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Insight Into The Acquisition Process For Enterprise Resource Planning Software Derived From Four Case Studies

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Abstract

We investigate the acquisition process for Enterprise Resource Planning (ERP) software in organisations. Data was collected using case research methodology in four case studies on major New Zealand organisations. Two main types of activities in the acquisition process were identified, which are characterised as organisation- and market-oriented. We present a synthesised process model for the acquisition of ERP software derived from the cases investigated which shows a progression from an organisation-oriented acquisition process to a market-oriented acquisition process, and describe influence factors in the process which are classified as environmental, organisational and interpersonal.

Keywords: ERP, software acquisition, case

1. Introduction

Enterprise Resource Planning (ERP) software is defined as a “comprehensive software product including financials, logistics, human resources, project management, manufacturing, work-flow, high-level development environment, and many industry specific application modules” (Gable, 1998). Unlike traditional types of software that have limited scope across an organisation, ERP software provides a standard application architecture suited for most functional areas of an organisation. ERP software is promoted as having the potential to take over, standardise and integrate applications across many different functions. With the scope of the use of ERP software very broad, there are major implications for organisations considering the acquisition and installation of these kinds of systems.

We believe a major gap in the published ERP literature exists concerning the investigation of models of the acquisition process. We define the acquisition process as the steps undertaken by organisations prior to the implementation process, and separate these two processes by the milestone of the signing of the contract with the selected vendor. The acquisition steps include all the events that take place from the initial stimulus for change to the selection decision and contract signing.

The research previously published which is pertinent to this study relates to organisational buying processes, information systems procurement and ERP software acquisition. We discuss this research in the context of three types of acquisition processes, as follows:

- A predominantly organisation-oriented acquisition process

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- A mixed acquisition process progressing from organisation-oriented to market-oriented
- A predominantly market-oriented acquisition process

1.1 Organisational Buying Processes

The literature of organisational buying processes belongs to a wider topic of organisational buying behaviour, which encompassed other topical areas such as organisation demographics and values (Hawkins, Neal, Quester, and Best, 1994). Although the models presented have been long established, the contributions seem valid for the acquisition process for ERP software. Organisational buying processes could be categorised as a mixed process progressing from an organisation-oriented process to a market-oriented acquisition process.

This mixed process was evident in the literature. Four models of organisational buying processes indicated this approach, which included Webster's (1965) Model, Buygrid by Robinson, Faris, and Wind (1967), Industrial Adoption-Process Model by Ozanne and Churchill (1968), and Buying Process for Capital Equipment by Johnston and Bonama (1988). Generally, these models incorporate organisation-oriented steps in terms of identifying requirements, management support, and product characteristics, followed by market-oriented steps identified as searching, evaluating, and selecting products.

Models of predominantly market-oriented organisational buying processes place greater importance on the different forms of interaction between the organisation and supplier. Four models that presented this type of orientation included the Nature of the Decision Task by Hillier (1975), Procurement Strategy by Corey (1978), Predevelopment Steps in New Product Process by Cooper (1988), and the Industrial Market-Response Model by Choffray and Lilien (1978). While these models initially present organisation-oriented steps, a majority of market-oriented steps followed.

Recent literature indicates that organisational buying processes have become predominantly market-oriented.

1.2 Information Systems Procurement

IS procurement had traditionally been predominantly organisation-oriented in terms of organisations developing IS in-house according to internal requirements. The most widely known model of this kind was the Systems Development Life Cycle (SDLC). With the availability of off-the-shelf software, a shift from organisation-oriented procurement to market-oriented IS procurement models have emerged.

Marciniak and Reifer (1990) developed a model called the Software Acquisition Life Cycle (SALC), which "involved the purchase of software via a contract". The SALC begins with organisation-oriented steps in terms of concept exploration involving definition and system study activities. These are followed by market-oriented steps focused on the specific interaction between the organisation and contractor.

Shin and Lee (1996) developed a model of the acquisition process for application software packages which comprised a list of steps differentiated into three phases, seven sub-phases, and 25 activities. In terms of the type of orientation, the model detailed an initial organisation-oriented step denoted by project formulation phase, followed by market-oriented steps of application software package selection and an acquisition phase.

Nelson, Richmond, and Seidmann (1996) presented the acquisition process for application software packages as a four-option decision called a Software Acquisition Cost-Benefit Framework. The framework directly differentiated organisation and market-oriented activities in terms of acquisition approach and team. Organisation-oriented perspectives were seen as custom approach and insource team. In turn, market-oriented perspectives encompassed a package approach and outsource team. The different combinations of acquisition approaches and teams identified four different perspectives of acquisition processes.

Ferguson and DeRiso (1994) presented a study of the U.S. Department of Defense acquisition of software. In this study, a requirements definition, vendor selection, and development process were highlighted as important aspects considered in the software acquisition. These aspects further supported the trend from an organisation-oriented procurement to market-oriented IS procurement for application software packages.

Predominantly market-oriented IS procurement was identified as outsourcing, which implied that “vendors receive the ‘keys to the kingdom’, actually operating, managing, and controlling IS functions” (Lacity and Hirschheim, 1993, p. 2).

Two significantly different roles of outsourcing in organisations have been identified as outsourcing IS and outsourcing the acquisition process. Outsourcing IS could be differentiated into outsourcing existing IS and outsourcing required new IS. Lacity and Hirschheim (1993) use the example of Electronic Data Systems as providing suitable facilities and services such that organisations could outsource their entire existing IS function. Outsourcing required new IS related to contracting for just the new IS with a vendor and having that new system operated externally by the vendor. In both these types of outsourcing, contracts for IS could be issued to either single or multiple vendors. Outsourcing the acquisition process in organisations entailed a predominantly market-oriented IS procurement that involved the use of consulting firms. Within the literature on IS procurement and outsourcing, many studies have focused on the role of management consultants in organisations. Levine and Rossmore (1993), viewed consultants as both a positive and negative intervention in the management of IS.

Levine and Rossmore (1993) suggested that “outside consultants could help managers increase their likelihood of success in the design and implementation of business strategy by imparting both the skills and motivation to surface the undiscussable issues”. They warned that “organizations must be aware of the threat that management consultants may have preconceived answers to IS problems before first understanding the organization” A major determinant of success in the recruitment of consultants was seen as the selection criteria. Two important selection criteria were the reputation and experience of the consultant in an organisation’s industry (Dawes, Dowling, and Patterson, 1992).

A distinctive trend in IS procurement has been evident. Since the introduction of application software packages, a shift in orientation has occurred towards identifying available software in the market (and away from a mindset of building internally), indicating a change from an organisation-oriented procurement to a market-oriented procurement. An additional recognition of the outsourcing option for IS has suggested a further shift towards a predominantly market-oriented IS procurement. With the emergence of ERP software in the market, some practitioners have experienced problems in trying to apply traditional organisation-oriented procurement models and procedures to this new environment.

1.3 Acquisition Process for Enterprise Resource Planning Software

The literature on Enterprise Resource Planning (ERP) software acquisition found in our review uncovered only a single attempt (Vasilash, 1997) at outlining a process model for acquisition. Other literature presented of ERP software has covered mainly implementation strategy (Lozinsky, 1998) and key success factors (Laughlin, 1999).

Vasilash (1997) developed a simple Four-Step Approach that denoted the acquisition process for ERP software. In terms of the three different types of orientation, a progression from an organisation-oriented process to a market-oriented acquisition process was recognised. An initial organisation-oriented step was characterised with defining requirements. Following this step, market-oriented steps were seen in terms of system evaluation and selection, procurement and pilot system and implementation.

While the four-step approach provided a general direction for acquiring ERP software, it suffered major weaknesses in the lack of corroborating research findings and its ambiguity of terms. For example, the use of the term requirements did not distinguish between strategic and technical aspects. Many of the major steps identified in the literature on organisational buying processes and IS procurement were not included. Key success factors for an ERP acquisition such as “forming a project team and utilising external resource of consultants” (Laughlin, 1999) were not considered as part of the process. For example, consideration of the request for proposal document, which is recognised as an important factor in the IS procurement literature, was not highlighted in Vasilash’s process.

1.4 Influence Factors on Acquisition Processes

It was evident from this review of the literature that a considerable amount of research has looked at identifying influence factors. An early model by Webster and Wind (1972) provided an overview of the many influence factors on acquisition processes, such as environmental, organisation, interpersonal, and individual determinants.

2. Research Design

The data collection involved in this investigation used case research methodology to obtain information about the organisation. The use of multiple case studies was indicated to broaden the understanding of the experiences and practices chosen by a variety of organisations. The research procedure consisted of the seven steps shown in Figure 1. Within the sequence of steps, three decision points determine whether to continue on or repeat previous steps.

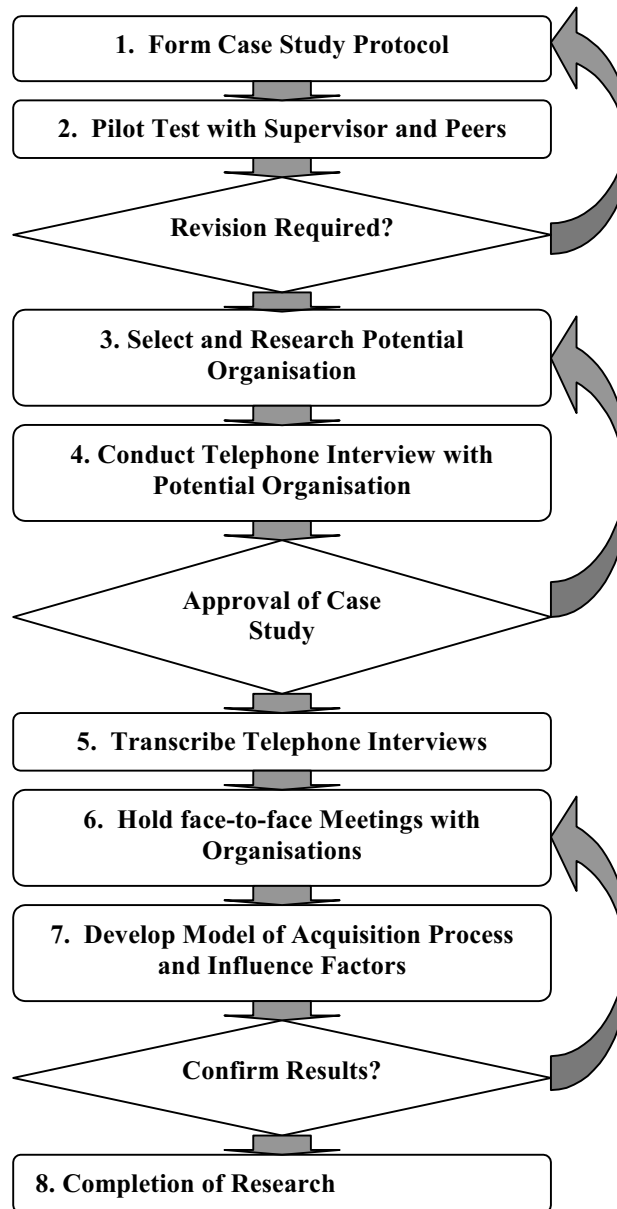


Figure 1. Case Research Approach Applied in this Investigation

The choice of organisations to study followed a pragmatic procedure of determining which organisations in reasonable geographic proximity (within 200km) had recently acquired ERP software, finding and approaching a contact person within that organisation, determining if the organisation was suitable to study in terms of access to participants, and finally requesting permission to undertake the case study. This process resulted in a sufficient number of worthy and willing sites to make the investigation possible. In exchange for access to these firms and discussion of their processes which required commercial confidentiality, we agreed to disguise their identities. Therefore the firms are represented by the names Firm A to D.

The industries and approximate size of the organisations chosen are characterised in table 1.

Table 1. Industry and firm size of the participants in the study

	Main Industry Segment	Approximate number of employees
Firm A	Construction materials	3,000
Firm B	Pulp & paper	10,000
Firm C	Forestry	2,000
Firm D	Electricity	700

The participants interviewed in the study were from both the organisations indicated above, as well as from their business partners, such as consulting firms and suppliers of technical services. Indicative titles for those interviewed for each firm are given in table 2.

Table 2. Indications of the titles of those interviewed for the study

	Number of individuals interviewed	Indicative titles
Firm A	3	finance manager, management consultant, IS manager
Firm B	2	performance improvement manager, management consultant
Firm C	3	IS manager, technical analyst
Firm D	2	Project manager, technical analyst

The majority of the questions asked in the interviews were open ended, such as “describe the environment facing your organisation at the time you made the decision to purchase ERP software” and “how did your first thoughts about ERP actually lead to the purchase of ERP software”. The questions asked were intended to provide the authors with an understanding of the forces that supported or opposed the purchase of ERP software, while guiding the interviewees to think structurally in terms of a step-by-step process.

3. Research Findings

The research findings from the four case studies provide insight into the acquisition process for ERP software. In this section, an initial review of each case study is provided, followed by a synthesis of all four case studies in terms of a process model developed. We also comment on the influence factors identified.

The analysis followed the different types of organisation- and market-oriented acquisition processes presented in the literature. As shown in Table 3, the case studies illustrated two types of organisation and market-oriented acquisition process.

Table 3. Comparison of the Organisation and Market-Oriented Acquisition Processes across the Four Case Studies

	Progression from an Organisation-Oriented Process to a Market-Oriented Acquisition Process	Predominantly Market-Oriented Acquisition Process
Firm A	X	
Firm B		X
Firm C	X	
Firm D	X	

The case study of Firm A showed a progression from an organisation-oriented process to a market-oriented acquisition process. An initial organisation-oriented step was associated with the identification of a business-need for information systems planning project by the General Manager and the formation of a systems review team. A progression towards market-oriented steps was initiated with the recruitment of Firm M consultants for market-based information on IS solutions. Thereafter, the consultants co-ordinated the steps of information requirements definition and acquisition of Baan software according to a Strategic Systems Planning II methodology administered.

The case study of Firm B indicated a predominantly market-oriented acquisition process for ERP software in terms of a strong influence by the parent organisation and consultant firms. In terms of the parent organisation, a SAP software implementation at their parent organisation influenced the ERP software decision at Firm B. In addition, the recruitment of consultants (Firm N, Firm P, Firm R and Firm S) at different points of the acquisition process signified a strong influence by consultants. As the acquisition of SAP software was decided early in the acquisition process, steps involving the selection and evaluation of alternative ERP vendors were not undertaken.

The case study of Firm C presented another progression from an organisation-oriented process to a market-oriented acquisition process for ERP software. As the acquisition process was part of an initiative to merge the two organisations of Firm C and another firm in the same industry in which both organisations had IS departments, the process was strongly co-ordinated by internal managers and employees. The organisation-oriented steps included the identification of a business-need for an information systems project, and formation of a project steering committee. A progression towards market-oriented steps related to an assessment of alternative strategies, acquisition of SAP software, and recruitment of consultants Firm Q and Firm R.

The case study of Firm D also showed a progression from an organisation-oriented process to a market-oriented acquisition process for ERP software. An affiliated organisation (also a subsidiary to the same holding company as Firm D) was heavily involved during the initial identification of business-need for a business computer systems project, which subsequently influenced the remaining steps of the acquisition process in accord to an inherited project plan methodology. This methodology promoted organisation-oriented steps that denoted the formation of a project steering committee and propose system specification. Thereafter,

market-oriented steps were seen in terms of the acquisition of JD Edwards software and recruitment of Firm R for market-based information.

3.1 Synthesis of the Acquisition Processes across the Four Case Studies

The acquisition processes for ERP software revealed in the case studies were synthesised with the organisation and market-oriented steps identified in the literature review, and brought together into the high level model shown in Figure 2. Organisation-oriented activities created the stimulus for change, which resulted in identification of business-need for an ERP software project, formation of a project steering committee, and creation of an internal requirements definition. Thereafter, a market-oriented activity controlled the acquisition of ERP software.

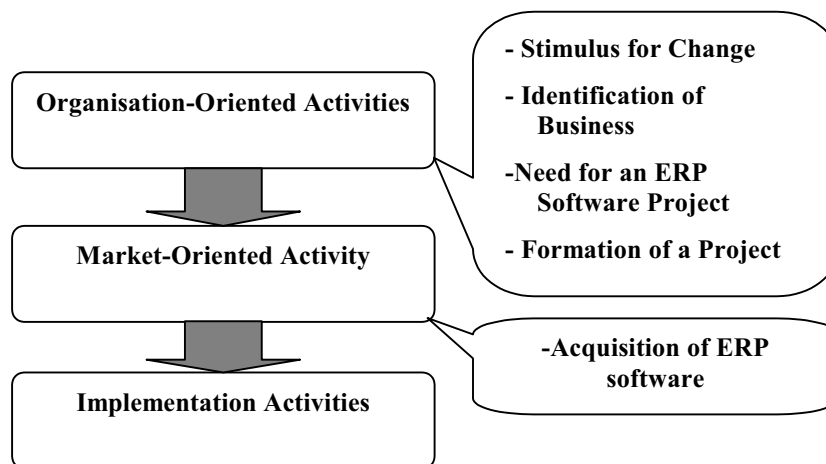


Figure 2. A Synthesised High Level Process Model of the Activities in the Acquisition of ERP Software Observed across the Four Case Studies

3.1.1 Organisation-Oriented Activities

The acquisition of ERP software in all four case studies was initiated by a stimulus for change. An underlying factor was attributed to a dynamic external environment facing the organisations in each case study. Changes in the external environment were different between the organisations in the case studies, however the result was similar in terms of the organisation undertaking restructuring. A consequence of restructuring in many cases was conflicting business processes between organisations. In all four case studies a solution to this conflict was the acquisition of an enabling technology in the form of ERP software. Based on this stimulus for change, a formal identification of a business need for an ERP software project was presented within the organisation of each case study.

In comparing the four case studies, different managerial positions in the organisations identified the business-need for ERP software project, which is indicative of the changing role of top-level managers in organisations.

In all four case studies, formation of a Project Steering Committee (also known as Systems Review Team at Firm A) was pursued with the involvement of managers across the

organisation. The committees involved managers from different functions including finance, information technology, commerce, marketing, process improvement and production. Depending on the functional area that had greater application of ERP software, greater representation from associated managers was seen in the committee. The initial task of the committee was the development of an internal requirements definition.

An internal requirements definition was the first task pursued for the acquisition of ERP software presented in the four case studies. The requirements focused on strategic and technical alignment between the organisation and ERP software capabilities. On the whole, different terminology were used for internal requirements definition in terms of an information requirements document, scoping and planning review, information needs document, and proposed system specification. In hindsight, a similar theme was identified across the four case studies in terms of the progression from strategic to technical focus, as shown in Table 4. This progression signified the importance of aligning the two requirements together for the selection and evaluation of ERP software.

Table 4. Comparison of the Strategic and Technical Characteristics of Documents Presented in the Case Studies for the Top-Level Management Teams

	STRATEGIC	TECHNICAL
1. Firm A	Information Requirements Document	Information Systems Plan
2. Firm B	Business-level Strategic Plan	Scoping and Planning Review
3. Firm C	Information Needs Document	Information Needs Document
4. Firm D	Proposed System Specification	Proposed Systems Specification

The internal requirements definition step seemed to be of high importance in the acquisition process in all four cases, but with mixed outcomes. The task of developing an internal requirements definition was an expensive task in terms of time and cost, with minimal effectiveness. The requirements were often not in the context of ERP software and could not be applied. The internal requirements definition step in the four case studies were either produced internally or outsourced to consultants. In the majority of the case studies the development of an internal requirements definition was outsourced to consultants, regarded as business partners.

Outsourcing involved the recruitment of consultants for the co-ordination of either the entire or parts of the acquisition process, as shown in Table 5. A partner selection process was incorporated when outsourcing the entire acquisition process due to the greater risk perceived. In outsourcing only certain parts of the acquisition process, such as the development of an internal requirements definition or providing market-based information, there appeared to be little evidence of any selection process for the consultants, and they were selected informally based on past association or reputation.

Table 5. Comparison of the Different Types of Outsourcing Presented in the Case Studies

CASE STUDY	OUTSOURCE PARTNER	DOCUMENT(S)
1. Firm A	Firm M Consulting	Information Requirements definition
2. Firm B	Firm N	Business-Level Strategic Planning Review
	Firm P	Scoping and Planning Review
3. Firm C	Firm Q	Information Requirements Definition
	*Firm R	Market-based Information
4. Firm D	*Firm R	Market-based Information

*Firm R was mainly a market research firm, and was less involved in the acquisition process than other consultant firms.

Outsourcing for either the entire, or parts of the acquisition process was perceived by the managers interviewed to have advantages and disadvantages. The advantages reported by the managers included the following:

- Outsourcing offered greater industry knowledge and market-based information on available ERP software.
- Outsourcing provided experience and methodologies for the development of IS projects.
- Outsourcing provided accurate analysis and insight into developing internal requirements and opportunities.
- Outsourcing provided network and existing relationships with ERP software vendors.

The perceived disadvantages of outsourcing some or all of the acquisition process included:

- Consultants dictated the entire acquisition process with methodologies that undermined authority of organisation managers and influenced business processes.
- Employee resistance had arisen that acted as a constraint for consultants to understand the organisation business direction and strategy. The outcome of this constraint was unclear strategic requirements, which escalated into large scope of technical requirements, making it virtually impossible for any ERP software to meet requirements.

Outsourcing required a large amount of time and investment, as many people were involved. As the acquisition processes was long in duration, a lack of ownership eventually emerged as original members from the organisation and consultant firm had either left the organisation or lost focus with other projects undertaken during that time.

From the cases observed, the importance of outsourcing, for either the entire or part of the acquisition process was dependent on the availability of internal skills and knowledge inherited within the organisation. In organisations where minimal skills and knowledge was present, outsourcing of the entire acquisition process was an important step. Organisations in this situation must ensure that consultants' approaches were clearly understood and strict selection criteria were enforced. A valuable source of information applied in the case studies during the selection criteria was attributed to site visits. Site visits provided experiences of members from other organisations. Alternatively, in organisations where substantial skills

and knowledge were acquired internally, outsourcing parts of the acquisition process may be important to reduce internal bias.

3.1.2 Market-Oriented Activities

An acquisition of ERP software was usually initiated with an establishment of selection criteria based on the internal requirements definitions. In the case study of Firm B, although the organisation had undergone an internal requirements definition step, a selection process was not pursued due to the early decision for an acquisition of SAP software influenced by its parent company. This early decision presented advantages and disadvantages. An advantage was that the systems review team avoided the time and cost associated with a vendor selection procedure. However, a disadvantage was that the SAP software might not have been the best choice compared to other ERP software available in the market. Due to this decision-by-default, members of systems review team experienced a sense of dissatisfaction with the lack of involvement in administering a selection process.

With consideration to the other three case studies, although recognised differently, strategic and technical requirements were communicated to ERP software vendors for selection, as presented in Table 6. In these case studies, ERP software vendors were initially short-listed based on the strategic alignment between the organisation and software capabilities.

Table 6. Comparison of the Strategic and Technical Characteristics of Documents Presented in the Case Studies for ERP Software Vendors

	STRATEGIC	TECHNICAL
1. Firm A	Request For Information	Request for Proposal
2. Firm B	Not Applicable	Not Applicable
3. Firm C	Expression of Interest	Request for Proposal
4. Firm D	Registration of Interest	System Specification Tests

The strategic requirements were communicated to ERP software vendors through documents known as either a request for interest, expression of interest, or registration of interest. Although the documents contained similar information between the case studies, the terminology implied different meanings. The request/registration of interest was a document developed by a client organisation and distributed to software vendors. In turn, an expression of interest was the response to the request/registration of interest document from the software vendors to the client organisation that influenced short-listing. In the case studies, these documents presented strategic information such as company background, business requirements, existing systems, and a summary of functional requirements. Further to the distribution of these documents, a further short-listing was based on the technical requirements.

Technical requirements were the basis of a final assessment of ERP software vendors in the form of either a request for proposal or system specification tests. At Firm A and Firm C, a Request for Proposal provided information on functional requirements and technical specifications. From the cases observed, a request for proposal had advantages and

disadvantages. The advantage of a request for proposal was that organisations received an extensive range of information in the form of presentations, reports, and site visits. Two disadvantages were that ERP software vendors' responses were all based on written assumptions and site visits required strong commitment on project team members.

The case study of Firm D presented an alternative form of communicating technical requirements to ERP software vendors in terms of system specification tests. System tests had the advantage of ensuring that specific technical requirements were met by having ERP software vendors demonstrate set tasks. A disadvantage was that stronger commitment was required in terms of the time and effort from people in the organisation and ERP software vendors. Greater involvement on the part of ERP software vendors was needed in terms of implementing a prototype version of the software for testing.

A progression from an organisation-oriented process to a market-oriented acquisition process for ERP software was identified in the activities across the four case studies. The organisation-oriented activities aimed at gaining internal management support and recruiting consultants leading to an internal requirements definition. The market-oriented activity consisted of the selection and evaluation of ERP software.

3.2 Influence Factors on the Acquisition Process for Enterprise Resource Planning Software

During the acquisition process for ERP software, influence factors were identified, as shown in Table 7. These factors may have influenced the acquisition process with either a moderating or mediating effect.

Table 7. Influence Factors in the Acquisition Process for ERP Software

Influence Factors	Examples
Environmental	Consultants
Organisational	Size and Structure
Interpersonal	Project Team Members IS Managers

Environmental factors influenced the acquisition process for ERP software towards a market-orientation in these four cases. Market-oriented steps include the recruitment of consultants and contracting firms for market-based information. Consultants were either involved to fulfil a certain task or co-ordinate an entire acquisition process. Although consultants incorporate weaknesses as with any outsourcing, they generally offer experience and knowledge of ERP software that may be lacking within an organisation.

Organisational and interpersonal factors have influence in the organisation-orientation of the acquisition process. The organisation factors include size and structure, which determines expenditure-level and possible conflict of interest between divisions and parent organisations, respectively. Additionally, interpersonal factors recognise influence from individuals in the project team and other IS managers.

4. Conclusions

This investigation has developed a synthesised two stage process models for the acquisition of ERP software - organisation-oriented and market-oriented, and identified influence factors on this process.

4.1 A Synthesised Process Model for the Acquisition of ERP Software

The organisation and market-oriented activities identified in the synthesised process model support many of the acquisition process steps in the literature review. Within the literature of organisational buying processes, the activities identified from the four case studies reinforced the progression from organisation-oriented processes to market-oriented process models. Organisation-oriented steps denoted by the four models, such as problem recognition, organisation assignment of responsibility, and specification, had similarities to the activities of initial identification of a business-need for an ERP software project, formation of a project steering committee, and internal requirements definition. In addition, market-oriented steps such as search procedures, selection, and evaluation was considered in the acquisition of ERP software activity.

In terms of the predominantly market-oriented organisational buying processes, the product and supplier focus of the Nature of the Decision Task (Hillier, 1975) and Procurement Strategy (Corey, 1978) was seen in the acquisition of ERP software activity. In terms of the outsourcing of market-based information in the acquisition of ERP software activity, this affirmed the market activities and level of market involvement noted by the Predevelopment Steps in New Product Process (Cooper, 1988) and Decision Process of the Industrial Market-Response Model (Choffray and Lilien).

Within the literature of IS procurement, the activities identified were significantly different to the traditional SDLC. As the traditional SDLC directed organisation-oriented steps towards an in-house development of systems, the activities of the acquisition process presented market-oriented steps towards purchasing off-the-shelf software, represented by the acquisition of ERP software activity. The market-oriented steps were similar to the progression from an organisation-oriented procurement to market-oriented IS procurement models such as SALC (Marciniak and Reifer, 1990) and the Process Model of Application Software Package Acquisition and Implementation (Shin and Lee, 1996). With consideration to these models, the activities supported the shift in orientation towards an acquisition via a contractor with the development of requests for interests and proposals.

The activities identified had characteristics of predominantly market-oriented IS procurement models in terms of the outsourcing role for either parts or the entire acquisition process. As denoted by the Outsourcing Acquisition Strategy (GSA, 1998), the steps of outsource/acquisition team, job analysis, the performance work statement, and selection/evaluation criteria had similarities to acquisition of ERP software activities. These included the formation of a project team, development of documents that outlined strategic and technical requirements, and evaluation of consultants and ERP software vendors.

Within the literature of the acquisition processes for ERP software, the activities provided greater detail to the four-step approach (Vasilash, 1997). Additional aspects of stimulus for change presented the different underlying reasons for acquiring ERP software. In terms of the requirements definition step, the internal requirements definition activity further defined

strategic and technical requirements for ERP software vendors. Altogether, these activities answer the research question of “how do organisations acquire ERP software?”

4.2 Influence Factors in the Acquisition Process

This investigation has identified three forms of influence factors known as organisational, interpersonal, and environmental confirming those found by Webster and Wind (1972).

This investigation contributes research findings on the role of consultants to the literature of influence factors. Within Webster and Wind’s (1972) model, consultants could be categorised as environmental factors, however a lack of understanding was evident. Consultants have comparatively different characteristics than the conventional idea of suppliers in this model. In the acquisition process, consultants may have the responsibility for either parts or the entire process. In cases where consultants co-ordinates the entire acquisition process a selection criteria was needed. Alternatively, where consultants were responsible for parts of the acquisition process such as internal requirements definition, little criteria may be needed.

The organisational influence factors found here support the findings of Johnston (1981), Rochetto, Hutt, and Reingen (1989), and Sheth (1973) on structural issues. However, a significant finding in this area that was not covered previously in the literature concerns influences from the parent organisation. This increased the levels of authority outside an organisation’s immediate hierarchy. In terms of interpersonal factors, the role of IS managers in the acquisition process was significant, while the involvement of organisation employees in the project team during the acquisition process confirms Leigh and Rethan’s (1985) recognition of users as an interpersonal factor.

4.3 Limitations of Research

Certain limitations must be considered when interpreting the conclusions of this investigation. As in all research of this type, a range of biases may be present in the organisations selected and the people interviewed. However, as the strength of qualitative research lies in exposing the richness of a relatively small number of instances, and seeking depth of understanding rather than breadth and generalisability, we believe the methods taken to select sites for the case studies was appropriate. The research findings are limited to the four organisations selected, and are influenced by the individuals interviewed. Although the authors attempted to involve as many members in each organisation as possible, many of them did not want to be interviewed. Additionally, in some cases the original people that were involved with the ERP software acquisition, such as consultants and managers, were no longer with the organisation. This restricted the number of perspectives for the investigation to only those interviewed.

Many factors were encountered in this investigation that may be unique to the organisations in the case studies. Although the models developed in this investigation attempt to provide insight into the ERP software acquisition process, they are not claimed to be generalisable to other organisations. However, the research does provide a basis on which to conduct further investigations which may confirm or extend the process model and influence factors developed.

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