

2002

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Recommended Citation

Sammon, David and Adam, Frederic, "Decision Making in the ERP Community" (2002). *ECIS 2002 Proceedings*. 8.
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DECISION MAKING IN THE ERP COMMUNITY

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ABSTRACT

This paper, although bibliographical in nature, stresses the importance of researching ERP from the perspective of the ERP community, defined here as a triadic group composed of (1) an ERP vendor, (2) an ERP consultant and (3) an implementing organisation; and focuses on understanding the relationships and inter-dependencies that exist between these actors. In this novel perspective, the second contribution of this paper is to introduce the concept of category manipulation – that is to say non-decision making - to the area of IS in general and more specifically to ERP research. As far as the authors are aware, this paper is the first to examine the ERP decision making process under this light. The researchers' objective is to structure their ideas in an effort to lay the foundations for a model of ERP decision making that can inform both the practice and investigation of ERP implementation.

1. INTRODUCTION

'Ignore history - condemned to repeat it' [Judge, 1997] seems to be an adequate statement when it comes to describing the mixed fortunes of organisations deploying Information Technologies; so much so that nine out of ten organisations don't get ERP right the first time around [Donovan, 2001] and experience the same kinds of difficulties that they have faced with each new wave of IT since mainframe systems were first introduced [Markus and Tanis, 2000]. A short scenario presented by Adam [1996] describing the 'slow motion' decision making process concerning the selection and implementation of an integrated computer system also highlights the concern of history repeating itself. Westrup and Knight [2000] have made similar comments when they considered ERP systems in relation to previous approaches to deploying IS in organisations, the last being Business Process Re-engineering (BPR).

The malaise surrounding ERP seems to grow hand in hand with the astonishing escalation of its implementation market [Caldas and Wood, 1998]. The observations made by many analysts lead us to believe that the ERP movement is one of the most sustained and long lasting in the IT area since companies began investing substantial amounts of money in package software. The pace of implementations has been such that SAP alone have now implemented their software in 30,000 sites in collaboration with more than 1,000 implementers and have a user population of 10 million. Numerous reports on the state of the market for ERP packages are continuously published by research groups,

speculating and forecasting on the future growth and adoption rates of ERP. However, it remains that the ERP project implementation failure rate is approximately 50% [Stefanou, 2000], along with an estimated 90% of ERP implementations failing to fulfill the promise of significant return on investment [Donovan, 1998]. This highlights the fact that adopting organisations are not learning from, or only paying 'lip service' [Caldas and Wood, 1998] to, the lessons learned, even during the MRP/MRP II era [Donovan, 1998]. Furthermore, Donovan [2001] points out that organisations have spent fortunes on ERP software and implementation only to discover that business performance has not improved at all. However, Donovan [1998] believes that ERP systems implementation disasters are avoidable. To receive benefit from implementing ERP there must be no misunderstanding of what it is about, or underestimation of what is involved in implementing it effectively, and even more important, organisational decision makers must have the background and temperament for this type of decision making [Donovan, 2001].

This paper offers an alternate perspective on the ERP phenomenon, illustrating the importance of the *ERP community* defined as a triadic group composed of an *ERP vendor*, an *ERP consultant*, and an implementing *organisation* and the need for research into the forms of decision making practised by these actors, including the relationships and inter-dependencies that exist between them. The paper also introduces the concept of category manipulation and highlights its relevance to and existence in *ERP communities*. The paper concludes by laying the foundation for a specific model of ERP decision making.

2. DECISION MAKING PROCESS IN THEORY

The process whereby managers and, by extension organisations, make decisions has been one of the most researched topic in the extended management area [Mintzberg *et al.*, 1976; Hickson *et al.*, 1985; Langley *et al.*, 1995; Carlsson *et al.*, 2000]. Since Dewey [1933] and Simon [1960, 1977], a number of normative models of decision making have been put forward which broke down this complex process into a variety of phases. Mintzberg *et al.* [1976] and Langley *et al.* [1995] have presented excellent syntheses of this literature. Although the models put forward by these researchers have come under some criticism, they are still extremely useful in shedding light and putting some order onto managerial decisions that sometimes remain blackboxes. Thus, March [1987] has claimed that some decision making processes appear to be without any order and researchers may be tempted to assign them to the decision making “garbage can” [Cohen *et al.*, 1972] as soon as their observations or case data lack coherence.

One of the most simple normative models, Simon’s [1977] four stage decision making process, breaks down the decision making process into (1) intelligence, (2) design, (3) choice and (4) review. The application of this model to current studies of ERP implementations is interesting because it reveals how few research projects have looked at the first and fourth phases [Sammon and Adam, 2000]. It is an important observation given that, as Pomerol [1994] has remarked, the first of these phases is critical: alternatives not considered initially are very unlikely to be brought into the picture at a later stage. In relation to ERP projects, it is therefore crucial to understand why managers decide to implement ERP packages in the first place and what alternatives they considered, but many empirical studies of ERP point to the weakness of the business case made by managers [Wood and Caldas, 2000; Sammon *et al.*, 2001b]. Thus, ERP implementations are large and complex projects, the concept of ERP software being integrated [Kelly *et al.*, 1999, and definitive targets must be pursued in the project, otherwise, investing large amounts of capital, along with staff and management time and resources may simply be unjustified [Adam and O’ Doherty, 2000a].

Each ERP package uses a business model as an underlying framework and they can differ in terms of how they operate or the business processes they support. The problem for managers is that not all business models fit all organisations and the cost of failing to recognise the relationship between the nature of one’s business and the ERP system to be purchased can be very high indeed. As a result, selecting the right software package, i.e. the right blueprint for one’s organisation is a critical failure

factor in ERP projects [Adam and O' Doherty, 2000a; Stefanou, 2000]. Managers must be able to put forward a set of specific requirements that correspond to the needs of their organisation and not to standard, well-publicised sets of requirements as proposed by magazines and consultants. These requirements can form the basis of the metrics that will be used to establish the success or failure of the project in the post-implementation review phase [cf: Simon, 1977]. As always in the information systems domain, the finished product – i.e. the implemented ERP system – will only be as good as the analysis that underpinned its selection and implementation [Sammon and Adam, 2000].

3. ERP DECISION MAKING AND SOFTWARE SELECTION PROCESS

Research has been conducted to help gain a better understanding of the ERP decision-making process [Shakir, 2000] and assist managers considering their ERP projects, by highlighting the critical issues involved in the selection process of ERP systems [Stefanou, 2000]. However, there still remains an important managerial concern relating to the appropriateness of ERP software to meet an organisation's needs. Paradoxically, even though organisational actors may not know what they are buying, there seems to be no alternative to the ERP trend [Caldas and Wood, 1998] sweeping across organisations at a 'dizzy pace' [Donovan, 1998]. Donovan [2001] further reiterates this point by stating that management all too often 'plunge' into ERP less than fully informed, with limited knowledge of what to expect. This fact translates into some managers taking the acquisition of ERP packages as a given instead of carrying out a feasibility study as is recommended for any IS investment [Ciborra, 1992, Clemons and Row, 1991]. For the majority of companies, the decision to implement ERP functionalities will mean buying a software package from one of the major suppliers on the ERP market – e.g. SAP, Baan, JD Edwards, PeopleSoft, Oracle, commonly known as "JBOPS". However, the software selection phase is not straightforward and managers must understand what ERP packages are on offer, how they differ, and what is at stake in selecting one ERP over another [Sammon and Adam, 2000].

From a review of research on the subject of ERP software selection and the decision making process associated, researchers have commented on the *confusing nature* of many recorded instances of ERP decision making [Saint-Leger and Savall, 2001; Sammon and Adam, 2000; Sammon and Lawlor, 2001] and the presence of political decision making [Shakir, 2000; Sammon and Lawlor, 2001]. This idea of *confusion* in organisational decision making is not new, March and Olsen [1976] talk of 'reducing the confusion slightly' in their approach to organisational decision making. Furthermore, Adam [1996] points out that organisational decision processes and the resultant outcomes can appear very difficult to understand and follow for an 'outside observer' and Langley *et al.* [1995] have pointed out the short-cuts that many researchers take when describing such confusing processes.

One key characteristic of accountability for ERP software selection and implementation lies to varying degrees with organisational (i.e.: internal) decision makers and external consultants [Caldas and Wood, 1998; Wood and Caldas, 2000; Donovan, 2001]. All too often ERP vendors are the easy targets for blame when anticipated benefits do not materialise, however, Donovan [2001] also highlights that certain vendor practices adds confusion to the software selection process, especially for the 'uninitiated'. Therefore, can we as researchers be so naïve as to believe that the decision to select one ERP offering over another is subject to a totally rational and open-minded behaviour on the part of the implementing organisation? If organisations truly went through a complete problem finding phase [as in Pounds, 1969] in their decisions to purchase ERP packages, they should reach the conclusion that ERP is the way to go in a vendor-independent, methodology-independent and pre-implementation thought process [Sammon and Adam, 2000].

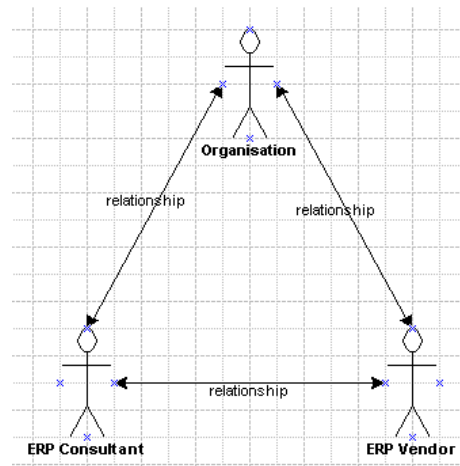
Evaluating and selecting an ERP offering, although a complex process, should be a 'fact-based' process that brings the organisation to the point where comfortable well-informed decisions can be made [Donovan, 2001]. It has been noticed that the preferences of managers are often vague and contradictory [March and Olsen, 1986], but in relation to ERP, it is not certain whether this is a result of poor ERP literacy on the part of the organisations decision makers or as a direct result of the

influential directions of both the ERP vendor and the ERP consultant. Caldas and Wood [1998] highlight the existence of a 'central problem' in relation to the decisions regarding the implementation of ERP systems. They cite Lampel [1995] in proposing that these decisions have been made in an atmosphere of great urgency, created by both the promotional strength of vendors, and the political agenda of executives within organisations. Options end up limited to the leading software vendors, on the one hand, and to the largest consulting firms, on the other [p.4].

4. KEY STAKEHOLDERS IN ERP PROJECTS

Software vendors often encourage organisations to 'jump right into' looking at software functions and features because they want to move along quickly in the 'sales cycle' and get an organisation closer to licensing their products [Donovan, 2001]. Westrup and Knight [2000] elaborate the 'pivotal role' of consultants and propose that "much of the ERP phenomenon is based on the efforts of management consultants to create new markets for their expertise" [p.637]. According to Rutherford [2001] over 90% of companies are 'aided by an army of consultants', a finding further supported by Caldas and Wood [1998] stating that 91% of the implementation processes were conducted using the assistance of management consultants. In addition, Hossain and Shakir (2001) point to the fact that external consultants have a 'high level of involvement' throughout an ERP project, which 'makes them guide the selection and implementation of ERP'. However, Donovan [2001] warns that consultants, although filling a skills gap in the implementing organisation, may not be genuinely qualified and suitably experienced to reduce the high risks involved in implementing ERP software in a given organisation or industry. Adam and Twomey [2002] have reported how members of the project team in one Irish organisation became disillusioned about the contribution of their consultants after realising that the consultants were the ones listening and taking notes in meetings whereas the members of the project team volunteered all the information that was later found to form the basis of the consultants report.

Figure 1: ERP Community Actors and Relationships



Regardless of which implementation approach is adopted, there will always be the existence of a relationship between the implementing *organisation*, the *ERP vendor*¹, and the *ERP consultant*. Hossain and Shakir (2001) identified these three parties (the client, the consultant and the vendor) as the main stakeholders involved in the selection and implementation of ERP. For the purpose of this paper we define these three actors and the relationships between them collectively as the *ERP community*. These three actors are the *de facto* stakeholders in the *ERP community*, as illustrated in Figure 1. An extended model of the *ERP community*, introducing the implementing *organisation* as

¹ or local distributor of the software in question

an entity characterised by multiple goals and multiple perspectives, as is the case in a multi-site or multi-national, is presented in Sammon and Adam (2002). The implementing *organisation* is dependent on the offerings of the *ERP vendor* and the services of the *ERP consultant* within the *ERP community*. Organisations can rarely implement an ERP system completely using internal resources due to the scale of such an implementation and *ERP vendors* cannot provide complete support for every installation process due to the escalated rapid growth in the number of implementations [Westrup and Knight, 2000].

Therefore, the ERP phenomenon is driven by both software vendors and adopting organisations. ERP systems could not be a solution to [an adopting organization's] problems, were it not for the fact that software companies are selling ERP systems [Oliver and Romm, 2000, p.1042].

Hence, ERP vendors have sought to enter into partnerships with other firms to assist in ERP implementation [Westrup and Knight, 2000]. This approach can be seen as seeking to construct (and maintain) a network of actors (as shown in Figure 1) which can be controlled, at least in part, by the vendor [Westrup and Knight, 2000], while at the same time greatly enhancing their market reach.

5. THE CONCEPT OF ERP COMMUNITY

To date, little research has been focused on the influence of the *ERP vendor* and the *ERP consultant* over the *organisation* implementing or deciding to implement ERP. When an organisation adopts an ERP there are obvious relationships forged between the *organisation*, the *ERP consultant*, and the *ERP vendor*. The *ERP consultant* may be introduced into the ERP project at the very early stage, performing the role of a business analyst, or organising the selection of existing packages, and/or may be introduced as an implementation partner to the selected *ERP vendor* whose ERP offering is being implemented. Ideally all ERP projects should begin with a thorough examination of what problems exist and how to tackle them. However, too many ERP projects begin with a headlong rush to buy software without any preparation, a package evaluation exercise [Kelly *et al.*, 1999]. Thus, it is our contention that the *ERP vendor* and the *ERP consultant*, through the direct and indirect relationships that exist between them and the implementing *organisation*, actively demonstrate the techniques of what is termed *Category Manipulation* – i.e. the *hidden art of non-decision making* in Judge's words [1997].

Table 1: Descriptions of Various Forms of Category Manipulation

Category Manipulation	Description
DEFINITIONAL GAMES	Whether deliberately or inadvertently, this is the process of defining categories in one way in one document or organisational unit, and then defining them in another way elsewhere or at some later time. The art is to use this approach to obscure opportunities or to selectively advance particular strategies. At the same time competing definitions may be used to justify apparently incompatible strategies. In a sense a new language is developed through which to perceive the environment. Typically this process involves some degree of dissociation from conventional language.
OVER-SIMPLIFICATION	This technique is typical of those forcing through an agenda in which it is convenient to exclude categories and especially the relationships between them. This is commonly justified by the necessity to render the text simple enough to be communicable to the media and to various constituencies. Unfortunately, the process of simplification seldom ensures the memorability of the text and tends to guarantee limited life for initiatives based on such oversimplifications.
OVER-COMPLEXIFICATION	This technique is widely practiced by experts to limit access to their field of knowledge. It becomes a means of requiring that the expert be personally consulted in order to convey the insights in practice.

Category Manipulation	Description
NARROWING THE TIME-FRAME	This technique consists of elaborating initiatives without any reference to historical precedents from which insights might be usefully obtained to ensure the viability of the new initiative. By encouraging ignorance of the past, in pursuit of the current initiative, there is every probability that the new one will remain equally unmemorable. Similarly, by avoiding sensitivity to more than the short-term future, factors in the medium and longer term (that will probably counteract the initiative) can be ignored. Effective non-decision-making can be achieved by benign positive focus on action in the immediate present.
FAVOURING THE FASHIONABLE	At any one time, there are fashionable conceptual approaches to issues, and consultants "on the circuit" who enthusiastically promote their use. Institutions can be successfully panicked into exploring the latest intellectual fad for fear of offering a competitive advantage to their competitors through inaction. Because an approach is fashionable "nobody gets fired" for adopting it. By encouraging institutions to take up a succession of particular fads, a broader view of the range of possible initiatives is inhibited. No sense of the strengths, limitations and complementarity of the fads emerges.
EXERTION OF PRESSURE	This is one of the most developed techniques. It can be effectively used in any peer group simply by implying that failure to act in a particular way will cast an unfavourable light, prejudicing career advancement, funding, honours, etc ("the stick"). Pressure can be increased by offering rewards, career advancement, or promises of honours ("the carrot"). There is suspicion that attribution of a number of major prizes is occasionally affected by this process. Pressure can be further increased by unadulterated bribery and intimidation.

(descriptions extracted from Judge, 1997)

Category manipulation represents the more challenging and less visible aspects of non-decision making which are difficult to detect, comprehend, and communicate to others [Judge, 1997]. The various forms of category manipulation, as illustrated in Table 1, can be described and understood when applied to and analysed in the context of the various relationships that exist between the implementing *organisation* and the *ERP vendor* and the *ERP consultant*. Within the ERP community, both the *ERP vendor* and the *ERP consultant* are the dominant actors in influencing implementing *organisations* decision making process through the practice of category manipulation. Westrup and Knight [2000] suggest that "organisations will continue to be offered the seductive vision of strategic positioning and control through IS" [p.637]. This is the business of both consultants and vendors. Although each form of category manipulation can be questioned, there is evidence in research in the area of ERP software selection to support the hypothesis that this *art form* [Judge, 1997] does exist. To illustrate these documented forms of category manipulation, we supply a small sample of references of other documented research illustrating the existence of non-decision making processes within the *ERP community*. This is illustrated in Table 2.

Table 2: The Existence of Category Manipulation in ERP Communities

Category Manipulation	Evidence in ERP Literature
DEFINITIONAL GAMES	[Adam and O'Doherty, 2000a] [Sammon <i>et al.</i> , 2001a] [Sammon and Adam, 2001] [Saint-Leger and Savall, 2001]
OVER-SIMPLIFICATION	[Caldas and Wood, 1998] [Sammon and Lawlor, 2001] [Donovan, 2001]
OVER-COMPLEXIFICATION	[Markus and Tanis, 2000] [Westrup and Knight, 2000]
NARROWING THE TIME-FRAME	[Caldas and Wood, 1998] [Markus and Tanis, 2000] [Donovan, 2001]
FAVOURING THE FASHIONABLE	[Caldas and Wood, 1998] [Sammon and Adam, 2001] [Sammon <i>et al.</i> , 2001a]
EXERTION OF PRESSURE	[Adam and O'Doherty, 2000b] [Shakir, 2000] [Sammon <i>et al.</i> , 2001b] [Sammon and Lawlor, 2001]

Within the ERP community there are all too often unrealisable expectations placed on ERP systems from the point of view of consultants, vendors and the implementing organisation [Westrup and Knight, 2000]. Also, the deployment of ERP systems takes place in a marketplace of ERP vendors generally mediated by ERP consultants. Their aims, though never publicly formulated, are to sell ERP systems and consultancy services respectively [Westrup and Knight, 2000; p.641].

It is likely that the deployment and perspective of ERP is shaped by these concerns as well as the lessons learned [Westrup and Knight, 2000]. This is likely to provoke a phenomenon termed *Inside View* by Kahneman and Lavallo [1993], where actors focused solely on the current project and fail to take into account knowledge they acquired in previous similar decision making situations because they want to believe that fresh ways can be found that will offer radically new solutions to old problems. Markus and Tanis [2000] also believe that due to the all-encompassing (and all-replacing!) nature of ERP offerings, a level of dependence is created that "far surpasses the dependence associated with prior technological regimes" [p.203]. They further pose the questions "does this dependence have negative effects on organisations?" and "how do the effects manifest themselves?", "how do organisations cope?" and "what are the costs of picking the wrong vendor?" [p.203-204]. However, they also question how adopting organisations conversely "influence the strategic plans [behaviours] of vendors?" [p.204]. We propose a way to address the issues raised by these questions by examining the relationships and inter-dependencies between actors in the *ERP community* through the formulation of a new research vein outlined in the next section.

6. CONCLUSIONS: TOWARDS A MODEL OF ERP DECISION MAKING

To date, no published research has focused on the practice of non-decision making in the *ERP community* of *ERP vendor*, *ERP consultant* and implementing *organisation*. As noted by Esteves and Pastor [2001], research on ERP systems has been treated as secondary and its importance has been neglected by the IS community. Therefore, addressing the recommendations made by Caldas and Wood [1998], we propose that a key milestone in ERP research will involve the examination of the interactions among the actors in the implementing *organisation*, the *ERP vendor*, and the *ERP consultant*. Caldas and Wood [1998] called for the utilisation of a broader [alternative] perspective to its [ERP implementation] comprehension, one that would challenge the reductionism and information technology biases that have characterised the prevailing approach to the subject [p.5].

They proposed that such a perspective on the phenomenon of ERP systems diffusion may arise from the confluence of three sets of factors: *substantive* factors, *institutional* factors, and *political* factors. All of these factors interact with each other, creating a complex dynamic process, and influence (i) the *adoption*, (ii) the *implementation approach*, and (iii) the *assessment* of ERP systems in organisations [Caldas and Wood, 1998]. Their main argument is that the current reductionist discourse on ERP systems concentrates solely on *substantive* factors, whereas the ERP phenomenon can only be fully understood if perceived in terms of the *institutional* and *political* factors that concur to define it in each specific ERP project. Therefore, we suggest that, in investigating the relationships/inter-dependencies that exist within an *ERP community* and seeking to further understand the interplay between the *substantive*, *institutional*, and *political* factors and the various forms of category manipulation, as defined in Table 1 (and evident in many reported instances of ERP decision making as illustrated in Table 2), we may gain a much clearer understanding of the high failure rate of ERP implementations and suggest solutions for both the practice and investigation of enterprise-wide systems implementations.

At this stage in our research, we have discovered the existence of various forms of category manipulation within reported studies of ERP, as illustrated in Table 2. This is not an exhaustive list of references but the result of a preliminary search of available literature focusing specifically on ERP software selection and decision making. The next step in this research is to formulate a model of ERP decision making that would be solidly anchored in empirical evidence accumulated through our research and other researchers in ERP implementation decision making. This will be achieved by

mapping Caldas and Wood's [1998] factors onto our model of *ERP community* and extend on current thinking with the introduction of the concept of category manipulation – that is to say the hidden art of *non-decision making*.

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