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16 Methodological ERP acquisition: the SHERPA experience

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Summary

In the area of information systems and software engineering, models, methods and methodologies have focused mainly on systems development, and much less effort has been put into systems acquisition. With regard to this last issue, we can find, on the one hand, simple methods which give generic advice on the acquisition of software, hardware and related services and, on the other, methods of a very complex and demanding nature. To try to fill this gap, we propose SHERPA, a new method for the acquisition of an enterprise resource planning (ERP) solution, which requires a medium-level effort while maintaining a high level of rigour and is specific for ERP. SHERPA stems from industrial experience, and it has been and is being used in various contexts, which is yielding some valuable feedback to the method.

16.1 Enterprise resource planning systems and their acquisition

In recent years, many organizations across most industries have acquired and implemented enterprise resource planning software solutions (ERPs). ERPs are customizable software packages with company-wide comprehensive functionality from which to build highly integrated management information systems (IS) for supporting both vertical functional areas and horizontal business processes across an enterprise. There are many reasons and consequences of the recent but significant trend of implementing ERP-based ISs; among these are:

- Organizations aim at implementing ERPs to enable the overall informational integration of functional areas across their – re-engineered – business processes, replacing most of their proprietary legacy systems, and thus reducing their future needs for in-house bespoke IS development.
- Usually, an ERP-based IS is set to become the back-office transactional foundation upon which to build the remaining decisional and communicational ISs, at both intra- and inter-organizational levels.
- Thus, in order to reach most or all of the organization's functional units and business processes, the implementation and maintenance of an ERP-based IS usually becomes a risk- and change-intensive project requiring significant economic, temporal and labour investments.

The important implications of an ERP solution for any organization make its acquisition a critical process, given that it can reach most or all departments and functions, and that it usually requires a significant economic and temporal investment in terms of implementation and maintenance. However, to the best of our knowledge, only very recently have some public acquisition methods specifically tailored for ERP software solutions appeared.

For the purposes of this chapter, we define *ERP acquisition* (also known as *ERP software procurement* or *selection*) as the following decision process: to clearly define the need that could be fulfilled with the help of an ERP product and/or related service; to find suitable products and services in the market that may help in the fulfilment of such a need; to establish appropriate criteria for the evaluation of ERPs; to evaluate products and services in the light of these criteria; to select the best available product and service, or the best possible combination of products and services; and to negotiate the final contract with the product vendor or service provider.

Once the strategic nature of ERP acquisiton is accepted, we can conclude that any organization pursuing a successful ERP experience should start by following a well-established ERP system procurement process, defined in terms which are as systematic and formal as possible, within the level of resources deemed adequate by the organization. This statement is based on reasons that, although obvious, seem often to be overlooked or only superficially considered:

- A well-established ERP procurement process can be a good starting point and set a good standard for the remaining ERP life-cycle phases within the hosting organization.
- Furthermore, it can help to determine organizational, business and user requirements that will facilitate more mature evaluations of ERP alternatives, as well as clarify how the ERP solution eventually selected fits these requirements.
- An early clear vision of required customizations, bespoke extensions and integration with preserved legacy systems will ease the definition of the scope of the subsequent ERP implementation process and of what the users should expect from the ERP-based IS.
- An early vision of the ERP-based transactional IS will facilitate IS strategic planning with regard to subsequent decisional and communicational, intra- and inter-organizational IS domains, such as so-called 'business intelligence', 'customer relationships management', 'supply chain management' and, more generally, 'electronic business'.
- In other words, a well-established ERP procurement process is a good foundation for successful ERP implementation and usage.

The strategic importance of ERP acquisition, the lack of methods for ERP acquisition and the euphoria around this kind of software solution are the main reasons that motivated us to develop SHERPA (*Systematic Help for an ERP Acquisition*) (Sistach et al., 1999; Sistach and Pastor, 2000). SHERPA is a method for acquiring ERPs that is rigorous and sufficiently complete but not too complex for the task in hand. Its goal is to be useful to managers, or consultants working for them, who want to acquire an ERP solution using a methodological and systematic approach, and who may find other methods too generic, complex or expensive. It is worth mentioning that SHERPA was first derived from a real experience of an ERP acquisition for a midsize company, and that as

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the four companies which have applied SHERPA in their respective ERP acquisition decisions belong to four different industries.

The rest of this chapter is organized as follows. We first contextualize SHERPA within other related procurement methods. Then we provide an overview of the phased structure used with SHERPA, and comment on project management issues. Next, we give more details of its core evaluation phase, the classified evaluation criteria, and criteria formalization. Finally, we provide some conclusions and describe our most recent experiences with ERP acquisition by combining SHERPA with some modelling tools.

16.2 Related procurement methods

If we analyse previous works on software acquisition, we can distinguish two dimensions for classifying them: generality and level of effort required. That is, we can find methods focused on acquiring any type of IS product or service and methods focused on one specific type; and we can find works that present some ideas and steps to follow (these can hardly be considered methods) and complete and complex methods. Table 16.1 shows some methods that we have studied, classifies them according to these two dimensions and shows the relative position of SHERPA.

TABLE 16.1
Classification of IS procurement methods

	Generic	Specific
Higher effort	Euromethod PORE	Verville and Halingten (2001) SHERPA
Lower effort	Conger (1994) Mayrand and Coallier (1996)	Chaffey (1999) Reimann and Waren (1985), Lucks and Gladwell (1992) Hlupic and Mann (1995)

Euromethod (European Software Institute, 1996; Helmerich, 1998) is the best example of a very complete and complex method (its description takes nearly 250 pages) of a generic nature (it covers any kind of IS products and services). It is mainly suitable for public administrations which have to acquire products or services following a process of tendering.

PORE or Procurement Oriented Requirements Engineering Method (Maiden and Ncube, 1998) is devoted to select COTS (commercial on-the-shelf) software. PORE is a quite elaborated and generic iterative method, which provides templates for its five processes and for its documents and guidelines for the project team, and gathers techniques from many other works.

Conger (1994) proposes a generic, semi-structured acquisition method, including some tasks, tables and checklists. Mayrand and Coallier (1996) base their work on the eight phases of the acquisition process proposed by standards ISO/IEC-12207 and ISO/IEC 9126 (ISO/IEC, 1991, 1995), but focusing on large-scale software, risk management and quality assurance.

Regarding more specific methods, Chaffey (1999) offers long checklists devoted to select groupware, workflow and intranet solutions as a part of a book devoted to this kind of collaborative software; Reimann and Waren (1985) propose a method also based on long checklists for acquiring decision support systems; Hlupic and Mann (1995) have developed a tool that assists the user to select simulation software; and Lucks and Gladwell (1992) study the automatic selection of mathematical software.

Besides SHERPA (Sistach *et al.*, 1999; Sistach and Pastor, 2000), and to the best of our knowledge, only very recently (Verville and Halingten, 2001) has there appeared another public acquisition approach specifically tailored to ERP software solutions. In this book, the authors present several justifications and advice on ERP acquisition, as well as general evaluation criteria and reflections on some real ERP acquisition cases in big companies. Readers may build their particular ERP acquisition method from this book. At the other extreme, Stefanou (2000) presents, rather than a detailed method, a brief research framework of the critical issues involved in ERP system adoption and selection processes.

Other work that may be related to ERP acquisition is SA-CMM or Software Acquisition Capability Maturity Model (SEI, 1996), which is the equivalent of CMM applied to software acquisition. This model helps an organization to evaluate its general software-acquisition process, obtaining a maturity level, and to improve it progressively.

16.3 Overview of SHERPA

SHERPA within the general ERP life cycle

SHERPA covers all of the ERP acquisition process, from the search for candidate ERPs to the signing of the contract with the provider of the selected ERP and related services. SHERPA divides this process into five phases. Furthermore, for completeness and for practical considerations, instead of assuming that the decision to acquire an ERP has already been taken, we have decided to include, as an optional phase 0, one devoted to the analysis of the opportunity of acquiring an ERP. In the other end of the acquisition process, SHERPA does not cover the implementation of the selected ERP, nor its usage, maintenance, extension, evolution or retirement. Figure 16.1 shows the role of SHERPA within a general ERP life cycle.

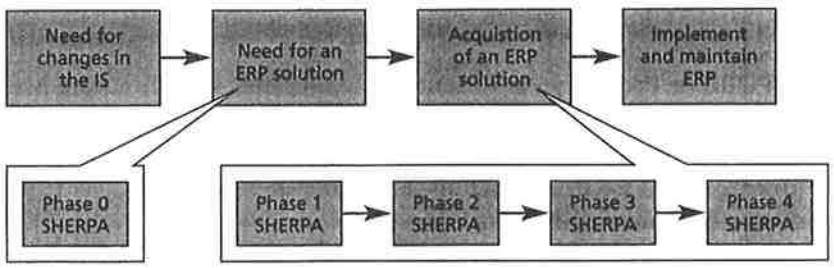

FIGURE 16.1
SHERPA within an ERP life cycle

The five phases of SHERPA are described briefly here. Phase 0 is divided into two sub-phases: one that SHERPA does not cover and another that SHERPA covers in less detail but with the same structure as the other phases. Each of the remaining four phases is divided into stages and begins with an organization stage, followed by some stages specific to the phase and a final review and approval stage. This final stage is devoted to reviewing and gathering all the results of the phase, generating a final document and discussing it with a project committee, which will eventually approve it. Table 16.2 shows briefly the phases and stages of SHERPA.

TABLE 16.2
Phases and stages of SHERPA

Phases	Stages
Phase 0.1: Study the strategy and business processes	Not covered by SHERPA.
Phase 0.2: Decide to acquire an ERP	A) Organization B) Review the organization C) Evaluate the options D) Select an option
Phase 1: Search for candidates and first filter	A) Organization B) Review organization and IS C) Develop minimum requirements D) Study the ERP market E) Market research F) First selection G) Review and approval
Phase 2: Research the candidates and second filter	A) Organization B) Refine evaluation criteria C) Evaluate candidates in detail D) Second selection E) Review and approval
Phase 3: Analysis of and demonstrations by candidates, and visits to the providers	A) Organization B) Review evaluation criteria C) Prepare and attend ERP demos D) Final evaluation of candidates E) Third selection F) Review and approval
Phase 4: Final decision, negotiation and planning	A) Organization B) Negotiate the contract C) Review and approval

Phase 0: Study the strategy and business processes and decide to acquire an ERP

This phase is divided into two very different stages. In the first stage, the project team (whose characteristics are described below) studies the business (mission, strategy, etc.), its departments and business processes. This is something that we consider fundamental if the team is to evaluate how well each ERP adapts to the organization. All this can be achieved by studying internal documents of the company or, if these

documents do not exist or are insufficient, by conducting interviews with employees – mainly executives and functional directors. In any case, since there are plenty of methods to achieve this purpose, we will not cover this stage in more detail here.

In the second stage, a committee has to decide whether the company is to acquire an ERP. This decision can be part of an IS plan or an isolated decision. It consists on a deep study of each alternative (internal or external custom development, best of breed, maintaining existing systems, etc), looking for its benefits, disadvantages and costs, in order to adopt one of them (or a combination of them). Since this is something that is addressed in depth by some methods specific to IS strategic planning, we have not developed a complete method ourselves. Instead, we propose a framework which can be embedded in other IS planning methods or used as a guideline if the organization is not following any particular IS planning method.

We propose the following tasks for the ERP adoption decision: describe each of the alternatives based on the specific situation of the organization and its IS; evaluate each alternative with the help of a list of criteria; analyse each alternative with respect to other specific considerations of the organization; and select one alternative.

The list of criteria that we have developed includes three main categories:

- ***future criteria***: aligning with the strategy of the organization, usefulness and usability, adaptability to changes, integration capabilities, robustness, out-of-date risk, external dependency and maintenance support by the provider;
- ***transition criteria***: type of implementation, implementation support, implementation time, change time, change impact, adaptability of users, business process re-engineering, users' participation, risk of interfaces, investment, ROI and risk of failure;
- ***present criteria***: usefulness of existing IS, risk of maintaining existing problems, IS team participation.

For example, and as a first approach, acquiring an ERP could be evaluated as: strong external dependency, strong integration capabilities, big-bang implementation, strong impact on users and business processes, medium risk of failure, low risk of maintaining existing problems, etc.

Phase1: Search for candidates and first filter

Based on the knowledge of the company, obtained in Phase 0, and on some minimum requirements for candidate ERPs (price, platform, etc.), the project team conducts market research looking for ERPs suitable for the organization. This means getting references to ERP providers (professional magazines, software buying guides, trade shows, etc.) – perhaps dozens of them. By contacting the providers (by telephone, e-mail or some other way, but not necessarily an interview), the project team has to obtain enough information on each ERP so that, applying the minimum requirements, the number of candidates can be reduced to a number between 5 and 8 approximately. This reduction is necessary, as in the next phase each ERP will be studied deeply (having many ERP candidates obviously increases the effort required later).

Here the project team needs much more information about the ERPs obtained in Phase 1. This information should be obtained from one or more interviews with the providers, getting as many fact sheets, catalogues, articles, etc. as possible. By applying a long list of more detailed selection criteria – which has to be refined and adapted to the organization – the project team should select two or three ERP candidate solutions. Again, here the selection criteria have to be considered as useful guidelines, not as exclusion criteria. If an ERP solution seems adequate but implies important changes in the IT infrastructure or in any other part of the organization, or simply does not comply with some criteria, it should not be eliminated immediately.

Phase 3: Analysis of and demonstrations by candidates, and visits to the providers

At this point the ERP providers have to demonstrate their products to the project team, the company top management, the mid-level management (department managers) and a selected group of future end users. The purpose here is to obtain a much deeper knowledge of each solution, specifically of its functionality and adaptability to the organization. The phase can include generic or customized demos at the provider installations or at the company itself, and can be cyclic, so people attend more focused demos of each ERP. Customized demos take longer to prepare and thus delay the completion of this phase, but they provide a much sounder baseline from which to compare the various ERP products considered. The project team gathers all the opinions, reviews and refines the application of the list of criteria to each candidate ERP and prepares a selection proposal, which has to be approved first by IT management and, finally, by top management.

Phase 4: Final decision, negotiation and planning

The project team negotiates the contract with the selected ERP provider, including the estimation of the cost and the schedule for the implementation, two very important aspects that should be estimated by the ERP provider, and a contingency plan. Finally, IT management and top management give their final approval, and the signing of the contract with the ERP provider may proceed.

Project team

Given that most mid-sized companies have never acquired an ERP solution in the past and on the assumption that they will face the acquisition of an ERP only occasionally (every several years), it would be naive to assume the presence of experts on ERP selection within these companies. Hence, it seems wise to try to include external ERP consultants in the project team. Preferably, these external consultants should be neutral with regard to ERP products and should offer knowledge of, and experience with, structured acquisition methods such as SHERPA.

Also, it is recommended, if not mandatory, to include in the project team some key internal people with knowledge of the organization and its IS. This points, at the least, to the IS/IT manager and to somebody else with a broad vision of the company (general manager, quality manager, controllers, internal auditors, organization manager, etc.).

Thus, we propose a project team of 3–5 people with a broad range of knowledge and experience, including: business strategy and business processes of the company, local ERP market, a systematic method for acquiring ERPs, previous acquisition experiences, and general business and IS knowledge.

In Phase 3, it is necessary to include many managers and users in the selection process, but they are participants and not full project-team members. Also, each of phases 1–4 finishes with a *Review and approval stage*, where a project steering committee must evaluate the work done so far. This committee should include top management and some other managers, and it could be the usual IS/IT committee that many companies have.

Effort estimation and project planning

Regarding effort, measured in total hours devoted to the project, and the planning of these hours in light of the tasks of the overall project, obviously they will depend on each case. The number of people in the project team, the number of managers and users involved in demos, the number and detail of these demos and the number of ERPs selected in each phase are some important factors of the effort equation.

Overall, and only as an indicator of the duration of ERP acquisition projects for mid-sized companies, it seems reasonable to complete the acquisition project in a few months (hardly less than two, three is easily achievable, and less than six). The total effort should be in the region of 'hundreds' of hours, assuming that the project committee, managers and users would contribute about half of them. It must also be noted that good management of the project schedule is a critical factor, as there are a lot of interviews and demos which must be attended by many people. Also, dedication to the project is variable for all the participants in the project.

16.4 Phase 2 in detail

Internal structure

Phase 2 may be considered the most demanding phase and the one where nearly all of the selection criteria are introduced and applied for the first time within the overall ERP acquisition process. For these reasons, we have selected Phase 2 as the one to be explained in more detail, describing each of its five stages.

A) Organization

The project was organized in Phase 1; at this point, it is only necessary to review all the documentation generated in that phase, and to review and detail the planning for Phase 2. The project team meets to start Phase 2.

B) Refine evaluation criteria

Taking into consideration the minimum requirements decided in Phase 1, Tables 16.3–16.7 containing selection criteria must be tuned for the particular company. These tables provide a list of around 30 first-level evaluation criteria, which become many more when refined, and which we have grouped in six categories: strategy, functionality, technical, provider, services and economic. Overall, they cover all the typical aspects that can affect a decision to buy an ERP

lists the criteria plus some explanations on each one. For the strategy criteria, there is no guide, and the project team must elaborate a table from scratch based on the present and future business strategy of the company, as explicitly stated in its mission statement and business plan, or drawn from interviews with top management. As a guideline, this table may include aspects such as: generic competitive strategy, main strategic focus on producing or on selling, break barriers between departments, improve the quality management, change a hierarchical organization into a matrix one, develop business units, support for e-business, advanced supply-chain management, etc.

TABLE 16.3
Functionality criteria

Criterion	Definition
Includes functionality by areas, processes, levels, priorities: ● Commercial ● Logistics ● Manufacturing ● Accounting ● Finances ● Human resources ● Quality ● Technical (Engineering, R&D) ● Top management	Functionality requirements may be described, classified and evaluated along several dimensions: ● requirements by functional areas that the ERP has to serve and how it covers each one; ● requirements by inter-departmental and inter-organizational business processes; ● requirements by organizational levels; ● all requirements described, classified and evaluated at a level of detail in accordance with their relative business priorities.
Main target	Functional area/s for which the ERP is specially oriented
Adaptability	Possible level of customization in general and for the company
Openness for: ● custom developments ● working with other systems	Level of openness to additional bespoke development (internal or external) and to other existing applications (for example, vertical applications), API, etc.
Specific supports	*For example: Y2K, euro, ISO9000*

The project team must analyse all criteria contained in the tables and produce new tables adapted to the particular application. For the functionality criteria, the project team must analyse the functional needs of the organization and develop a much longer list of specific functions or business processes that the candidate ERP should support – or that would be recommended.

TABLE 16.4
Functionality criteria

Criterion	Definition
Platforms	IT platforms supported
Database management systems	DBMSs used as database for the ERP
Languages and development	Languages and development tools used to customize the ERP
User management levels, roles, authorizations, etc	Management capabilities: users, user groups, access
User documentation ● Printed manual ● Online help ● Tutorials	Type of user documentation for training and helping users to use the ERP.
Technical documentation ● Database schema ● Source code ● Design	Technical documentation on the internal structure of ERP master databases and programs
External connectivity ● Internet/Web ● Remote ● EDI	Types of external connectivity supported

TABLE 16.5
Provider criteria

Criterion	Definition
Provider characteristics: history, staff, clients, income, benefits...	Characteristics of the main provider as a company
Localization	Localization of provider's offices (headquarters, offices, etc.)
Similar implementations	Similar customers that use the ERP
References company, which use the ERP and could be	One or more clients, similar to the customer asked for comments
Experience sector of the company	Experience of the provider in general and in the
Confidence	Confidence of the project team in the provider and its ERP

Services criteria

Criterion	Definition
Implementation method and implementation experience	Existence of an organized, documented and tested implementation method
Implementation services: ● Installation, Adaptation, ● Training, Support, ● Custom development, ● Connection to other systems, ● Maintenance, ● Platform, Others.	Services offered by the provider during and after the implementation and regarding ERP and global IS issues
Type of implementation	Strategy or strategies proposed by the provider for the implementation
Implementation estimated time	Provider estimation to implementation time

TABLE 16.7
Economics criteria

Criterion	Definition
Pricing method	Methods used by the provider to evaluate the price of the ERP and its implementation, maintenance, etc. (by users, modules, platform, ...)
Cost	Cost of ERP software, implementation, maintenance, custom development, changes in IT infrastructure, etc.
Contract	Type of contracts offered and/or acceptable

C) Evaluate candidates in detail

Following the work initiated in the market research stage (E) of Phase 1, the project team must get much more information about each of the ERP candidates selected in that phase. This can be achieved through closer direct contacts with the providers, and also by studying all relevant documentation. We strongly recommend visiting the provider's offices and talking with commercial, technical and management staff. As a result, the tables generated in the previous stage should be updated and completed with the information in hand, although some details may be left for the next phase.

D) Second selection

With all the information available so far about candidate ERPs, organized around the above criteria tables, the project team must select two or three candidate ERPs. Metrics for each criteria item and category may be used, as well as relative weights.

E) Review and approval

Finally, the project team gathers all documents generated in the phase and writes a report for the project steering committee, including an approximate plan for the next phase. The project team presents the report and, if it is approved, starts the next

phase. Since the next phase will involve the participation of many users, its planning must be discussed in detail at this point. More specifically, the report can include the following chapters: definition and description of evaluation criteria tables, all the tables with the information on each ERP (selected or not), list of selected ERPs, and planning for the next phase.

Desirable formalization of evaluation criteria

Once evaluation criteria tables have been customized and filled in for a specific ERP acquisition case, an optional step in SHERPA methodology is to express them using a more structured notation, designed to capture the criteria in a formal way. In general, there are many reasons that support criteria formalization whenever possible, in particular:

- A detailed and formal description of the domain is obtained, which provides a comfortable and precise framework for reasoning about the ERPs involved.
- Not only the product, but also the formalization process, is interesting in itself. As usual in most contexts, during formalization many questions may arise concerning the criteria, which otherwise would remain hidden.
- From our point of view, comparison of ERPs with respect to formally expressed criteria is a step towards assuring the decisions taken during procurement. This is especially true when dealing with more than a few candidate ERPs.
- A structured and formal notation can be used as a basis for building ERP procurement toolkits.
- The existence of a widely accepted high-level language would even provide a lingua franca to which ERP vendors could adhere for elaborating uniform descriptions of their products, and it would enable ERP procurement specialists to improve their ability to search for and examine ERP solutions.

There are many existing approaches to formalization in the more general case of COTS package selection (Dong *et al.*, 1999; Guerra and Finkelstein, 1999; Maiden and Ncube, 1998). Although the actual notation used is not a fundamental point of the methodology, formalization has been carried out in SHERPA using the NoFun notation (Franch, 1998). Although originally designed for describing non-functional attributes and requirements in the component-based software development framework, NoFun has proven to be well suited to describing ERP evaluation criteria (Burgués *et al.*, 2000).

Obviously, a key point in the ERP acquisiton process is a proper evaluation of candidates with respect to the criteria considered. It seems natural for criteria evaluation to be systematized as far as possible, to avoid untrustworthy results yielding potentially erroneous ERP selection. Along these lines, ERP selection criteria could be classified into three categories with respect to their evaluation:

- ***Criteria computable directly from the ERP.*** Although this is the desirable case, it turns out to be the least frequent one. In addition to some simple criteria (e.g., product size, price), we can mention ERP complexity, expressed using, for instance, function points or many design measures, and also ERP quality in terms of the internal structure of the product

can be defined to evaluate the criteria. As part of the process, several issues must be defined: a metric to measure the criteria; the stages during the evaluation process; and the correspondence between the results of these stages and the final score with respect to the metric. As criteria that seem to be well suited to this category, we can mention functionality criteria.

- ***Subjective criteria.*** In this case, the evaluation relies mainly on the skills of the ERP provider and the procurement specialists. With respect to the provider, we can mention as an example its previous experience in the customer's industry; with respect to the customer, the confidence in the provider and its product.

We believe that all criteria are important, especially functional criteria, and that their consideration must be as systematic and formal as possible, and taken on board by the company.

16.5 Experiences with SHERPA

We recall that SHERPA was first derived from a real experience of an ERP acquisition for a mid-sized company, and that so far it has been (or is being) used and improved in three additional ERP acquisition cases. Furthermore, the companies which have applied SHERPA for their ERP acquisition decisions belong to four different industries. We next explain briefly this sequence of cases (referenced with coded names) where SHERPA has been conveniently combined with other tasks and tools specific to each case:

- MAGIC is a mid-sized company producing and distributing small electrical appliances for consumers through various distribution channels within the Spanish market. This company had a very problematic legacy IS developed in-house over the past ten years, technically obsolete and very difficult to upgrade, and functionally very limited and unable to deal with Y2K and the euro. Confronted with such a software renovation decision, MAGIC decided to run a business strategy planning effort and a business process analysis prior to the software renovation. Once these two strategic tasks were done, and the company had a clearer view of its current and future interests, it decided with the help of SHERPA to adopt ERP and to acquire a specific ERP tool.
- COSMIC is a mid-sized enterprise producing and distributing cosmetic products for professional markets in Spain and Central and South America. COSMIC wanted an integrated IS to replace its extensive set of small software applications, some bought and some developed in house. Y2K and the euro were also a motivation for software renovation, rather than technological obsolescence. In this case, the IS/IT manager used SHERPA, under our supervision, to organize the ERP acquisition project. Furthermore, as part of the ERP functional evaluation task, we used UML (*Unified Modelling Language* (Erikksson and Peuker, 2000) to formally specify and represent their five most critical business processes. From such specifications, comprehensive functional checklists were produced and used to evaluate the functionality of ERP candidate products. Finally, the company selected a big ERP system, as well as an implementation consulting company.

- GRAPHIC is another mid-sized company that produces packaging materials from paper and cardboard for an extensive market of industrial European firms. In this case, the IS/IT manager used SHERPA, under our supervision, to acquire an ERP solution, which is now starting to be implemented by an already selected consulting company. The legacy IS included a large subsystem developed and controlled by a single programmer, and a couple of software packages for industry-specific purposes. Owing to temporal constraints, the ERP acquisition project did not address functional criteria evaluation with as much effort and detail as in the COSMIC case. However, in this case UML is now being used to formally represent current and expected functional needs by areas and business processes, with the purpose of serving as a rich input to the implementation task, which will address process improvement along the way.
- FERRIC is a company producing iron-based components for the automobile industry and for the automobile repair consumer market in France and Spain. FERRIC has recently decided to break its relationship with a consulting firm that was implementing one of the currently leading ERP products for them. After recognizing that its prior ERP acquisition task was overly simplistic and superficial, which in its opinion explains part of the problems with the aborted implementation, FERRIC is now using SHERPA as a guide to address another ERP acquisition project. Under our guidance, the project is being set up and managed by the IS/IT manager and the Purchase and Procurement Department.

To conclude with our most recent experiences related to ERP acquisition, let us mention that the ERP acquisition experience gained by our group through our university posts has permitted us to address an important project for auditing an ERP acquisition project developed by a big hospital in the Barcelona area under the guidance of a big consulting company.

16.6 Conclusions

Our method, named SHERPA, is specific to ERPs, not too complex, but rigorous and complete enough for its purposes. It covers the whole ERP acquisition life cycle, from the search for candidate ERPs (and even from the decision to acquire an ERP versus other alternative IS approaches) to the signing of the contract with the provider of the selected ERP. Thus, we believe that SHERPA fulfils an almost empty space in the acquisition methods area.

Obviously, SHERPA can be improved in many ways, including: support for the selection of multiple candidate providers – implementation consulting firms – for a unique ERP solution; better comparison with other methods; application to COTS selection (that is, a more generic SHERPA); support for issues related to risk management; extended Phase 0; stronger link with implementation; refined lists of criteria; and combination with other methods or tools (for conducting interviews, attending demos, IS planning, IS modelling, etc.). We believe that, as shown here, SHERPA is a well-balanced method which can be the foundation for rigorous ERP selection.

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