Offshore outsourcing in large companies: Motivations and risks perceived

João Varajão¹,²*, Maria Manuela Cruz-Cunha³,⁵, Maria da Glória Fraga¹ and Luis Amaral²,⁴

¹Department of Engineering, University of Trás-os-Montes e Alto Douro, Quinta de Prados – Apartado 1013, 5001-801 Vila Real, Portugal.
²Centro ALGORITMI, School of Engineering – University of Minho, Guimarães, Portugal.
³Polytechnic Institute of Cávado e Ave, School of Technology, Campus do IPCA, 4750-810 Vila Frescainha, Barcelos, Portugal.
⁴Department of Information Systems, School of Engineering, University of Minho, Campus de Azurém, 4800-058 Guimarães, Portugal.
⁵CITEPE Research Centre, University of Minho, Portugal.

Accepted 27 October, 2011

When companies opt for information systems (IS) outsourcing, within the set of contracted services, they can contract their entire service needs to onshore suppliers or to offshore companies, or part of these services can be contracted to onshore suppliers and the other part to offshore suppliers. The offshore outsourcing reveals itself nowadays as an important strategic option to IS management optimization. This paper presents and discusses the main results of a survey that was carried out in Portugal to determine several aspects of offshore practice in large companies. It allowed the identification of the services more frequently contracted, the most common motivations for choosing offshore suppliers and the main risks perceived by companies. This research contributes to a better understanding of the IS offshore market, enabling client companies and vendors to improve their strategic business action.

Key words: Outsourcing, offshore, information systems, Portugal.

INTRODUCTION

Global competition has dramatically increased throughout the last three decades due, among other factors: (1) The amazing developments in information and communication technologies (ICT) that provided unprecedented easy to reach, to communicate and to collaborate in real time with any point in the world, as well as unprecedented efficiency in global design, management, information and decision making processes; and (2) The global geopolitical changes that, from the business point of view, provided a global free market both of clients, suppliers and subcontractors.

Business and product life cycles tend to shorten, time to market also, competition is more aggressive, and firms are implementing a wide variety of different techniques, management processes and development strategies in their quest for shorter development cycles and permanent business alignment with the market requirements. “Time-based competition” makes companies try to be very fast in introducing new products and to have very short production lead times to manufacture and deliver products to customers (Stalk, 1988; Stalk and Hout, 1990; Blackburn, 1991).

If traditionally the goal of the enterprise was to fulfil the customer requirements using the limited set of resources available within the walls of the organization, today, organizations are forced to actively seek new options for reducing costs while simultaneously seeking to compete more effectively in their markets (Varajão, 2001; Varajão, 2002). To solve the problem of the lack of resources within its boundaries, the enterprise searches for cooperation with other enterprises simply buying
components, creating strategic business alliances or joint-venture associations, and outsourcing (Gunasekaran and Ngai, 2007; Chiou, 2011).

This experience is already known for a long time. The growth of outsourcing in the eighties was the first signal that the traditional hierarchical corporate model (the mega enterprises vertically integrated) was breaking down (Skinner, 2001). Initially, outsourcing was generally used with relatively simple products and services, mostly because of transaction costs (Williamson, 1979; Williamson, 1991), where the costs of coordination of activities among organizations were significant (Putnik et al., 2006; Williamson, 1991). The recent developments of ICT that allowed organizations to be integrated electronically has significantly reduced the transaction costs, enabling them to focus on their core competencies and to buy from the exterior non-core products and services (Cunha and Putnik, 2006a, b; Hamel, 1991; Prahalad and Hamel, 1990).

Fighting a difficult reality to defend and improve the competitive capacity of their organizations, managers need to seriously consider a variety of management practices (Varajão, 2002). Among others, we can find (Freeman and Cameron, 1993; Hitt et al., 1994; Quinn and Hillmer, 1995): outsourcing, that consists in using other organizations to obtain services that have traditionally been developed within the organization itself; downsizing, that means using different technologies and processes to reduce the need for hardware, software or people; rightsizing, corresponding to the use of different technologies and processes to ensure that each Information System (IS) is provided on an appropriate platform at the lowest cost per unit of service; re-negotiating, meaning to restructure existing contractual relationships, internal or external, to improve service levels, reduce costs or both; re-structuring, embarking on the process of reengineering in order to improve efficiency and reduce costs; inter-mixing, by employing various management tools as necessary to meet specific needs; among others.

Outsourcing, with its emphasis on specialization, alliances and innovation, has become one of the management tools most used, being regarded by many researchers as one of the cornerstones of management and modern economy practices (Dibbern et al., 2004; Lacity and Hirschheim, 1993; Ranganathan and Balaji, 2007). Outsourcing has grown significantly in recent years and today is no longer the exception, but has become the rule of IS services sourcing (Varajão, 2001; Iijima, 2006).

To Prahalad and Hamel (1990), a competitive and successful organization is one that proves itself able to make the most of its assets and its main competencies, concentrated on its core business and carrying out the outsourcing of peripheral activities. This strategy allows keeping control of their internal core competencies, while gaining benefits from the use of resources and expertise of its suppliers. Today the success of virtually any organization goes directly to the rational management of the activities which it considers central to its business and the ability to obtain the various services it needs from those entities, domestic or foreign, who are more able to perform them with maximum efficiency and effectiveness, always with the fundamental concern to hold control of their main competencies. Economic principles govern outsourcing decision making, so companies allocate their resources within the value chain to those activities that give them a comparative advantage, meanwhile, other activities are outsourced to external suppliers or partners (Hamzah et al., 2010). The outsourcing of IS services can be made with companies present in the same country as the business client or, alternatively, from offshore companies. Recent years have witnessed several IS services being performed at great distances from the country where customers are located (Hahn and Bunyaratavej, 2010). Offshoring of services can be defined as the relocation to foreign countries of services that have been performed in the home country (Hahn and Bunyaratavej, 2010). This type of outsourcing has become increasingly important for the global IS industry (Erber and Sayed-Ahmed, 2005) and it is now a core component of large companies’ IS strategy. Asian economies, like India, China, Malaysia, Thailand or Philippines, have been major beneficiaries of this trend (Francisco, 2007; Sakthuvel, 2007; Javalgi et al., 2009; Oshri et al 2009). Offshore development has gained so much importance and attention that in 2004, ACM commissioned a task force to study the subject (Aspray et al., 2006; Sakthuvel, 2007).

As outsourcing can be found in this multi-faceted life of organizations, there is an interest in understanding their key drivers and the role it currently has in the structure of the departments of technology and information systems. Literature is rich is studies on offshore outsourcing worldwide for the last ten years, but no studies are available for the Portuguese reality. Gonzalez et al. (2006, 2010) pointed out the advantages and risks of offshore outsourcing, concluding that its advantages exceed even those of onshore outsourcing, though it also involves greater risks derived from the geographical and the cultural distance existing between customer and provider; cost savings, technical feasibility (infrastructure) feasibility/speed, were pointed as major drivers. Khan et al. (2010) identified factors such as cost-saving, skilled human resource, appropriate infrastructure, quality of product and services, efficient outsourcing relationships management, and an organisation’s track record of successful projects as major drivers, demonstrating that appropriate infrastructure, cost-saving, and skilled human resource are common in Asia, North America and Europe.

This article presents the results of a study conducted among large companies in Portugal, in order to identify the IS services that are more contracted to offshore
providers and the motivations and risks perceived by Chief Information Officers (CIO) in relation to offshore outsourcing. The study is aimed to help managers and CIO of large enterprises to understand the main opportunities and risks of IS offshore outsourcing based on the experience of other large enterprises, in order to define or reshape their outsourcing strategy; and to provides guidance to onshore enterprises to define their strategic plans regarding the most contracted services by their potential clients.

BACKGROUND

The outsourcing of IS services consists generally in the hiring of external entities (vendors) to satisfy internal needs of IS. By other means, outsourcing is the practice of turning over part or all of an organization’s IS services to external vendors (Chen et al., 2007).

In times of particularly intense competition, outsourcing is seen by many managers as the ideal answer: an option that promises cost savings, improved quality and, more importantly, the ability to release resources to be focused on the business, thus providing organizations with the ability to focus on core competencies, access state-of-the-art technology, increase flexibility and to reduce costs (Antonucci et al., 1998; Gonzalez et al., 2006). In summary, outsourcing is a powerful practice for organizational change (Lampel and Bhalla, 2011).

An organization can outsource a wide range of IS services, which can be hired either individually or together to the same vendor or to different vendors, onshore or offshore (Lacity and Willcocks, 1995; Varajão, 2001). Outsourcing can assume various forms (André and Sampaio, 2009): from a strategic option, in the case of delegation of a significant part of the IS department to an external vendor; to the execution of a simple operational service. Based on several sources (Friedberg and Yarbbery, 1995; Gupta and Gupta, 1995; Khosrowpour et al., 1995; Nam et al., 1995; Horgan et al., 1999; ITANZ, 1998; Takac, 2009), it is possible to identify the following services as those most commonly subject to outsourcing (Varajão, 2002): Data Center management; Development and maintenance of systems; Network management; Microcomputer; Systems integration. Besides these, there is a myriad of other services, for instance, user support, disaster recovery, Internet services, training; etc.

Organizations proceed to IS outsourcing services for different reasons, as categorised in the study of Dibbern et al. (2004), while Liu et al. (2011) suggested that different services should be outsourced to different countries.

The benefits and risks of outsourcing rely largely on the degree and type of outsourcing considered, technology and outsourced services, the institutional characteristics and culture of the organization (Horgan et al., 1999).

Claiming that in the literature, there are multiple lists of benefits associated when outsourcing is clearly insufficient, as the diversity of proposals to be found is huge (Varajão, 2001; Varajão, 2002). References vary in detail and organization (Varajão, 2002): from simple not organized lists (Jacobs, 1974; Benko, 1993; Lacity and Hirschheim, 1993; Malhotra, 1995a); to organized lists by strategic and tactical objectives (Khosrowpour et al., 1995; Minneman, 1996; Antonucci et al., 1998; Klepper and Jones, 1998); even lists organized by benefit categories (Gupta and Gupta, 1995; Lacity and Hirschheim, 1995; Horgan et al., 1999).

In general the reasons for outsourcing are multiple and not always the most obvious, each organization is responsible to define the reasons why they decide to opt for this solution (Gupta and Gupta, 1995), and so a company has to understand and have a clear conceptual framework of the outsourcing decision (Hamzah et al., 2010).

The cost reductions are often cited as one of the main drivers of the outsourcing decision (Lacity and Hirschheim, 1993; Lacity and Hirschheim, 1995; Malhotra, 1995b; Varajão, 2002), and is at the same time the reason most commonly found, but there are many other relevant reasons that are considered (Lacity et al., 2009). Ghodeswar and Vaidyanathan (2008) classified the outsourcing drivers into four classes: organizational drivers, improvement drivers, financial drivers and revenue drivers. Some of the reasons most often given by managers are focus in core business (Antonucci et al., 1998; Klepper and Jones, 1998; Varajão, 2002; André and Sampaio, 2009; Lacity et al., 2009); gain access to world-class capabilities (Minneman, 1996; Antonucci et al., 1998; Klepper and Jones, 1998; Varajão, 2002); share risks (Antonucci et al., 1998; Klepper and Jones, 1998; Varajão, 2002); free resources (Minneman, 1996; Antonucci et al., 1998; Klepper and Jones, 1998; Varajão, 2002); reduce operational costs (Minneman, 1996; Antonucci et al., 1998; Klepper and Jones, 1998; Varajão, 2002); seek capital inflows (Antonucci et al., 1998; Klepper and Jones, 1998; Varajão, 2002; André and Sampaio, 2009; Lacity et al., 2009); obtain resources not available internally (Minneman, 1996; Klepper and Jones, 1998; Varajão, 2002; Lacity et al., 2009); transfer a function difficult to manage (Klepper and Jones, 1998; Varajão, 2002); avoid technological obsolescence (Minneman, 1996; Varajão, 2002); maintain or increase flexibility (Minneman, 1996; Varajão, 2002); and even improve IS management (Antonucci et al., 1998; Varajão, 2002).

Surely there are many advantages associated with outsourcing, but there are also significant threats (Varajão, 2001; Varajão, 2002). It is easy to overestimate the outsourcing benefits (Erber and Sayed-Ahmed, 2005), so the potential risks have to be taken in account of the outsourcing process (King 2005; Ellram et al., 2008), since the inadequate management of risk is a major reason for not accomplishing the sourcing goals (Sakthuvel, 2007). Many times outsourcing involves far more complicated advantages and disadvantages and
debaters on either side of the argument are willing to admit (Weidenbaum, 2005).

Critics of outsourcing argued that this may result in loss of control of IS assets, the threat of opportunism by vendors, loss of capacity and organizational knowledge and a decline in morale and performance of internal human resources (Antonucci et al., 1998). They also suggested that similar results can be obtained by internal departments, thus, running the risk of needlessly losing the ability to manage IS (Malhotra, 1995b).

Typical problems that tend to arise are cost reductions that fail to materialize (Benko, 1993; Palvia and Parzinger, 1995; Horgan et al., 1999; Varajão, 2002), targets that are not achieved and contracts that cannot be changed without penalty (Fehr et al., 1997; Naghavi and Ottaviano, 2009; Gopal and Koka, 2010). Other problems encountered include loss of strategic control and loss of control over the IS assets that result in loss of flexibility (Gupta and Gupta, 1995; Khosrowpour et al., 1995; Varajão, 2002), decreased quality of service (Lacity and Hirschheim, 1993; Varajão, 2002), the threat of opportunism derivative of too much dependence on the vendor (Khosrowpour et al., 1995; Varajão, 2002), the incompatibility of cultures (Horgan et al., 1999; Varajão, 2002), loss of intellectual capital due to loss of key people in the IS function (Varajão, 2002), need for greater management effort (Benko, 1993; Varajão, 2002), the decline in service levels (Varajão, 2002; André and Sampaio, 2009), the loss of technological capacity (Varajão, 2002), internal resistance (Varajão, 2002), considerations of security and data confidentiality (Khosrowpour et al., 1995; Varajão, 2002), and the decline of morality and the performance of people (Huber, 1993; Palvia and Parzinger, 1995; Varajão, 2002; Lacity et al., 2009). Furthermore, it should also be considered that some of the benefits potential in certain cases may also be achieved by their own internal departments (without resorting to third parties) (Khosrowpour et al., 1995; Malhotra, 1995; Varajão, 2002). In the case of offshore outsourcing in particular, other risks gain prominence, such as difficulties caused by different time zones (Carmel, 2006; Gokhale, 2007; Mary, 2009) or different languages (Sakthuvel, 2007).

Services provided by a team in another country, speaking different languages and separated by time and distance, can have a higher risk (Sakthuvel, 2007). Some practices and capabilities are specific to offshore outsourcing (Ranganathan and Balaji, 2007).

IS Services are heterogeneous given the idiosyncratic nature of the information needs of an organization, which leads to a need for close communication between the organization and the IS department in order to accommodate the evolution of the requirements. Communication is essential in all outsourcing relationships. However, effective communication is extremely difficult to achieve and to maintain. Much of this problem lies with the client because most of the time it wants to focus its energy on other business areas.

There are also natural barriers and distrust that may arise from the clash between two different organizational cultures (Leidner, 2010). If the client intends to fully integrate the supplier in its expanded organization, both should co-ordinate standards, policies, work schedules and clearly identify responsibilities; both parties need to be aware of the need for an effective interface (Varajão, 2001; Varajão, 2002; Krishna et al., 2004).

In some cases, offshore outsourcing can provide opportunities for savings and growth, but can also increase the risk of not achieving expected results as cost reduction or quality increase (Sakthuvel, 2007).

RESEARCH METHODS

In order to characterize several aspects of the practice of offshore outsourcing of IS services in Portugal a study was conducted with the participation of Chief Information Officers (CIOs) of large Portuguese firms. In particular, the study aimed at identifying the services that are most often contracted to offshore providers, the main motivations involved, and the perceived risks.

The study was conducted between February and April, 2008 and involved the completion of an investigation that sought the participation of CIOs. In the study, we used an online questionnaire, which call for participation was sent via e-mail and posted to a stratified random sample of 200 CIOs from the 1,000 largest Portuguese companies in terms of turnover (according to the Portugal’s National Statistics Institute). 36 responses were received and, of these, seven responses were rejected due to a significant number of issues which have been left blank, resulting in a total of 29 valid responses (not anonymous), or approximately 14.8% response rate since there have been four calls that were not delivered due to post difficulties. It is therefore, in the light of these study characteristics that the results obtained should be considered. Table 1 presents the main characteristics of the participating companies in the study.

RESULTS AND DISCUSSION

Offshore outsourcing in large Portuguese companies

Approximately 96% of the companies participating in the study turn to outsourcing to obtain a significant portion of its services in IS, devoting an average of 46% of its budget for technology and information systems to outsourcing services. This represent an increase of outsourcing as regard to previous studies conducted recently (Varajão et al., 2009).

Of these companies, 21% use IS offshore outsourcing services. From the total services contracted outside the company (outsourcing), on average about 38% of these services are contracted to entities in other countries (offshore outsourcing). About 83% of companies that offshore outsourcing services hire Spanish companies, approximately 33% do so from German companies, and about 17% of companies also hire services in Uruguay, France and Belgium.

Sometimes the literature distinguishes between offshore
Main services outsourced to offshore providers

Aiming to identify which IS services are often more outsourced to offshore vendors, participants CIOs were asked to indicate the percentage of outsourcing of each type of service, ranging from "0, 1 to 25%, 26 to 50%, 51 to 75%, 76 to 99%, 100%". The services identified were: Microcomputer management; Technical training to internal IT team; Data center management; Consulting services; Helpdesk; User training; Network Management; Security management; Platforms and communications services; Services Web; Application development; Application maintenance; Project management; E-mail and messaging services; Systems integration; Disaster recovery management.

Figure 1 represents a ranking of the main services outsourced to offshore providers. For instance, reading the chart for the case of "disaster recovery management" should be: "In 33.33% of companies, the management of disaster recovery is completely (100%) contracted to offshore providers. In 16.67% of companies, 25% of management services disaster recovery are contracted to offshore providers. In the remaining firms (50%), these services are not outsourced to offshore vendors".

Motivations for offshore outsourcing

The motivations for the offshore outsourcing may be several, for example, access to specialized services, the resolution of organizational problems of the IS function, reducing the risk of obsolescence of IT. Over the last decades of the practice of outsourcing, some motivations have remained at the top of the most important (as is the case, for example, reducing costs), others have gained importance (for example, focus on core business). In order to identify the motivations currently prevailing in the offshore outsourcing, participants were asked to rate the following reasons using a Likert scale: Cost reduction; Cost control; Obtain capital through the sale of internal resources; Reduction of the need for investment; Redirection of resources; Alignment of resources needs with its acquisition; Improving the company's accounting balance sheet; Access to world-class capabilities; Focus in core business; Increase of business flexibility; Risk sharing; Obtaining resources not available internally; Process improvement; Organizational structures changes; Improvement of information systems management; Access to cutting-edge technologies; Access to technical proficiency and specialized human resources; Political
motivations; Access business expertise.

Figure 2 presents the ranking of the main reasons for large companies to use offshore outsourcing. In most companies are prevalent the motivations "access to world-class capabilities" and "cost reduction", closely followed by "access to technical proficiency and specialized human resources".

As mentioned before, the motivations of operational nature were often prevalent in the past. As reinforced by Erber and Sayed-Ahmed (2005), "globalization in IT is driven by cost optimization". The results from this study showed that this type of motivation is still at the top of the motivations (for example, cost reduction is in second position in the ranking), however more strategic motivations also gained great importance in the context of offshore outsourcing.

**Offshore outsourcing risks**

This study also aimed at identifying the main perceived risks of offshore outsourcing, and the participants have been asked to rate the following risks through a Likert scale: Increase of the final cost; Impact of the time zone; Impact of language; Cultural Impact; Employees' motivation affected; Greater management effort; Decrease the quality of services; Loss of flexibility; Loss of information confidentiality; Subcontracting by the supplier more difficult to control.

Figure 3 presents the ranking of the major risks perceived by the companies for offshore outsourcing. As can be seen, with great emphasis appears the risk "increase of the final cost", with the overwhelming majority of participants identifying it. Other risks do not deserved great attention from the CIOs.

The impact of culture on international business activities has long been of interest of scholars (Hahn and Bunyaratavej, 2010). For many authors, offshore outsourcing to vendors in foreign countries causes unique challenges which need to be understood and managed effectively; Winkler et al. (2008) explores cultural differences in IS offshoring arrangements involving German client organizations that outsource application development activities to Indian vendors, concluding that cultural differences critically affect several dimensions of relationship quality, thereby influencing
Figure 2. Motivations for offshore outsourcing services of information systems.

Figure 3. Outsourcing offshore risks.
offshore outsourcing success. Meanwhile, other studies pointed that cultural distance has not such a remarkable impact: Gefen and Carmel (2008) empirically found that the initial reluctance to offshore is increased by increasing cultural distance, but that once this initial reluctance is overcome, cultural distance has less continuing impact. The authors’ study reveals that the participant CIOs do not consider the cultural impact as a significant risk. It is also very interesting to note that CIOs identify cost reduction as one of the most important motivations for outsourcing offshore but, by other hand, they refer increase of the final cost as the greater risk.

Conclusion

Dibbern et al. (2004) explored and synthesized the literature and developed a roadmap of the IS outsourcing, highlighting what research has been done so far, how the research undertaken for the last decade fits together under a common umbrella, and identified future directions. The present research is also a contribution towards the state-of-the-art on offshore outsourcing, contributing with results that are interesting to complement the more or less known worldwide view of the subject. Its main limitation is the size of the sample, and the authors intend to go further with a study of this kind within a larger sample, namely to try to understand the main differences between the Portuguese enterprises perceived motivations and risks and the results of other studies, in particular in what concerns the main finding of this study.

The outsourcing of IS services is now a well established practice and used by companies all around the world. Large Portuguese companies do not escape this reality and outsource a significant portion of their total service needs (on average about 46%) to external vendors. With regard to offshore outsourcing, the percentage of companies that outsource these services to suppliers in other countries, is far more modest and amounts to about 21%. In all of subcontracted services, we highlight the maintenance and development of applications (these services have traditionally been subject to outsourcing). The prevailing motivations are related to access to expertise that companies do not have internally and with reduced costs. With regard to perceived risks, it is clearly highlighted the fear of rising of final costs.

REFERENCES


Carmel E (2006). Building your information systems from the other side of the world - how infosys manages time zone differences. MIS Q. Exec. 5:43-53.


