMA Inc. and LIMA International is a relatively new phenomenon for this organization (since LIMA International is a relatively new subsidiary of LIMA Inc.), their relationship, at the time the ERPAP occurred, was still on a learning curve (which, in and of itself, seemed to have an influence on the ERPAP because it presented some uncertainties that could only be resolved with time).

Technological influences

These were present in three of the cases. OMEGA, GAMMA and Keller were replacing obsolete systems with new technology and also changing to a client-server environment. For both OMEGA and GAMMA, Y2K[1] was an influencing factor in their decisions to replace their systems. Although Keller did not mention this factor as being determinant (they may or may not have anticipated the Y2K issue), it would most certainly have arisen given that they were running on an old AS400 system.

Another technological factor that influenced OMEGA's ERPAP emerged during OMEGA's information search process and was subsequently brought into their technical evaluation process – it had to do with the performance of the software solution on a WAN. This factor was considered important enough to warrant the inclusion of

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a clause to this effect in the final contract and was also an issue of heated discussion during the final legal negotiations.

Cultural influences

Organizational culture stood out as an important environmental influence on the acquisition process, especially in the case of OMEGA, where users had "a lot of power in determining their functionality". Although OMEGA had included business process re-engineering (BPR) as a criterion for the ERP solution they wanted, it would have been very difficult for OMEGA's management to implement organizational change through process redesign. If OMEGA had selected SAP as their primary choice, the acquisition team admitted that it would have been a very difficult sell to its users. According to the IT Director:

> SAP is sold as is. You do not change SAP. The organization has to change its processes to accommodate SAP. If you do not want to change your processes, then you do not buy SAP. If you want the best practices as per SAP and you want a new software, then you buy SAP. Management's feeling is that it is a lot harder to change a process than to change a software, and users at OMEGA want us to change the software because they do not want to change their processes.

Hence, the final recommendation of OMEGA's acquisition team was influenced by this factor.

Political influences

In all of the cases except LIMA[2], the buy-in from users was an important factor in the decision process. This factor weighed heavily in the outcome of the acquisition process and, in and of itself, was an important political influence.

As to other political influences, there probably were some on the process; however, the interviewees did not mention any or, if there were any, they were reluctant to discuss them.

Legal influences

Of the four cases, the legal issue of code ownership was an influencing factor in the acquisition process only for LIMA. Given the central and strategic nature of this acquisition (new system) to its organization, LIMA felt it important to have code ownership. Since LIMA could not reach an agreement with their vendor-of-choice on this issue and one other major issue (cost), the ERPAP was halted.

For OMEGA, the legal and technological issue of performance guarantees was brought up during the negotiation process and became a clause in the final contract between OMEGA and their vendor-of-choice.

Organizational influences

Several organizational issues were apparent from the data with the most notable being the use of project management techniques, user buy-in, external references (from other organizations), new management, single vendor solution, and economics.

In all of the cases, the project management approach, with its various tools and techniques, were brought into play because of the absence of a formalized approach or procedure to deal specifically with this type of acquisition. Given the perceived complexity and unfamiliarity of this type of situation (i.e. the acquisition process) to the acquisition teams, the acquisition process was dealt with through the imposition of a familiar and structured process (the project management approach). This is not unusual, according to Mintzberg *et al.* (1976), who noted that decision makers deal with complex unfamiliar situations by factoring them into familiar and structured elements. As such, project management provided a "familiar" means of approach that the acquisition teams used to facilitate the ERPAP. Though not specifically referred to as such, it was apparent from the data that the teams followed this methodical approach (though not definitively structured for acquisitions) to "construct" the ERPAP as they went along, using familiar elements of project management where they needed to.

User buy-in also falls within the category of organizational influences and, in three of the four cases, appeared to weigh heavily in the final choice. For Keller, OMEGA and GAMMA, user buy-in was important because it inferred a sense of ownership by the user community of the chosen software. In effect, this sense of ownership translated into the solution being more readily accepted by the users of these three organizations.

As to external references (from other organizations), these were obtained from the vendors and other information sources such as professional research groups. The feedback provided by these references (which lends to a vendor/product's reputation) was an important influence on the selection part of

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the ERPAP and was one of the factors considered in narrowing the long-list of candidates to a short-list of two or three vendors. Of the four cases studied, external references appeared to have the most influence in both Keller's and GAMMA's cases, and the least (with no mention whatsoever) in LIMA's case.

The LIMA case incurred an influence that was not present in the other three cases. At LIMA, the data revealed the subtle influence of new management on the ERPAP. In the midst of the acquisition process, a new Chief Information Officer (CIO) was hired who had prior experience involving the same type of "acquisition versus internal development" scenarios that LIMA had considered prior to its initial decision to buy a packaged software solution. While he did provide some input into the acquisition process, the new CIO's influence was most apparent in the final decision. Based on his past experience, and after reviewing the cost and code ownership issues with senior management, the decision was made to halt the ERPAP and to develop the system in-house.

In each of the cases of OMEGA, GAMMA, and Keller, the importance of buying an integrated solution from a single vendor was also mentioned; however, the importance of this factor was stressed more so by OMEGA and Keller. LIMA also was looking for a solution from a single vendor that integrated billing with accounts payable, etc., but since they could not find one for a reasonable cost, they opted to develop the solution in-house.

In all of the cases, economic factors played their part in influencing the process. None was more apparent, though, than with Keller, especially given the size of their organization (and, by inference, the correlating size of the system they would need and hence the cost). Consequently, Keller was limited to seeking technological solutions from smaller vendors. According to Keller's VP of IS, when he contacted SAP to inquire about their product, in no uncertain terms, SAP rejected them based solely on the size of their organization.

Cost was an influencing factor for LIMA as well. According to LIMA's CIO, since "we did not find any vendor who could have provided us with the perfect global billing system at a reasonable cost, we decided to build it ourselves".

Group/interpersonal and individual influences

Group/interpersonal influences were also factors that impacted the process.

In each of the cases, the acquisition teams' composition was interdisciplinary, with team members coming from various departments, and cross-functional with each member contributing knowledge and/or skills required to meet the demands of the acquisition task. As such, each individual team member influenced to a greater or lesser extent the ERPAP. In particular, individual leadership by either the project manager or project director was noted in three of the four cases as a factor that influenced the process. This factor appeared to have an impact on the level of satisfaction that other team members experienced, not only with regard to the outcome of the process, but also with regard to the manner in which the ERPAP was organized and carried out. Whether the acquisition team leader had technical expertise with systems or not (as was the case for GAMMA and Keller), did not seem to influence the ERPAP as much as their ability to assemble the acquisition team, to organize and carry through the process, and, on a more personal level, to gain the respect that people had for them.

Another factor that could be considered both a group and an individual influence was past experience (either positive or negative) and this factor had a noticeable influence on the ERPAP. (While this factor could also be considered an "environmental influence" since it cannot be altered, it seemed more appropriate to categorize it as an individual/group influence, given that the past experience referred to herein pertains only to certain individuals on OMEGA's acquisition team and not to the organization as a whole.) In OMEGA's case, several of the acquisition team's members were on an earlier version of this same project in the early 1990s when OMEGA had decided that they would develop the systems in-house. For several reasons, that project was abandoned, but the stigma of that past experience weighed heavily on these members throughout the ERPAP. As expressed by the Project Control Officer:

> People would bring bad history with them and you always had to work at saying, "That was the last time. We are not going to make that mistake [this time] . . ." People were nervous. They did not want to have the same thing happen [again].

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Hence, the memory of a past "failure" was a motivating and, thus, influencing factor on the process.

As a group, the Board of Directors or the Steering Committee had an influence on and played an important role in overseeing the ERPAP. This was especially apparent in Keller's case, where the Steering Committee had a more active role in the ERPAP.

Characteristics of the ERPAP

This section presents a discussion of the most noteworthy characteristics that emerged during the study on the ERPAP and that were common to the four cases. One characteristic that emerged was that the acquisition process had to be "invented" or "constructed". As stated by OMEGA's Project Director:

> . . . other than formal RFP guidelines, . . . the rest of the process [ERPAP] was essentially put together by the project team.

Since there was no formalized process in place for the acquisition of ERP software, the acquisition teams created a structure for the process as they constructed the ERPAP. This exercise met their need for structure as they ventured into "unfamiliar" territory. To do so, each of the teams appeared to rely on project management techniques for certain parts of the process and incorporated various other tools (questionnaires, matrices, etc.), modifying and adjusting as needed, to meet the needs of other parts of the process, thereby giving a sense of order, structure, control, and direction to the process. It was also interesting to note in each of the cases that standard or formalized purchasing practices did not fit the acquisition of ERP. As iterated by the Purchasing Manager of LIMA:

> It did not fully comply or follow our normal practices . . . Neither was it [(the ERPAP)] fully accomplished in accordance with the normalized rules that we [usually] follow.

Another characteristic of the ERPAP, which was also noted as a critical success factor by OMEGA, was the "partnership" approach that was adopted by the teams (organizations) with the vendors and, specifically in the cases of OMEGA and Keller, the user communities within their organizations. OMEGA's Project Director stated that the creation of a "partnership approach (internally) with the various user communities, letting them come up with a recommendation that they felt comfortable with", led to the users giving their full buy-in to the acquisition. OMEGA used this approach similarly with its purchasing department. In all of the cases, this approach was used to establish a more open working relationship with the vendors with the objective of avoiding conflicting situations. OMEGA's Project Director aptly expressed a dual sentiment that also came through in the other three cases:

> This was a very difficult thing to do because [we] wanted, on the one hand, to get the very best deal, but on the other hand, this first series of working discussions that [we] were having with the vendor would take [us] from now to years to come.

This approach set the stage for another characteristic that was noted, that being the long-term relationship with the vendor.

In all of the cases, the long-term relationship with the prospective vendor was mentioned as being very important. The question frequently asked by all concerned was, "Can we work with them [(the vendor)]?" In the words of OMEGA's Project Director:

> If this is the vendor that you are going to deal with for the next five to ten years, you had better make sure that you can do business with those people and when it gets tough, that you can resolve things.

The element of trust factored into this characteristic and all parties felt the need to create an atmosphere of trust right from the start in their dealings with the vendors.

The ERPAP in the cases of OMEGA, GAMMA and Keller was also characterized as being user-driven. This was considered by each of the informants to be very important to the successful outcome of the acquisition process. To ensure both the success of the acquisition and full user buy-in, each team had heavy user involvement in the decision process, with user representation from each business sector. The overall effect of user involvement in the process translated into the chosen software solution being readily accepted.

Conclusion

While all of the cases presented above are different with regard to the type of ERP solution that was being acquired, several

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similar influences were noted to have had an impact on the ERPAP. Most notable among them were the users, whose buy-in was considered an important factor in three of the four cases; project management techniques which influenced how the acquisition teams structured the acquisition process; team leadership which had an influence on the organization and direction of the ERPAP, as well as a more subtle yet definite influence on the individual team members; and cost. A future study of these influences could examine the extent to which they impact the ERPAP and could serve to help organizations minimize those that are shown to hinder it.

Though it is difficult to render a generalization about the character of the acquisition process based solely on four cases, other studies may support the observations that the acquisition process was, for the most part, structured (though not, as of yet, formally); that it was user-driven (as seen in three of the four cases herein); and that the partnership approach adopted by the teams during the ERPAP with both the vendors and the user community within their organizations was important to the outcome of the process.

The results of this study may provide organizations with valuable knowledge that could prompt them to make significant changes in the manner in which they currently proceed with the acquisition of ERP software. Furthermore, this study may also provide some theoretically interesting issues upon which to base future research.

Notes

1 Y2K was not only the impetus (i.e. reason for) in the cases of OMEGA and GAMMA, it also exerted its influence by creating a sense of urgency.
2 Though user buy-in may have been a factor in their decision process, none of the individuals interviewed for LIMA's case mentioned it as such, nor could it be interpreted from the data.

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