

Developing a Framework for Analyzing IS/IT Backsourcing

Jacky AKOKA*, Isabelle COMYN-WATTIAU**

* CEDRIC-CNAM and INT, 292 Rue Saint Martin
75141 Paris Cedex 03, akoka@cnam.fr

** CEDRIC-CNAM and ESSEC, wattiau@cnam.fr

Abstract: Companies implementing an IS/IT backsourcing strategy (i.e. bringing IT functions back in-house after they have been outsourced) aiming at increasing operational effectiveness may face several problems. In this paper, we develop a framework characterizing backsourcing as an organizational innovation. We offer a set of propositions on the adoption of a backsourcing strategy. This framework recognizes the role that social context and organizational action plan play in the adoption of IS/IT backsourcing. It serves to clarify why organizations backsource and to understand the antecedent of backsourcing, especially the outsourcing decision. Several hypotheses try to explain the backsourcing decision. The framework has value for both researchers and practitioners. Two major issues are raised in this paper: 1) development of a framework allowing us to understand companies' backsourcing decisions, 2) development of a set of hypotheses aimed at validating the framework. The backsourcing framework is based on innovation. The fundamental hypothesis of our work supposes that a backsourcing decision is based on an innovation process, taking into account the social context as well as the organizational actions. It has been validated on a limited set of data.

Keywords: information systems, information technology, outsourcing, backsourcing, innovation.

1 Introduction

In the past, both corporate managers and information systems (IS) executives have viewed IS/IT outsourcing as a key issue [Ve05]. The practice of outsourcing has been a viable strategy for decades. Outsourcing IS/IT functions are supposed to contribute to cost reduction and to quality improvement.

There are many reasons for outsourcing information technology (IT) : for instance, a shortage of IS/IT experts, lack of competence, in-house IT costs too high, IT not being the core business, etc. Cost saving is very often cited as the main reason [Du92]. A second motivation factor relates to managers' perception that outsourcing IT/IS allows them to focus on their core competency [GT93]. A third motivation is related to reducing risk of project failure. Finally, companies strive to achieve a degree of quality improvements and customer satisfaction.

Although some benefits can be achieved by outsourcing, several problems remain. Strassmann analyzed detailed financial information from 1996 to 2000 concerning firms that outsourced more than half of their computing resources. He found that each of them has delivered declining returns in shareholder equity [St06]. [Bo05] raise the question whether the outsourcing of IT is the cause of the decline or is it a symptom of outsourcing being used by a business in a trouble as an attempt to reduce costs. Some authors cite several concerns over outsourcing, such as loss of IS control and a negative impact on employee morale [CM95]. Several companies suggest that the principal driver behind IS/IT outsourcing decision, cost reduction, may not be achieved. Lacity and Hirschheim have identified several reasons for cost increase [LH95]. More generally, outsourcing has been found to be difficult to control, costly, with a poor quality and service performance [De97]. A study of US and European companies concluded that outsourcing leads to problems and disappointments [LWF95]. Some argue that IS/IT outsourcing results in loss of control over IS/IT assets and in loss of corporate IS expertise and corporate memory. Finally, some studies point out to a decline in the morale and performance of the employees [Ki94]. Given the backlash against outsourcing, King suggests the need for an "innovative insourcing paradigm" [KM00]. A comprehensive survey on IS outsourcing can be found in [Di04]. A special focus on offshoring is provided in [AMV06]. Finally, Lacity and Hirschheim suggest that the outsourcing decision may be a result of rational consideration and it may be a product of organizational politics, conflicts, and compromises. In this paper, we extend these ideas to back sourcing [LH95]. We argue that the back sourcing decision can be considered as an organizational innovation. It can be viewed as an action taken in an organization within a social context. The objective of this paper is to provide a framework allowing us to understand why organizations backsource. It can be used by IT managers to apprehend the back sourcing phenomenon. It's a way to evaluate the reasons that push IT managers and CEOs to resort to a back sourcing strategy. As a consequence, this framework can be viewed as a Decision Support System (DSS) for the IS back sourcing choices.

The rest of the paper is structured as follows. Section 2 is devoted to the presentation of the back sourcing phenomenon. Section 3 describes and justifies our back sourcing framework. The hypotheses illustrating the framework are presented and discussed. In Section 4, we discuss the cases findings along with their implication. Finally, we conclude in Section 5. We present the limitations of our framework and suggest some further research.

2 The backsourcing phenomenon

The aim of this section is to present numbers and facts related to the backsourcing phenomenon, taken mainly from online news media. In the real world, outsourcing frequently fails to deliver its promise.

Deloitte Consulting has conducted a survey of 25 companies with average revenues of \$50 billion. The study reveals that 70% of its respondents have had significantly negative experiences. Large companies are rethinking massive outsourcing contracts such as Consecro, Dell, Capital One, etc. "A sign that outsourcing is not working is the amount of renegotiation surrounding the vendor agreements. There was not a single participant in the study whose contract went to term. All of them are renegotiated prior to the contract expiration date" (Deloitte study, CFO Magazine, June 2005).

A real new trend seems to take shape in the IS/IT outsourcing industry. Gartner Inc published a report entitled "Five reasons why offshore deals go bust: unrealized cost savings, loss of productivity, poor commitments and communications, cultural differences, and lack of offshore readiness and expertise" (James Niccolai, IDG News Service, June 2005, Computer World). One important difficulty seems to be the cultural differences leading to customer dissatisfaction. A second difficulty is related to the language barrier. Several backsourcing experiences are reported. Dell Computers has rerouted tech support calls from India. The State of Indiana cancelled an overseas outsourcing contract. Several other outsourcing contracts have been terminated by companies such as Gateway, Hilton, Dow Chemicals, Suncorp, Lehman Brothers, etc. McFarlan estimates that during the past 15 years, 15 to 20% of outsourced deals have been backsourced. As an example, let us mention the JP Morgan \$5 billion deal, which has been considered as the largest outsourcing. The bank decided to bring back its IT in 2004.

In December 2002, JP Morgan agreed in a seven year IT outsourcing plan with IBM. This multi-billion dollars outsourcing arrangement was decided on the basis of potential benefits such as reduced costs, increased innovation, improved quality, more efficient growth, and benefits for JP Morgan IT workers. In less than two years, JP Morgan decided in September 2004, the early end of the contract. The company claimed that IT backsourcing would be "best for the long term growth and success of our company, as well as our shareholders. Our new capabilities will give us competitive advantages, accelerate innovation, and enable us to become more streamlined and efficient." (Austin Adams, CIO, JP Morgan Chase, The Register, September 2004). As it can be seen, JP Morgan gave the same reasons for terminating the contract as they had given for making it. Sears Roebuck ended its \$1.6 billion IT outsourcing contract with Computer Sciences Corp in 2005.

A merger can quickly change a company's IT strategy. As an illustration, let us look at Sears Holding Corp decision to terminate its 10 years outsourcing deal with Computer Sciences Corp less than one year into the agreement. Sears ended the engagement "due to CSC's failure to perform certain of its obligations" (Paul McDougall, Information Week, May 2005). CSC argues that the real decision was the merger between Sears and K-MART. This is the same situation with JP Morgan Chase & Co after its merger with Bank One Corp. This is also the case of Australia's Suncorp-Metway Ltd after acquiring AMP General Insurance. J. Sainsbury PLC is considering renegotiating its \$3.25 billion outsourcing contract with Accenture. In France, the rate of back sourcing is estimated at 20%. Clearly, there is a trend toward back sourcing. Some customers tend to consider that they are not getting the productivity gains they had anticipated. Others are facing the problems of losing control over key functions. Several back sourcing drivers have been mentioned: a change in corporate strategy, structural barriers such as offshore component, unrealistic service objectives, corporate economic growth, etc.

Finally let us mention that despite a majority of outsourcing contracts being considered unsatisfactory, only a fraction of companies backsource. We present in Figure 1 a classification of companies with regard to the back sourcing issue. Only those who actually have failed their outsourcing arrangement are considered in this paper. Among them, we aim at characterizing those which decide to backsource. We argue that back sourcing is company specific.

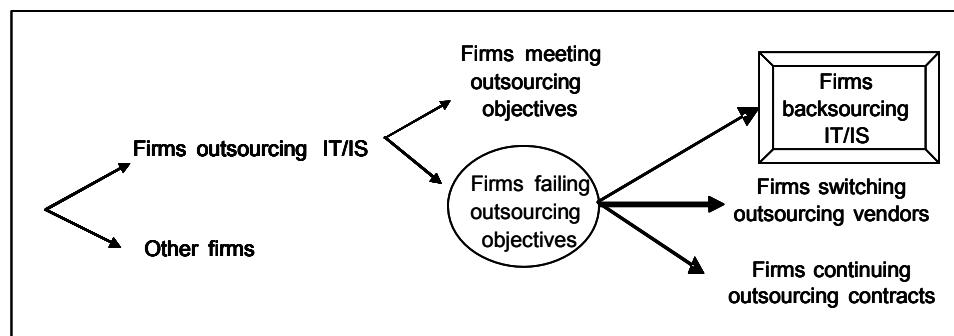


Figure 1. Classification of firms with regard to outsourcing

3 A back sourcing Framework

In order to understand why organizations backsource, we adapt Budros' framework [Bu99], since it seems the most complete [Ga02]. We characterize back sourcing as an organizational innovation [GC02]. Social context, both organizational and extra-organizational, as well as organizational action, either rational or arational, play a crucial role in the adoption of back sourcing (Fig. 2).

Basis of organizational action	Rational	Arational
Social context		
Organizational	Size Structure Budget	Culture Leader traits Managerial behavior
Extra-organizational	Business cycles Deregulation Shareholders	Institutionalization Social networks

Figure 2. Framework for organizational innovation (adapted from [Bu99])

The first dimension of the framework, basis of organizational action, specifies whether rational or arational logic guides innovation. Rational organizations are seen as efficiency-minded. They adapt their structures and strategies in response to environmental conditions. They adopt innovation in a response to efficiency, productivity conditions. Firms are guided by technical efficiency considerations. Technical-economic factors such as size, structure and budget play a crucial role. Firms adopt innovation in reaction to competitive, performance, and productivity conditions. Arational organizations are effectiveness oriented. They innovate in response to cultural, imitative, socialization, and politico-legal conditions.

The second dimension, called social context, is related to causal factors either organizational or extra-organizational. Organizational context can be described by the level of bureaucratization and leadership styles. Extra-organizational factors include inter-organizational and institutional factors as well as business cycles.

This framework, proposed by Budros, aims at analyzing why organizations downsize. We adapted it to the back sourcing issue. We view back sourcing as an organizational innovation in a response to failure of outsourcing plans. We use it as a basis to formulate several hypotheses related to the causes of organizational IT/IS back sourcing.

a) Rational organizational factors

The assumption underlying the basis for rational organizational factors is that companies are rational, and efficiency seeking. The organization is seen as efficiency-oriented. It adapts its strategy to take into account changes in their environment. [MZR00] suggest that management relates its actions to their outcomes. We argue that a first rational cause of back sourcing is due to a consolidation. Our hypothesis is that back sourcing rates will be higher among firms that have experienced a failure in outsourcing and are facing consolidations due to mergers or acquisitions (H1).

A second hypothesis is that firms making large investments in information technologies and facing a failure in the outsourcing will have higher backsourcing rates than those undertaking smaller investments in IT (H2). A third rational proposition is related to employees. We believe that backsourcing rates will be lower, among firms facing a failure in the outsourcing decision, with higher employee compensation levels than those with lower levels (H3). The size of the companies seems to us to be a basis for the fourth proposition. We believe that large size companies will have higher backsourcing rates when they have faced an outsourcing failure (H4).

b) Rational extra-organizational factors

It is assumed that firms react to the environment by adapting their structure and strategy. Our first hypothesis is that firms with smaller shareholder values will have higher rates of backsourcing (H5). A second hypothesis is related to unfriendly acquisitions. Firms under attack from raiders and having experienced an outsourcing failure will have higher backsourcing rates than those not under attack (H6). This is due to the fact that managers discourage stockholders from accepting takeover bids by increasing operational efficiencies through cost reduction. A third hypothesis concerns firms in deregulated industries. It is believed that those firms should have higher backsourcing rates than those operating in regulated ones (H7). Finally, we believe that backsourcing rates will decrease during economic troughs and increase during peaks (H8). This hypothesis is related to the fact that firms anticipate economic growth during the peaks. In order to deal with this growth, backsourcing can be planned.

c) Arational organizational factors

It is assumed that institutional explanations of organizational backsourcing can be based on the sociological paradigm. Firms tend to backsource in order to gain legitimacy and reduce uncertainty. Our first hypothesis is the following. Backsourcing rates will be higher among employee-centred firms than among those that are less employee-centred (H9). This assumption stems from the belief that firms placing great value on employee needs and interests would easily reverse their previous outsourcing decision. A second hypothesis holds that backsourcing rates will be higher among firms with CEOs possessing financial background than among ones with CEOs with other backgrounds (H10).

d) Arational extra-organizational factors

We consider in this paragraph the influence that the external environment may have on the adoption of backsourcing programs.

The first proposition asserts that backourcing rates will be higher among firms with many interlocks with past backsourcers than among ones with less interlocks with past backsourcers (H11). The underlying belief is that information exchange between firms that have experienced backourcing will increase the likelihood that other firms will adopt it. A second hypothesis proposes that, as taken-for-grantedness of backourcing in an organizational network increases, backourcing rate in the network will increase (H12). This hypothesis stems from the adoption effect. A third hypothesis is related to the elite economic standing. It suggests that as the percentage of backsourcers with elite economic standing rises, the global backourcing rate should rise (H13). The complex environment in which companies are operating constrains them to put their confidence in the elite economic strategies. The same hypothesis stems for the elite social stature (H14). The last hypothesis concerns highly competition oriented industries. We believe that backourcing rates will be higher in industries that are highly competitive than in industries that are less competitive (H15).

The interest of our framework will depend largely on its ability to successfully provide a rational as well as an arational explanation of companies' backourcing decision. Building on our work [AC01], we have analyzed several companies backourcing decisions. This is the aim of the next section.

4 Discussion of the Backourcing Framework

As mentioned in Section 2 several companies have taken strategic decision to backsource their IT/IS. Among them, let us mention Lehman Brothers, Sears Roebuck, JP Morgan Chase & co, J. Sainsbury PLC, Dell, Abbey, Oxford Health Plans, Bank of Scotland, SunCorp, Continental Airlines. The main reasons they offered to explain their backourcing decisions are: unrealized cost savings, loss of productivity, poor commitments and communication, cultural differences, lack of readiness and expertise, difficulties to deploy technology solutions in a more flexible, timely, cost-effective way, lack of attention of the vendors, difficulties to evaluate the value received for the outsourcing, loss of control of a key business, and more generally unrealistic objectives. To these reasons we can add changes in corporate strategies.

Understanding this backourcing phenomenon requires a framework and data about companies that have taken the decision to outsource. We have collected data about companies' backourcing decision using different sources (reports, executive summaries, newspapers, professional journals, etc.). We are therefore in a position to interpret the data using our innovation-based framework. We summarize the results in Figure 3. First column indicates the names of the companies that had backsourced and for which we collected data. It can be seen that they are characterized by the fact that they belong to different industrial and service sectors. Their size is very large. They are both American and European.

Other reasons that have been used to justify the backourcing decision include:

- No efficient growth

- No benefits for IT workers
- No competitive advantage
- No possibility to become streamlined
- Business change
- Avoiding brain drain
- Lack of attention of the vendor
- Difficulty to evaluate the value received for the outsourcing
- Risk of loss of control over key business
- Unrealistic objectives
- Do not attend productivity.

The first dimension of the matrix is related to companies that have decided to backsource and for which we gathered data describing the reason underlying their decision. The other dimension specifies the four quadrants of our back sourcing framework. Combining these two dimensions allows us to enumerate the reasons that have been used by companies to justify their back sourcing decision. As it can be seen, reasons for back sourcing include failure of the vendor to achieve its promise, lack of the vendor attention, loss of control over key business, unrealistic objectives, etc. By better understanding the factors driving the back sourcing decision, both vendors and companies can increase the success rate of all kinds of sourcing (outsourcing, back sourcing, offshoring, etc.) However the aim of this research and especially of this matrix is to validate or invalidate the hypotheses of our framework. Our aim to understand sourcing switches. We consider understanding companies' back sourcing decisions, and the strategy that follows, to be fundamental to the understanding of sourcing plans.

Although our research methodology provides a specific organizational perspective on back sourcing, it is not without limitations. We need to ask vendor companies to explain changes in client's approach to back sourcing. We need to know more about their company structure, strategy and human resource management. We need to have the same data about back sourcing companies.

We need to conduct the analysis through the methodology of an interpretive case study. This will support the richness, complexity and the identification of social and political issues surrounding the back sourcing decision. However, the case study approach suffers from a lack of ability to generalize the findings. We need therefore to consider a theoretical perspective based on our framework. It will provide the detailed factors that need to be considered. In this respect, this framework provides a high level structure for the evaluation of the back sourcing issue. It builds upon innovation theory and synthesizes the current state of thinking in IS/IT back sourcing. This framework needs to be tested in a wide range of situations through both a questionnaire and in-depth case studies. The consideration given to the social context and the basis to organizational actions should make the approach relevant to practitioners. While the theory underlying our framework has been applied in different settings such as the innovation process, we still need to experimentally verify its efficiency and effectiveness.

Company	Organizational Rational	Organizational Arational	Extra-organizational Rational	Extra-organizational Arational
JP Morgan	Fails to achieve its promise		Change in IT strategy due to merger /acquisition	Change in IT strategy due to merger/ acquisition
J. Sainsbury	No reduced costs No increase in innovation No improved quality		Fails to achieve its promise	
Dell	Fails to achieve its promise Vendor not performing its obligations	Cultural differences		
Sears Roebuck	No reduced costs Fails to achieve its promise			
Lehman Brothers	No reduced costs	No competitive advantage		
Continental Airlines	No reduced costs	Loss of control over key business		
Bank of Scotland	Requirements have changed		Requirements have changed Change in IT strategy due to merger/ acquisition	
Oxford Health Plans	No reduced costs	No improved quality		
Abbey		Cultural differences	Change in IT strategy due to merger/ acquisition	
Sun Corp	Vendor not performing its obligations	No competitive advantage	Change in IT strategy due to merger/ acquisition	
Conseco	No reduced costs	No improved quality	Fails to achieve its promise	
Capital One	No reduced costs		Change in IT strategy	
Ford	No reduced costs			

Figure 3. Reasons for back sourcing

5 Conclusion and further research

We set out to develop a framework describing the mechanisms through which outsourcing failure affects backourcing decisions. The rationale was the prevalence of backourcing as an innovation process whereas previous research has been very useful in highlighting outsourcing arrangements. There have been very few studies which allow researchers as well as practitioners to understand the driving forces of the backourcing decision. Drawing on Budros innovation model, we developed a framework with two dimensions: a) the basis of organizational action (rational and arational) and b) the social context (organizational and extra-organizational). These are the two dimensions suggested by Budros to understand the downsizing phenomenon. We adapted them to the backourcing issue. We suggested several hypotheses allowing decision makers to understand and anticipate switching from outsourcing to backourcing. Several sets of data have been collected to evaluate these hypotheses. Our first findings lead us to believe that these hypotheses can serve as a basis in the understanding of the backourcing decision. However, several tasks remain to be undertaken. First, we have to collect a larger set of data and refine our hypotheses. Second, several in-depth case studies will allow us to identify the driving factors of IS/IT backourcing. Finally, more hypotheses can be added and tested. Among them, let us mention those proposed by Whitten [Wh03] and adapted to the backourcing issue:

1. Service quality is negatively associated with the decision to discontinue an outsourcing contract
2. Satisfaction is negatively associated with the decision to discontinue an outsourcing contract.
3. Relationship quality is negatively associated with the decision to discontinue an outsourcing contract
4. Switching costs are negatively associated with the decision to discontinue an outsourcing contract.

Finally, switching costs constitute an important issue when considering a backourcing decision. This is an important area of research.

References

- [AC01] Akoka J, Comyn-Wattiau, I, L'Externalisation des systèmes d'information – proposition d'un cadre conceptuel, 6^{ème} Conférence de l'Association Information et Management, Nantes, 2001.
- [AMV06] Aspray W, Mayadas F, Vardi M.Y, Globalization and Offshoring of Software – A Report of the ACM Job Migration Task Force, ACM, 2006.
- [Bo05] Bocij, P; Chaffey, D. Greasley, A, Hickie, S, Business Information Systems – Technology, Development and Management for the e-business, 3rd Edition, Prentice Hall 2005.

- [Bu99] Budros A, A Conceptual Framework for Analyzing Why Organizations Downsize, *Organization Science*, 10(1), 1999.
- [CM95] Collins, J.S, Millen R.A, Information Systems Outsourcing By Large American Industrial Firms : Choices and Impact, *Information Resources Management Journal*, Winter 8(1), 1995.
- [Di04] Dibbern J, Goles T, Hirschheim R, Jayatilaka B, Information Systems Outsourcing: A Survey and Analysis of the Literature, *The Data Base for Advances in Information Systems*, Vol 35 (4), 2004.
- [Du92] Due, R.T. The real costs of outsourcing, *Information Systems Management*, Vol 9(1), 1992.
- [De97] De Rose, L.J, The downside to outsourcing, *Electronic Buyer News*, 14; 1997.
- [GC02] Garcia, R., Calantone, R. J., A Critical Look at Technological Innovation: Typology and Innovativeness Terminology: A Literature Review, *J. of Product Innovation Management*, Vol. 19 (2), 2002.
- [Ga02] Garrido, J.P., A Research Agenda on the adoption of downsizing programs, *European Academy of Management*, Stockholm, 2002.
- [GT93] Grover, V, Teng, J.T.C., The decision to outsource information systems, *Journal of Systems Management*, 1993.
- [Ki94] King, W.R., Strategic Outsourcing Decisions, *Information Systems Management*, Volume 11(4), 1994.
- [KM00] King W.R, Malhotra, Y., Developing a Framework for Analyzing IS sourcing, *Information and Management*, 37(6), 2000.
- [LH95] Lacity, M.C., Hirschheim, R. Beyond the information systems outsourcing bandwagon : the insourcing response, *John Wiley & Sons*, 1995.
- [LWF95] Lacity, M.C, Willcocks, L.P, Feeny D.F., IT Outsourcing: maximize flexibility and control, *Harvard Business Review*, 1995.
- [MZR00] McKinley W, Zhao, J, Rust KG, A socio cognitive interpretation of downsizing, *Academy of Management Review*, 25(1), 2000.
- [St06] Strassmann, P.A, Is Outsourcing Profitable, *Lecture*, George Mason University, 2006.
- [Ve05] Verhoef, C., Quantitative Aspects of Outsourcing Deals, *Science of Computer Programming* 56 (2005).
- [Wh03] Whitten, D., Factors associated with application development outsourcing failure – An investigation of service quality, satisfaction, relationship quality, and switching costs, 2003 BigXII, IS Research Symposium, April 2003.