

Information Systems Outsourcing in Major Portuguese Companies – Contracting Services

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The information systems outsourcing presents itself as a strategic option for companies and continues to evolve in size and in type of contracts.

In order to identify the most frequently outsourced services and aiming to get a better comprehension on the hiring process, a study was made based on a survey sent to information systems managers of large Portuguese companies.

The study allowed to identify the information systems services usually outsourced, the main criteria used for selecting suppliers, the aspects considered in contracts, the difficulties that arise in relationships between customers and suppliers, and the mechanisms adopted for conflict resolution.

Keywords: Outsourcing, information technology, information systems, Portuguese companies, contracts, conflicts, information systems services

ACM classification: H.0 Information Systems General

1. INTRODUCTION

The demand and the pressure that companies are suffering every day in order to survive in an environment where competition is aggressive, takes managers to seek solutions that will enable them “to do more with less”. The recent worldwide economical and financial crisis requires companies to be more efficient and to resort to hiring services more frequently.

Several solutions need to be considered in order to increase productivity, to better manage resources, whether financial, human or material, and sustain the position among the forefront of successful companies, in many cases keeping the budgets or even reducing them.

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Manuscript received: 19 February 2011
Communicating Editor: John Yearwood

The search for greater efficiency and effectiveness helps organizations to increase their specialization in a limited number of areas, finding a solution in outsourcing for performance improvements in several of its activities (McIvor, 2008).

The use of outsourcing continues to grow in all sectors of economy, especially in the service area of information technology (IT) (Ferreira and Laurindo, 2009). However, the number of unsatisfactory experiences with outsourcing deals has been significant (Deloitte, 2005) so that, in these situations, we need a revision of strategies and tactics used in this process of obtaining services. The failure rate is among 40% to 70% of the contracts and the centre of the issue often relies in a conflict of interest inherent in any outsourcing arrangement (CXO, 2009a).

The final result of an outsourcing arrangement is always unknown at the time of signature. Preparing the right contract is necessary but it is not enough. It is also important to ensure a collaborative relationship with the supplier, based on the effective contract management and on trust, adding value to an outsourcing relationship. Animosity in a relationship can significantly reduce the business value (CXO, 2009b).

Several studies have been conducted in an attempt to identify the determinants of an IT outsourcing agreement success. Lacity *et al* (2009), for instance, makes a compilation of the information found in the literature, identifying three categories of determinants: information technology outsourcing decision, contractual governance and relational governance.

Assuming that the relational governance and contractual governance are complementary in the context of an IT outsourcing process success (Poppo *et al*, 2002; Goo *et al*, 2009), this work aims to investigate the main aspects considered by large companies in hiring information systems services, including the main services subjected to outsourcing, the criteria used for selecting suppliers, the aspects considered in the preparation of contracts and their typical duration, the difficulties identified during the relationship and its development during the agreement, situations of potential conflict and ways of solving them. In this way, a survey was carried out with the Chief Information Officers (CIOs) of large Portuguese companies.

In this article, after a review of the literature, the research method is presented, there is a further discussion regarding the results and some final considerations.

2. BACKGROUND

In this section a literature review on information systems outsourcing is made, addressing its importance, the main hired services, the aspects usually considered for selecting suppliers, and for drawing up contracts, and identifying the main difficulties that arise in a client/supplier relationship and how they usually manage conflict situations.

2.1 Importance of IS Outsourcing

The information technologies (IT) and the information systems (IS) play an absolutely central and crucial role in organizations, and it becomes particularly evident when we take a glimpse at a large scale company. As time goes by, it becomes clear that without an efficient use of IT/IS, companies cannot be competitive or generate income and, in many cases, their own survival depends on that capacity (Varajão, 2002; Trigo *et al*, 2007).

The growing adherence to outsourcing reflects an underlying belief that this creates value to companies (Koh *et al*, 2007), being considered one of the most effective ways to balance the equation of technological change, cost reduction and improvement of service quality (Maculuvé and Rodrigues, 2002).

Outsourcing can be seen as “a process whereby an organization (contractor) hires another

(contracted) to maintain with it a mutually beneficial relationship in the medium and long run, aiming to the development of one or more activities that the first cannot or should not be able to play and where the second is considered an expert” (Portal Executivo, 2007).

The IS outsourcing has been adopted as an important business strategy by more and more companies, hoping to reduce and control costs, increase efficiency and improve its core competence (Hongxun *et al*, 2006).

Indeed, outsourcing is presented as a useful tool to an organization, that having to manage scarce resources, needs to focus on their core business and its core competencies.

There are several studies that made possible the identification of major reasons that lead organizations to the outsourcing of their systems and the results not always agree in their classification by order of importance. More or less consensual is the set of motivations identified by several authors (Lacity and Hirmscheim, 1993; BRIEFS, 1996; Minneman, 1996; The Outsourcing Institute, 1988; Varajão, 2002; Frost & Sullivan, 2005; Kakumanu and Portanova, 2006; Lacity *et al*, 2009; Bustinza *et al*, 2010):

- Access to specialized services;
- Access to skills and specialized human resources;
- Access to business skills;
- Changing organizational structures;
- Cost control;
- Cost reduction;
- Reducing the need for investment;
- Raise capital through the sale of domestic resources;
- Alignment of resources with the need for its acquisition;
- Improving the company’s accounting statement;
- Process improvement;
- Obtaining resources not available internally;
- Improving management information systems;
- Focus on core business;
- Redirection of resources;
- Access to cutting-edge information technology;
- Flexibility to change;
- Sharing investment risks;
- Political motivations.

The potential advantages of outsourcing are numerous, but there are also a great deal of risks associated which cannot be ignored (Lacity and Hirschheimer, 1993; Shepherd, 1999; Willcocks *et al*, 1995; Willcocks *et al*, 1996; Willcocks *et al*, 1999; Varajão, 2002; Gonzalez, 2006; Lacity *et al*, 2009), for example:

- Security issues related to the service;
- A balance is sometimes unclear between costs and benefits;
- Possibility of resistance from the staff of information systems;
- Excessive dependence on the supplier;
- Inability to adapt to new technologies;
- Irreversibility of the decision after it is taken;
- Hidden costs generated by the contract;

- Loss of knowledge of the client organization;
- Cultural differences between client and supplier;
- Breach of contract by the supplier;
- Inability to manage the relationship with the supplier;
- Inflexible contracts;
- Infringement of intellectual property rights;
- Lack of trust;
- Lack of autonomy and loss of control over IT decisions;
- Loss of control over the data;
- Loss of control over the supplier.

In order to maximize benefits and mitigate the risks, these must be clearly identified and be created mechanisms for effective management.

2.2 Contracted services

The evolution of outsourcing IT services reflects, in general, the evolution of information technologies (Dahlberg and Nyrhinen, 2006).

The beginning of the IS outsourcing may lie in the 1960s and 1970s, when companies mainly hired processing time and services which would make the management work easier.

In the early years of computing, computers' cost (mainframes) was too high and forced companies to rely on outside suppliers to perform the several services they needed. People would make use of time-sharing, in which several organizations shared the processing time and data processing services. In the 1970s the concept of standard software packages comes out. Seeking to respond to the increasing demand of the applications and considering there were no specialized human resources, hiring programmers became the most widely used outsourcing service in recent years (Lee *et al*, 2003).

The 1980s witnessed a growing opinion that the use of IT meant a competitive advantage for companies and there has been an increasing investment in the acquisition of new systems. The appearance of minicomputers and client/server systems allowed the companies to have their own Data Centres. The increase of the efficiency was attained by hiring programmers, by the use of standard software packages and by specialized processing services (Dahlberg and Nyrhinen, 2006), however the most complex tasks were performed by internal IT departments.

The agreement, signed in 1989 between Kodak and IBM, in which KODAK transferred its telecommunications systems to Digital Equipment Corp. and its microcomputer to Businessland, being considered an “unusual” agreement (Varajão, 2008), created great agitation in the IT industry and eventually became a landmark in the history of outsourcing, being witnessed, from this point, the popularization of the outsourcing services for SI (Dibbern *et al*, 2004).

In the early 1990s the interest in outsourcing gained strength, now targeted to the management services of networks and telecommunications, distributed systems integration, development of applications and systems operation. And as systems integration involves complex technology, such as networking and telecommunications management, it is usually followed by education and training (Lee *et al*, 2003).

In the last decade other trends have been identified, beyond the “traditional” outsourcing of IT or IS services (Lacity *et al*, 2009), as offshore outsourcing (a type of outsourcing in which there is a “migration” of services to a foreign supplier), the Business Process Outsourcing (BPO) (outsourcing of business processes) and Application Service Provider (ASP) (outsourcing suppliers

of services or web-based software applications) having this last service the most recent designation of Software as a Service (SaaS).

Through a review of literature (The Outsourcing Institute, 1998; Varajão, 2002; Lee *et al*, 2003; Dibbern *et al*, 2004; Frost & Sullivan, 2005; Trigo *et al*, 2007; Varajão *et al*, 2006; Alter, 2007; Varajão *et al*, 2008) it was possible to identify a set of IT services that are usually dependant on outsourcing:

- Hardware maintenance;
- Software support;
- Applications development and management;
- Professional consultancy services;
- Support for distributed computerized infrastructure;
- Network management;
- Disaster recovery;
- Dedicated hosting/storage;
- Security (physical and network);
- Data Center management;
- Support for users;
- Technical training to internal IT team;
- Server management;
- Project management;
- Security management;
- Database management;
- Web development and web services;
- Communications services and platforms;
- E-mail and messaging services;
- Helpdesk.

Nowadays the use of IT outsourcing services is carried out for several reasons and the sphere of action of services is continuously increasing.

2.3 Assignments

Bearing in mind the analyzed literature, one can identify different risks associated with many different outsourcing processes and also several contributions to the development of mechanisms that are proposed to minimize them.

Outsourcing, by itself, is neither good nor bad (Cullen, 2005), and its success or failure depends on how the process is managed before and after signing the contract.

The problems that often arise in an outsourcing contract are originated by one of three factors (Vrancken, 1995): costs of obtaining the service, level of service quality, impact on organizational culture.

When such a process stands out, which usually causes significant changes in organizations, there is a previous preparation that must be performed. The deep knowledge of business, an analysis of resources and internal services, that grants the identification of what exists and what is really necessary, adopting well-defined metrics, is essential to the success of an acquisition of services (Varajão, 2001; Varajão, 2002).

The choice of suitable suppliers is a critical decision and should be done carefully and following well defined criteria. Issues of compatibility and organizational viability should be evaluated,

before moving to the outsourcing of services (Liou and Chuang, 2010).

Contracts are also an important part of the analysis of outsourcing decision. They are an effective mechanism for the relational management of outsourcing, or any early revocation in case of poor supplier performance (Osey-Bryson and Ngwenyama, 2006).

In general, the risks are manageable and drafting solid contracts can drastically reduce it (Aubert *et al*, 2005). Contracts that cover most of foreseen situations but which are simultaneously provided with a versatility that allows response to changes that will take place throughout the contract can be a valuable resource in reducing risks.

Once started the outsourcing, the work of managing the contract has to be continuous. An efficient management relationship with suppliers should be an ongoing task and requires a significant investment in terms of time and resources. To invest in a good relationship with the provider, ensuring means of efficient coordination and communication and to carry out a performance evaluation of the contracted services, will significantly contribute to success.

We must bear in mind that the difference between success and failure of an outsourcing project may often simply rely in the organization evaluation process for selecting suppliers and in the contract terms (Meyer, 1994; Lee *et al*, 2000).

Lacity *et al* (2009), through a literature review, grouped the determinants of IT outsourcing success into three categories: the outsourcing decision process, the contractual governance and the relational governance. In the first category – the outsourcing decision process – are included the degree of outsourcing, the commitment of top management and the evaluation process for the supplier selection. The second category – contractual governance – includes the contract detail, contract type, duration and size. The last category – relational governance – includes trust, norms, communication, sharing information, mutual dependence and cooperation.

Assuming that a good strategy, an appropriated contract to the intended and a proper management of the relationship with suppliers, are considered to be crucial to the success of an outsourcing process (Cullen, 2005), the formal contracts and the relational management are complementary (Poppo *et al*, 2002; Goo *et al*, 2009).

2.4 Criteria Used for Selecting Suppliers

In the context of IT outsourcing activities, a selection of suppliers capable of meeting the business needs is increasingly important (Chen and Wang, 2008) and requires well defined criteria, in order to avoid future conflicts and minimize problems that can compromise the success of outsourcing (Varajão, 2001).

Note that the process of choosing the suppliers influences the contract's price, the outsourcing decision, the expected cost reduction and therefore has a real impact in achieving the overall success (Lacity *et al*, 2009).

The right choice of the supplier is only the first critical step in building a relationship of trust between buyers and sellers, but making a wrong choice can be disastrous, endangering projects and wasting precious resources (DiamondCluster, 2006).

For the selection of suppliers, Varajão (2002) states that it must be taken into consideration not only the set of services that is intended, but also the type of desired relationship. The choice of several suppliers to provide the same service may be an option, especially in situations where a particular supply becomes critical. The decision must take into consideration that a single supplier (*single sourcing*), which may be advantageous in a stable environment, can expand the company's exposure to risk in the presence of uncertainty (e.g. supply failure). Several suppliers (*multiple sourcing*), however, imply higher costs due to the need of managing more than one service provider

(Constantine and Pellegrino, 2010).

From the literature reviewed there can be identified several aspects used for selecting suppliers, usually taken into account in outsourcing processes (Varajão, 2002; DiamondCluster, 2005; Frost & Sullivan, 2005; DiamondCluster, 2006; The Outsourcing Institute, 1998; Lacity *et al*, 2009):

- Reputation and references on the market;
- Financial stability;
- Appropriate financial conditions for the services offer;
- Market position;
- Location of facilities;
- Knowledge of the organization business branch;
- Ability to provide the required services;
- Experience in the sector;
- Level of interest shown in providing the service;
- Commitment to the outsourcing industry;
- Range of services offered;
- Flexibility to respond to changes;
- Willingness to share risks;
- Compatibility of cultures;
- Responsiveness;
- Technical and management capacity;
- Diversity of the supplier's staff capacity.

According to DiamondCluster (2006), there seems to be a lasting evolution in the main criteria used in selecting suppliers. The result of a study conducted in 2002 (DiamondCluster, 2002) identified as key requirements the following: the expertise of suppliers, the company size, the contract flexibility, the quality and type of the relationship with suppliers. In 2005, a similar study (DiamondCluster, 2005), emerged the issue of references and the suppliers' reputation as the main concern. The cost factor has always been present.

In addition, notice that business customers do not show a great concern about the geographic location of suppliers and believe that the use of multiple suppliers is a means of reducing risks.

2.5 Aspects to be Considered in Contracts

The choice of the best solutions to obtain the necessary services and the selection of suitable suppliers is imperative for the success of the outsourcing process, but it is also relevant to celebrate solid contracts, that enable the expectations fulfillment.

Although contracts bind the roles to be played by the sides, they are limited because of the uncertainty of an unknown future (Goles and Chin, 2005).

And because change is a permanent reality and not all occurrences are always predictable, it is not possible to draw up a contract where all the specifications of the agreement between customer and suppliers are contemplated, therefore contracts must be provided with a degree of versatility that allows future changes.

The degree of detail that should be considered in a contract is not consensual, where there can be quite long contracts and others substantially reduced (Varajão, 2001). However, most of the research on this matter made possible to identify that a high level of detail in the contract (clauses that specify prices, service levels, *benchmarking*, guarantees and penalties for failure) leads to high levels of success of an IS outsourcing process (Lacity *et al*, 2009).

One of the basic concerns when making a contract is to eliminate as much wording ambiguity as possible. Ambiguity can lead to misunderstandings and conflict between sides (Varajão, 2001).

Helen Hyntley from Gartner Inc. does not recommend the use of a model contract proposed by suppliers, since it presents an intrinsic tilt to their side and requires a significant effort to modify it. It is important to remember that typically the providers of outsourcing services are experts in negotiation, and this does not happen with the customers delegates, who often have little experience in this type of situation. Therefore the client should turn for aid to a legal team and, if necessary, hire outside expertise (SearchCIO, 2010).

Typically, the conditions of a contract define rights and obligations of both customers and suppliers, and may be as follows (ITANZ, 1998; Varajão, 2002):

- Preamble;
- Definition of used terms;
- Description of services to be provided;
- Incentives and penalties;
- Definition of intellectual property;
- Duration of agreement;
- Prices and payments;
- Responsibilities of parties;
- Transition and acceptance;
- Human resources;
- Management agreement;
- Termination;
- Procedures of expiration;
- Confidentiality of data;
- Warranties;
- Limitation of duties;
- Compensation;
- Insurance;
- Limitation of liability;
- Communication methods;
- Subcontracting;
- Addenda;
- Resolution of disputes;
- Delimitation in the agreement.

A major objective of outsourcing is to capitalize the expertise and high quality of services offered by suppliers. Thus, characteristics related to service levels and the quantity and quality of deliverables, performance measurement and methods for measuring performance and service levels, become a critical part of the agreement (Gokhale and Parikh, 2007).

As a rule, the service level agreements (SLAs) should include numerical targets and a clear definition of the desired outcomes. Varajão (2002) believes that service levels should be objective, have clearly defined and measurable metrics, and be supervised at a reasonable cost.

For the client to track the work progress of the supplier, Parikh and Gokhale (2007) suggest that the agreement should specify the type of communication that must exist between the supplier and the customer during the term of the contract (for example meetings or delivery reports) and an associated schedule, ensuring the transmission of periodic information on the service performance.

In addition, the client should retain the rights to regularly audit the performance of the service provider.

Penalties and incentives in any type of contract should be associated with service levels. If the supplier does not reach the pre-set level of service the penalty must be enabled, and if those levels are exceeded, incentive mechanisms can help increasing the motivation of the provider and achieve better future results (Osey-Bryson and Ngwenyama, 2006).

Besides productivity and service levels, another important aspect is the compensation of the supplier's service, in other words, the costs from the point of view of the client company.

Typically, services may have a fixed cost or the cost can be associated with levels of performance. However, it is necessary to foresee all possible situations in order to avoid hidden costs and charging prices with inflated fees for services or unanticipated changes. For this reason the agreement should consider the maximum possible situations involving payments (ITANZ, 1998; Varajão, 2002).

To Tom Lang, director of TPI, a consultancy firm of *global sourcing* in Houston, another important point when making the contract is its duration. The expected duration depends on several factors, being the type of service subject to outsourcing recognized as influential in this matter. A few years ago, the typical outsourcing contracts had a duration of 10 years, having today on average less than five years. However, for a better use of services contract such as Data Center, recommends having a minimum of five years (SearchCIO, 2010).

For the development of applications Helen Huntley from Gartner Inc. believes that the contracts typically last 2–3 years and infrastructure agreements tend to last 3–5 years (The Outsourcing Institute, 2010). Data Center contracts are long term contracts because they require a significant initial investment in infrastructure that needs time to be recovered.

The contract versatility is essential to cope with the change that occurs in the world and inside the organizations. Over time the business requirements change, technology undergoes changes in hardware and software and the contract is necessary to respond to these situations, because change is a certainty.

Helen Huntley (SearchCIO, 2010) states that there are rules that can be taken and which clearly contribute to greater “elasticity” of the contract. For example, to consider short-term contracts, allowing price adjustments as a function of market prices development, to carry out regular reviews of service levels, to include clauses allowing the contract to reopen if certain preset conditions are exceeded (changes in the business volume, changes in the market prices) or in case of changes, such as structural changes in the enterprise customer or supplier. Versatility can also be related to contract termination clauses, since the natural end of the project, the creation of conditions of transference to a new provider, an early termination or specific rights for its renewal should be previously fixed.

Once the contract ceases, an automatic renewal mechanism can be activated. This may be cancelled from the moment that a party expresses no interest in renewing it, usually involving the execution of a prior notification agreed in advance.

The contract must guarantee the right of the injured party to cease the agreement if the other party commits a material failure or if there is a material breach of responsibilities and guarantees. From the part of the supplier, these material failures can be the non fulfillment of the service levels, the break of confidentiality and intellectual property rights or the breaking of exclusivity obligations. As a material failure of the client it can be considered, for example, the continuing non-payment of service charges (Parikh and Gokhale, 2007).

Termination for convenience is another modality of the contract interruption, in which a party is entitled to end the arrangement, even without any faults of the other party, being however obliged to pay termination fees and to a previous communication defined by the contract.

The desire of switching a supplier is a situation that may occur, involving a natural or early termination of the contract, so this should clearly define what should be the behaviour of both parties and a transition period should be provided. The supplier is responsible for ensuring the passage of knowledge to individuals appointed by the client as well as to provide the documentation of the processes and perform all activities considered necessary for the services transfer. The property of assets, infrastructure, people, etc., can be negotiated.

It is important that organizations always have an alternative plan, to ensure capacity of action. It is essential to have an internal qualified team (sized according to the organization) to continuously monitor the services delivery, not only to oversee the work, but also to plan and execute the transfer of services when needed (Varajão, 2002).

Stopping the outsourcing arrangement is often related with the deterioration of the relationship between customer and supplier that for several reasons can no longer work.

An early terminus is not in the interest of the parties, as investment has been made and for which they would like to have return.

In some cases the resolution of the problem resides in the implementation of mechanisms which, whenever possible should be fixed in the contract, and that can be used in order to retrieve the relationship, before moving on to more drastic solutions.

2.6 Difficulties that Typically Arise in Relationships

According to Lacity and Willcocks (1998), outsourcing agreements may differ in many aspects, but in its most basic level, they have in common the involvement of participants in a kind of exchange relationship, which is managed by the existence of a contract.

Lee *et al* (2000) believe that the research on outsourcing can be classified into three groups according to the type of view: economic, social or strategic management. The latest differs from the previous ones by the fact that it assumes that there are shared standards and a line of interest between the parties that influences their interaction, leading to concepts such as trust, fairness and cooperation, which are not in the other two perspectives.

The general conclusion of these type of studies shows that, for an outsourcing to be successful, it is necessary but not sufficient to properly structure a contract (Goles, 2005).

The relationship between customers and suppliers plays a central role in the outcome of the process of outsourcing and may be responsible for the success of an outsourcing project. Or on the contrary, it may lead to premature termination of the contract, with all the damages resulting inherent from the process.

According to Oza *et al* (2004), cultural differences between client and supplier are one of the factors that mostly influence the developed relationship, including the work culture, behaviour, communication methods, sensitivity to culture, and attitude. These authors consider that the cultural heritage and monitoring are two of the major difficulties dealing with these relationships.

The following can be identified as difficulties in relationships of this nature (Varajão, 2002; Deloitte, 2005):

- Dissatisfaction with the developers of the designated provider for the provision of services;
- Inability of the supplier's answer;
- Inability of the supplier's understanding of the business;
- Failure in meeting deadlines;
- Failure to accomplish with the agreed service levels;
- Mistrust and misunderstanding resulting from differences in the organizational culture of the customer and the seller;

- Late response of the supplier;
- Resistance to adjustments based on benchmarking;
- Higher costs than expected;
- Low quality in contracted services.

At the beginning of an outsourcing contract, clients and suppliers are often motivated to a successful relationship (Varajão, 2001; Varajão, 2002; Lacity *et al*, 2009) but often, the complexity of managing the client-supplier relationship increases with the longevity of the agreement which will highlight symptoms of problems and possible hard feelings in the relationship.

It can also happen that the relationship management is effective, creating mechanisms for coordination and communication that allow overcoming these difficulties. In this case, because the parties have already developed a mutual understanding, the benefits to both parts increase during the time that the relationship persists (Goo *et al*, 2007).

2.7 Conflict with Suppliers

The conflict can be seen as a divergence of perspectives, generating tension for at least one of the parties involved in a specific interaction and that may, or may not, manifest itself in a mismatch of objectives (Dimas *et al*, 2005).

Conflict is not the same as a problem or difficulty. In a conflict, there are opposing parties and they develop an attitude of hostility, whereas in a problem there is a group of people working together to develop an attitude of approach (Almeida, 1995).

Companies adhere to outsourcing for several reasons, but typically aim to reduce costs, while maximizing the benefits of access to specialized skills and resources of suppliers. On the other hand, the suppliers' interest is focused on maximizing profits, minimizing costs in time, labour and resources. There is a conflict of interests, in which usually the gain of a party means the loss of the other (Mehran and Stulz, 2007).

Bent and Furton (2003) report that the conflict of interests is exacerbated by several factors:

- The outsourcing deals are naturally imperfect. The exact anticipation of what may occur in the future is not possible, nor is it possible to define the way to deal with what is unknown. The result is the drafting of contracts in a vague way, with parties seeking to address only general concepts in order to protect their rights and limit their obligations, often in undetermined situations. This problem becomes more or less significant depending on the duration of the contract;
- Developments in IT and outsourcing arrangements are a constant. Circumstances change over the course of a project and the customer needs to evolve. The evolution of hardware can be more or less predictable, but the same cannot be said for the latest technology that causes a considerable impact on the development of a project;
- Over time the perception of value alters with changes in market and emergent business opportunities and corporate goals. That transformation of perception can lead to disturbances in outsourcing agreements, increasing concern, especially when there is an investment of large sums for long periods of time. With so much at stake, the parties find the courage to take extreme positions and their behaviour can be affected in unpredictable ways, which are not related to technical issues or design, but to legal concerns, and corporate management. The result is a deep divergence of interest between client and supplier, which in turn hardens the relationship and undermines the smooth functioning of project outsourcing;

- Another source of conflict is the inability of the parties to strengthen their own contractual rights and obligations during the enforceability of the outsourcing arrangement. The litigation is too slow, expensive and controversial in relationships of this nature. The types of conflicts that commonly arise are not serious enough to resort to such a drastic, and at the same time, unpredictable solution. Moreover, many of the “contractual remedies”, found in a typical outsourcing agreement are only justified in case of a complete misunderstanding, and in most cases the disputes do not reach this level.

Since conflicts can arise from different views on the same facts, incompatibility between ways of acting, incompatibility of desired results, incompatibility of values and ideas and incompatibility of feelings and emotions (Mader, 2009), in practice this may be translated into situations such as:

- Lack of commitment and attitude of service by the supplier;
- Lack of commitment and attitude of service by the customer;
- Failures in service levels;
- Lack of detail in contracts with consequences at several levels, including additional costs;
- Lack of supplier’s business understanding;
- Dissatisfaction with the employees of the supplier;
- Disagreements in renegotiating key points of the agreement.

2.8 Conflict Resolution

What often happens in outsourcing deals is that the standard contractual clauses are insufficient in resolving conflicts. Bent and Furton (2003) argue that the resolution of conflicts during the enforceable phase is closely linked with each party influence and thus, the dispute ends up being resolved in favour of the one having the biggest economic power.

The resolution of disputes before the stage of litigation associated with litigation becomes more effective. Thus, the contract should include mechanisms for conflict resolution to encourage both the prevention and voluntary resolution of disputes.

The variety of means of dispute resolution available covers various forms of composition (Portal da Justiça, 2006): “arbitration”, “conciliation” and “mediation.”

Arbitration is a private form of dispute resolution in which the parties voluntarily choose people – the arbitrator – to decide their differences. The arbitrator’s decision must necessarily be respected. In proceedings of the conciliation type there is a third element which has the responsibility to conduct the process, together with the parties, to make it possible to reach an agreement. The conciliator shall examine the objective aspects of the conflict, seeking a brief resolution and accompanying the parties, proposing solutions to an arrangement of agreement. Mediation is a means of settling disputes on a confidential basis, in which the responsibility for the construction of decisions comes from the involved parties. The mediator guides the parties to reach an agreement but does not decide the outcome (Portal da Justiça, 2006).

With the aim of resolving conflicts (prevention and resolution of disputes) there can be several alternative processes used such as: Joint Commission, in-house team for assessment/monitoring, by appointment of account managers by the supplier, through established (planned) mechanisms in the contract, use of subcontractors for evaluation/monitoring, regular meetings (customer/supplier), regular reporting of performance, evaluation/monitoring of projects, contractual provision for conflict resolution, renegotiation of contracts.

Prevention is the easiest path in order to avoid the emergence or aggravation of conflicts. A committed management of the customer/supplier relation is, as referred, a solid preventive

mechanism. Monitoring and evaluation of performance, regular meetings, are good practices for obtaining positive results.

In addition, solutions like the use of intermediaries and subcontractors, leading to problem solving in real-time, should whenever possible be contemplated and described in the contract, avoiding extreme situations of agreements termination and losses for both parties.

3. METHOD

A study was conducted aiming to characterize comprehensively the various aspects of outsourcing services of information systems in large companies, between 18 February and 12 April, 2008.

One of this study’s goals was to identify the services that are most often contracted to outside suppliers and understand how the engagement process is conducted (supplier selection and procurement). The relationship with suppliers, potential conflict outbreaks and the adopted mechanisms to solve the problems were also considered.

For this purpose, a survey was conducted with the participation of CIOs of large Portuguese firms. This public target in particular was chosen because large companies are usually leaders in the use and application of technology and need to have well-structured departments of information systems to address and manage the entire information systems of the organization.

In the study an online questionnaire was used in which solicitation for participation was sent via email and mail to a stratified random sample of 200 CIOs among the 1000 largest Portuguese companies in terms of turnover (according to the National Statistics Institute). Thirty six responses were received and of these seven were rejected due to a significant number of issues that have been left blank, resulting in a total of 29 valid responses (not anonymous), or approximately 14.8% of response rate, since there were four calls that were not delivered due to difficulties in communication. It is therefore in the light of these characteristics that the results obtained should be considered.

In Tables 1, 2 and 3 are identified the characteristics of companies participating in this survey.

In Table 1 it can be seen that the majority of responding organizations (43%) had a turnover of more than 50 million Euros.

Turnover of the participating companies (EUR)	Percentage
Less than 50,000,000	25%
From 50,000,000 to 250,000,000	43%
More than 250,000,000	14%
Do not know / No answer	18%

Table 1: Turnover (EUR) of the companies participating in the study

Table 2 shows that, regarding the number of end users of IT, 43% of companies have between 51-200 users and only 7% have more than 2000 users.

Number of end users of IT in companies	Percentage
1–50	21%
51–200	43%
201–500	11%
501–2000	18%
Over 2000	7%

Table 2: Number of end users of IT in companies participating in the study

In the study it was found that in about 93% of respondents there is an internal department of information systems or similar.

Table 3 presents the budget allocated, in Euros, to that department.

Budget of the information systems department or similar (EUR)	Percentage
Less than 1,000,000	61%
From 1,000,000 to 5,000,000	21%
More than 5,000,000	7%
Do not know / No answer	11%

Table 3: Budget (EUR) of the information systems department or similar of companies participating in the study

Most companies (61%) have a budget of less than 1,000,000 Euros. Secondly, 21% of these companies provide for this purpose a value between 1,000,000 and 5,000,000 Euros, followed by only 7% with a budget of more than 5,000,000 Euros.

Approximately 96% of companies turn to outsourcing to obtain a significant portion of its services in information systems, devoting an average of 38% of its budget for technology and information systems to outsourcing services.

4. ANALYSIS AND DISCUSSION OF RESULTS

Aiming to understand the main needs of systems information services of large Portuguese companies, the CIOs were asked about the key services liable to outsourcing. For this purpose the following services were identified in the questionnaire: application development, application maintenance, systems integration, network management, security management, disaster recovery management, communications services and platforms, web services, e-mail and messaging services, Data Centre management, microcomputer management, professional consultancy services, helpdesk, user training, technical training to the internal IT staff, project management. Respondents, if they wanted to refer to other services, could do so through an open response question.

The graphic in Figure 1 was made with the responses obtained, ordering services by outsourcing frequency.

It occurs that the applications development is the service most often submitted to outsourcing in large companies (53%), followed by applications maintenance (48%), communications services and platforms (45%) and web services (43%).

The remaining services hold less relevant positions in the ranking. For example, project management appears at the end of the list, with a percentage of 19%.

The survey identified 16 issues typically considered by organizations when selecting suppliers for an IT/IS outsourcing contract, in order to evaluate the relative importance of each: the supplier's level of interest in the needs of the organization, flexibility to respond to business and technological changes, commitment to the outsourcing industry, diversity of the supplier's staff capacity/capability, set of available services, relationship with other suppliers maintaining active contracts, willingness to share risks, knowledge and experience in the business area of the company, experience in contracts with customers of similar company size, supplier's reputation in the market, compatibility with the company culture, ability to provide the desired type of service, supplier's stability and financial solidity, technical and management capacity, financial conditions to provision of services, presence in the country.

Results are shown in Figure 2, where the main criteria in choosing the supplier appears to be his

Information Systems Outsourcing in Major Portuguese Companies – Contracting Services

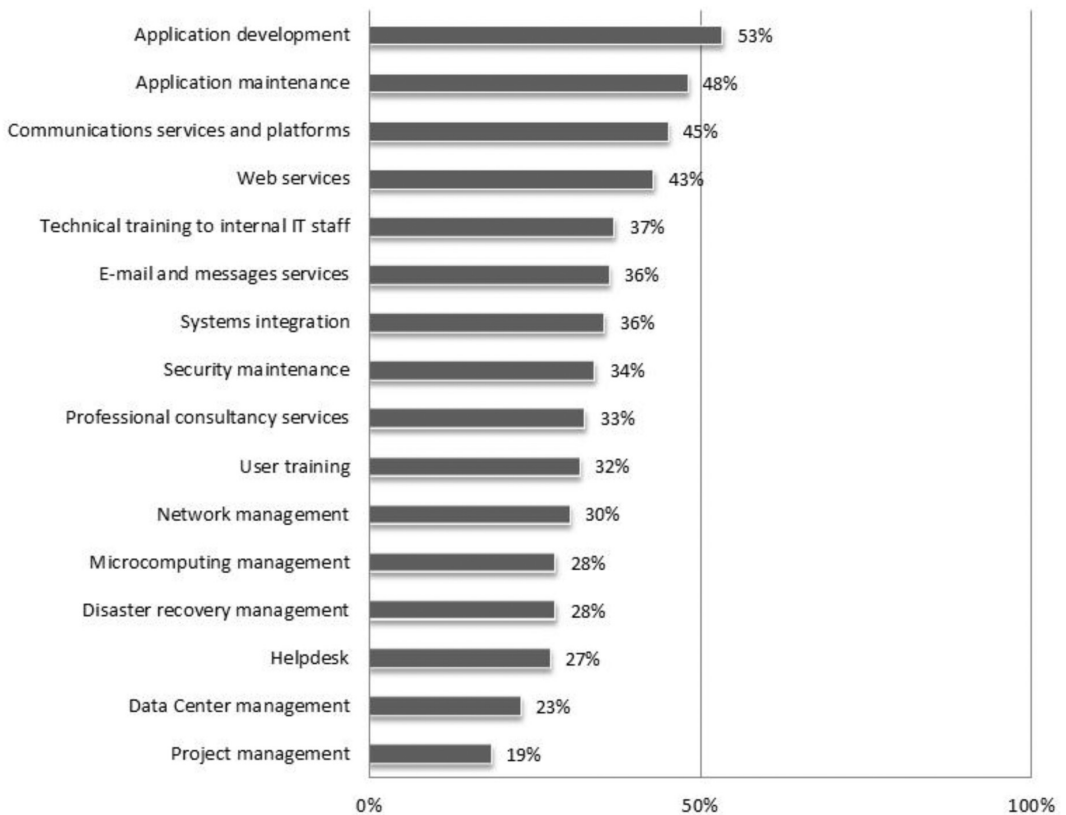


Figure 1: Information systems services subject to outsourcing in large companies

ability to provide the desired type of service (90%).

The technical and management capacity and the knowledge and experience in the business area, occupy the second and third position, with a percentage of 80% and 78% respectively.

The fourth position is occupied by the set of available services provided by the supplier (74%) and flexibility to respond to business, technological changes comes in fifth place (73%) in this ranking.

The “stability and financial solidity of the supplier” is in sixth place (70%), being followed by a group of features with a very similar level of concern: the financial conditions to the provision of service, the supplier’s reputation in the market, experience in contracts with customers of similar company size, supplier’s level of interest in the needs of the organization, diversity of the supplier’s staff capacity/capability, geographic location and compatibility with the company culture. It is opportune to notice that the compatibility with the company culture, which is usually a factor with strong impact in the process of outsourcing, is not much valued.

The relationship with other suppliers maintaining active contracts is not a highlighted criterion in choosing suppliers.

Considering the contract as an important mechanism that minimizes the risks of an outsourcing agreement, it becomes relevant to know the issues that CIOs value most when a contract of this nature is concerned.

Information Systems Outsourcing in Major Portuguese Companies – Contracting Services

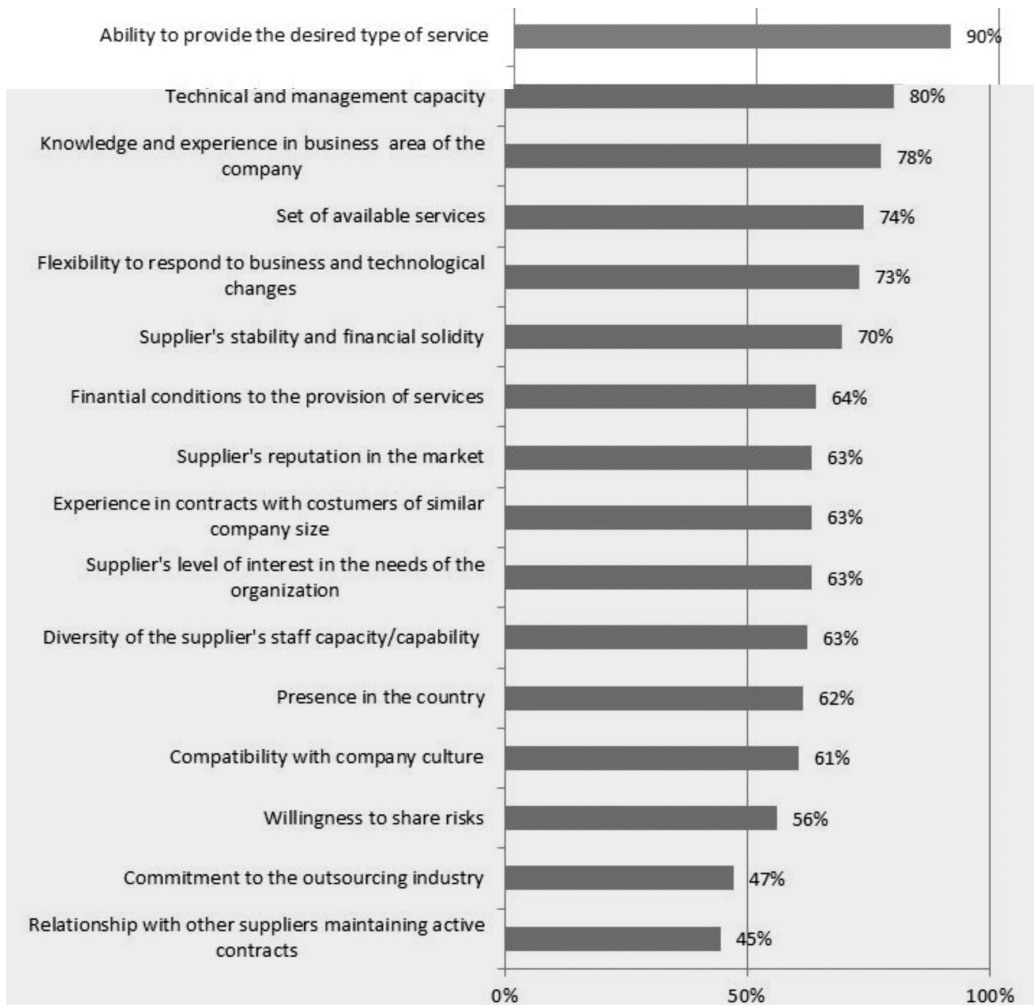


Figure 2: Key criteria used for selecting suppliers

In this way, a set of 14 options identified in the literature has been released, asking respondents to place them in order of importance: careful analysis of the main motivations of the business, consideration of issues related to human resources since the beginning of the process, suppliers evaluation by using well defined criteria, drafting contracts in a positive way, with emphasis on success and unambiguous, clear definition of desired service levels, definition of extensive and detailed contracts, embedding procedures in the contract that ensure the flexibility for future changes, description of the services to be provided, definition of incentives for superior performance, definition of penalties for poor performance, contract duration, contract costs, definition of the parties' responsibility, definition of requirements for the information confidentiality.

Figure 3 presents the obtained results, being possible to verify that, when celebrating contracts, CIOs show greater concern about three aspects that clearly stand out: the clear definition of the

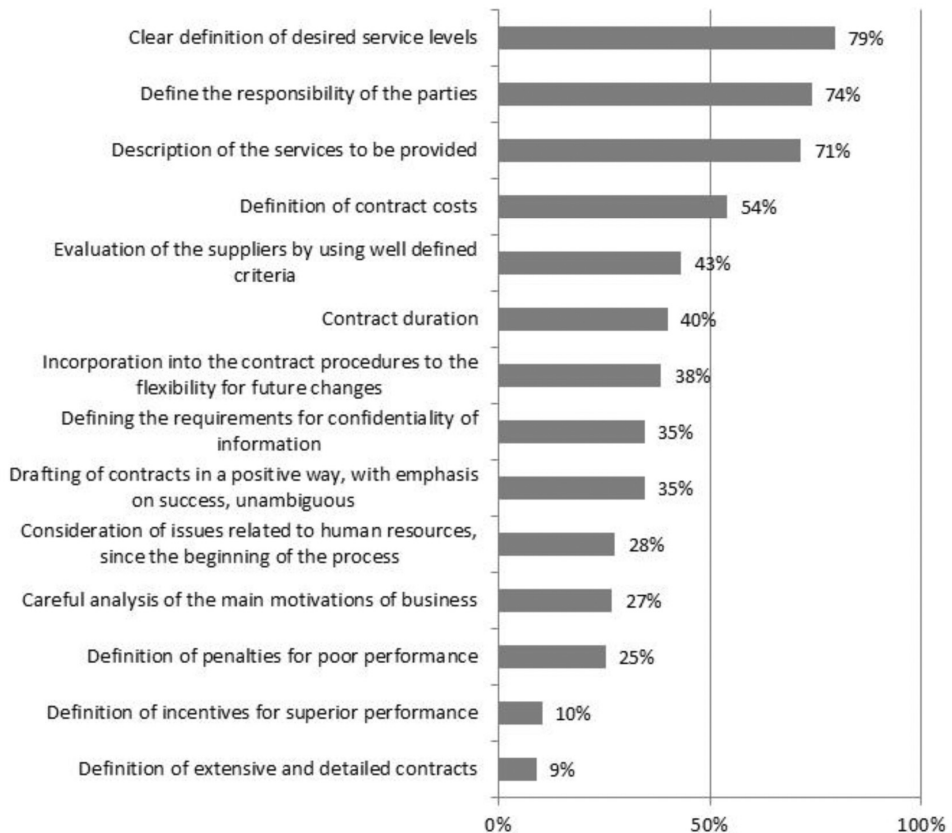


Figure 3: Aspects that are considered when concluding an outsourcing contract

desired services levels (79%), the definition of the parties' responsibility (74%) and the description of the services to be provided (71%).

The definition of the contracts cost, the evaluation of the suppliers, the contract duration, the flexibility to respond to future changes, the information confidentiality, and the wording of contracts in a positive way, occupy an intermediate position in the overall list, followed by the concern with human resources, the careful analysis of the main motivations for the deal, and the definition of penalties for inadequate performance.

It is interesting to notice that the definition of penalties (25%) appears with more prominence than the definition of incentives for performance above the agreed (10%). The definition of extensive and detailed contracts has also little relief (9%).

Looking for additional information on contracts, CIOs were asked about their average length.

There were options presented with contracts lengths that are typically considered in the literature: 1 year, 2 years, 3 years, 4 years, 5 years, 6 years, More than six years, Very varied.

In Figure 4 we can verify that the existing contracts vary widely in length, with the majority having a lifetime equal to or less than 3 years (72%). Of these, 35% last one year, 23% last two years and 15% last three years.

With a longer lifetime (more than six years), are assigned 23% of outsourcing contracts.

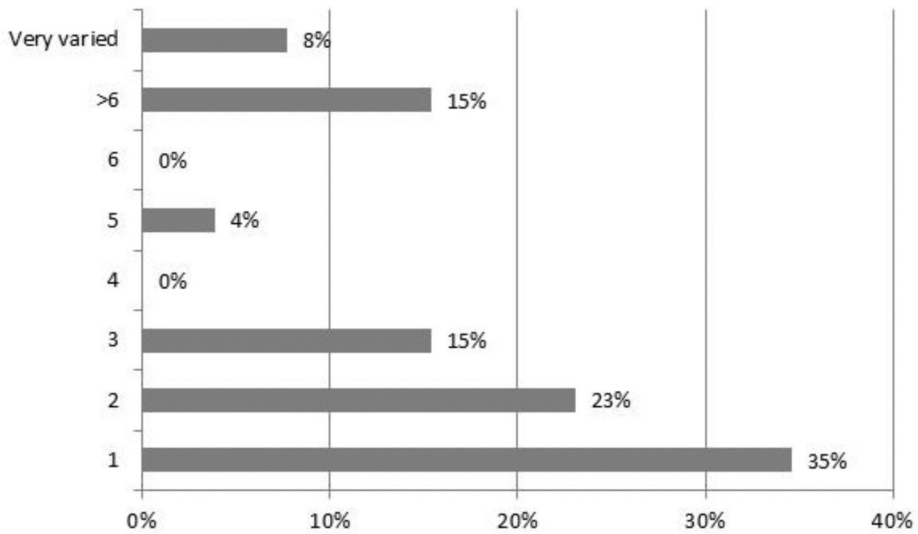


Figure 4: Average length of key outsourcing contracts

A majority of contracts lasting up to three years would be expected, since the type of service subject to outsourcing is mostly related with the development and maintenance of applications (Figure 1). Recall that, according to the literature, the typical duration of contracts for this type of service is 2–3 years.

An advantage mentioned in the literature that is attributed to this type of contract (short/medium length) is a certain inherent flexibility since, because of its length, it is not necessary to foresee and prevent many market and technological changes. This does not happen in contracts with a long lifetime. Therefore, the fact that companies decide for contracts of short/medium term may be seen as a way to ensure the existence of such versatility in the contracts.

Throughout the duration of contracts different difficulties arise naturally and this can be stepped over or begin bigger disagreements.

This study sought to determine the main difficulties that CIOs find in the relationship with suppliers, through an issue with a number of various possibilities: failure in the observance of the agreed service levels, disagreement regarding the scope and price, dissatisfaction with the employees of the supplier assigned to provide the service, difficulties in renegotiating key points, escalate disputes, adjustments based on benchmarking, unjustified changes over the contract, early termination of contracts, legal disputes, contracted services seriously affected, higher costs than expected, supplier’s inability to understand the business, supplier’s inability to answer, inability to overcome problems identified in the relationship with the supplier, lack of commitment from top management, lack of management control, difficult technological transfer, failure to meet deadlines, loss of skilled human resources.

Figure 5 presents the results obtained and it can be verified that failures in meeting the agreed service levels are the main difficulty for the duration of the contract. This raises a question: being the clear definition of service levels a major concern in drafting the contract, what are the variables responsible for the difficulty in this aspect? In practice it appears that suppliers sometimes referring to peak demands end up not being able to ensure the service levels that they undertake.

Information Systems Outsourcing in Major Portuguese Companies – Contracting Services

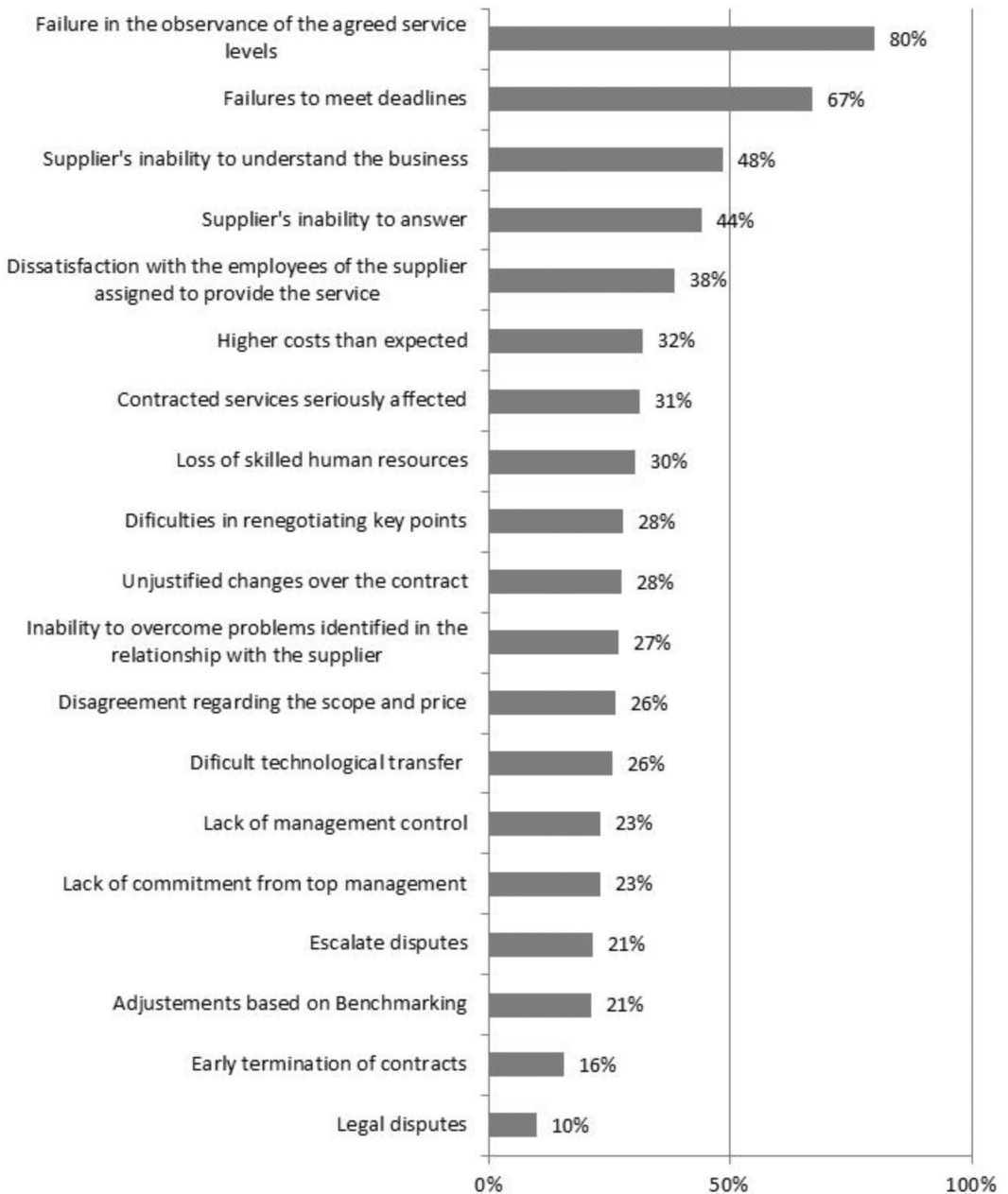


Figure 5: Difficulties encountered in relation with suppliers

Failure to meet deadlines is also a highlighted difficulty. The inability of the supplier in understanding the business appears as the third most significant difficulty, with much less expression. This inability may result from the fact that the compatibility of cultures is not one of the main concerns in choosing suppliers, what might later start misunderstandings.

The supplier’s inability to answer and the customer’s dissatisfaction with the supplier’s human resources occupies the fourth and fifth position with 44% and 38%, respectively.

Higher than expected costs are not part of the five main identified difficulties, so it can be inferred that the deviations of expected cost are not significant.

The early termination of contracts (16%) and legal disputes (10%) occupy the lower positions in the ranking, which appears as a positive sign. As stated in the literature, early terminations are not beneficial to any of the parties and the legal process for settling disputes are time consuming and with dubious results.

It is therefore relevant to examine what usually causes the conflict between client and suppliers. Respondents were given seven options to choose: lack of detail in contracts, suppliers’ lack of understanding of the business, gaps in service levels, dissatisfaction with the employees of the supplier, difficulties in renegotiating the key points of the contracts, lack of commitment and attitude of service by the supplier, lack of commitment and attitude of service by the customer.

“Difficulties,” “problems” and “conflicts” are different concepts. However, it is very probable that unsolved difficulties originate conflicts.

This can be found in the graphs of Figure 5 and Figure 6. It appears that the non fulfillment of the service levels is the main difficulty encountered by CIOs, being also identified as the main reason that leads to conflicts.

The lack of commitment and attitude of service by the supplier, that CIOs rank as the second main reason for problems (49%), can generate conflict itself, and even contribute negatively to an effort to overcome difficulties associated with service levels.

In turn, the supplier’s lack of understanding business (40%), presented at the third position, is connected with the two preceding situations, since the fact that the business is not well understood

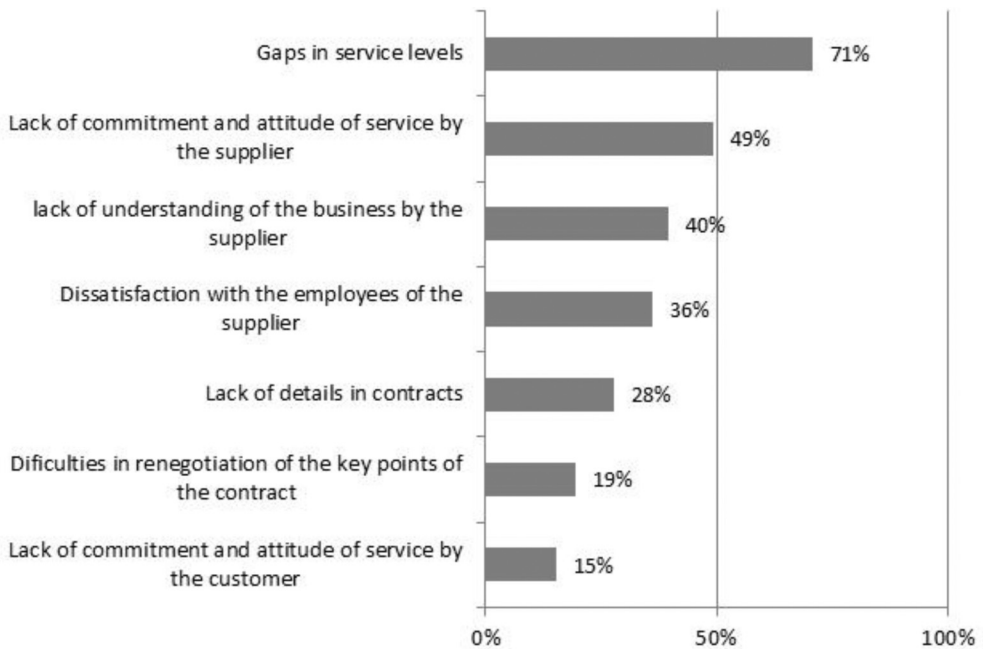


Figure 6: Causes of conflict with suppliers

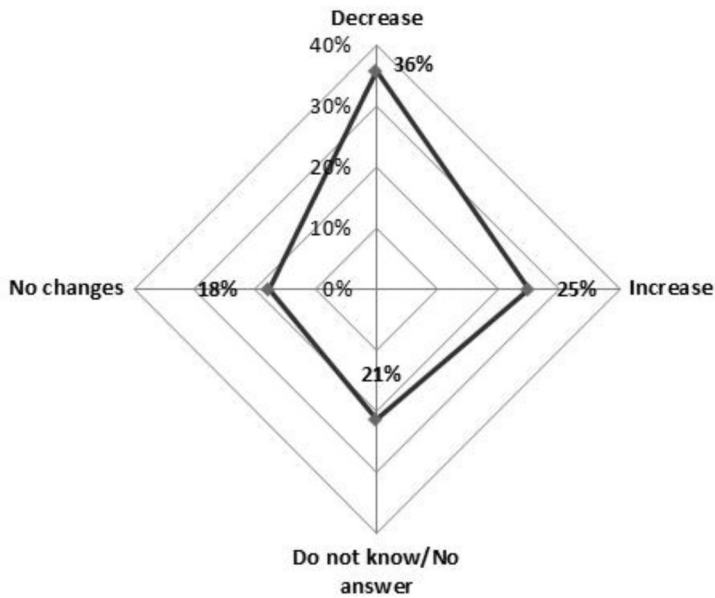


Figure 7: Evolution of the difficulties along the length of the contract

can lead to different interpretations and be reflected on the desired service levels.

The lack of detail in contracts, difficulties in renegotiation of key points and the lack of commitment and attitude of service by the customer are considered to be less contentious issues.

In literature, the duration of contracts is usually a variable related to the quality of the relationship between customer and supplier. Insofar as the working time together increases, decreases the motivation and the initial enthusiasm (Lacity *et al*, 2009) and the probability of amplifying difficulties in the relationship increases. Aiming to check whether this assumption applies in the outsourcing agreements in Portugal, CIOs were asked about the evolution of the difficulties.

The results led to the graph of Figure 7, which states that despite the presented scenario of difficulties, it is certain that 36% of the respondents consider that during the contract there is an improvement of the conditions.

Can the improvement of the conditions be connected with a favorable evolution of the relationship between supplier and customer? Achieving an effective communication between the parties, will, in time, allow the supplier to become more knowledgeable of the business and its needs, also permitting the development of service levels more adequate to the customer's desire. It will also enhance their sensitivity to the need of meeting deadlines and, simultaneously, there will be a better understanding of the customer to the difficulties which the supplier might encounter, leading to greater tolerance to failures.

An effective communication can still detect possible deviations and dissatisfaction in relation to the supplier's staff and align them with the service needs (which was the fifth biggest difficulty selected by CIOs).

Note that 18% of CIOs report that the difficulties were not overcome in the course of time, and in 25% of the cases, there is even a worsening of them.

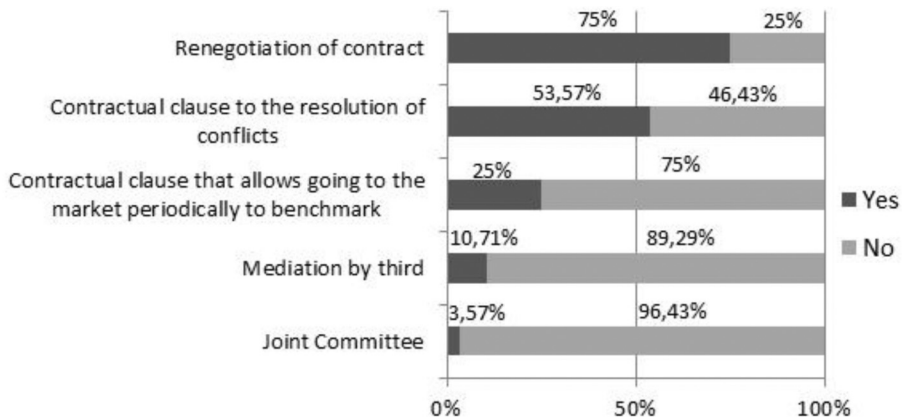


Figure 8: Mechanisms for managing conflict situations

Assuming that conflict situations arise, CIOs were asked about how such situations should be managed. The result is shown in the Figure 8, ordered by decreasing importance of the used mechanisms.

It is verified that 75% of CIOs consider contract renegotiation as the most appropriate solution in cases of conflict and 54% also perceive that the existence of a contractual dispute resolution is a useful mechanism in these situations.

Still, it appears that there is a reasonable percentage of CIOs (46%) that do not value the contract clause in this context. There is often the idea that throughout the duration of an outsourcing agreement these clauses are simply ignored, prevailing the interests of the party with greater economic or negotiation power (Furton and Bent, 2003).

It is noticed that the appeal to mediation is rarely valued by CIOs (89% do not refer it), possibly because this mechanism becomes more useful in long-term contracts, which in Portugal are in lesser number.

The joint committee is a mechanism that also does not receive much attention from CIOs, 96% do not confer great significance to it.

5. CONCLUSION

The study allowed to identify several aspects that CIOs value when hiring outsourcing services, including the choice of the suppliers, preparation of contracts and resolution of any disputes that might exist. The results show that nowadays major companies turn to the information systems outsourcing services mainly for services as, for instance, application development and application maintenance, in most cases opting for contracts of shorter duration and for well defined criteria on managing the process of contracting services.

Broadly speaking, it was found that in the process of choosing suppliers, companies require mainly that these are capable of providing the desired services, retain the ability to do so at several levels and hold knowledge and experience in the business area. When drafting contracts, the concern with definition of service levels, definition of the parties' responsibility and definition of services to be provided, stand out clearly. It was also observed that the duration of most contracts fits within the period of one to three years. The encountered difficulties in the relationship with suppliers focus mostly on failures in the accomplishment of service levels, non fulfillment deadlines

and failure to understand the business. Most of them will soften over the duration of the contract.

Failures in service levels previously agreed are also identified as the main source of conflicts, being mostly resolved through the renegotiation of contracts.

This study aims to contribute to an understanding of the contractual perspective of the information systems outsourcing. It does so by providing useful information for companies and suppliers to develop contractual procedures, knowing the practices that are often traced, thus creating more effective management mechanisms.

Although the obtained results provide new insights on outsourcing, some new issues should be addressed, and encourage complementary studies on this topic. Namely, it would be important to answer to some research questions: Which are the future intentions of companies regarding outsourcing? Does the strategic importance of a project influence the sourcing decision or the occurrence/resolution of problems that may arise? Which are the main sourcing decision criteria currently used by companies? Which are the main factors that impact the outsourcing success? The answer to these questions will contribute to enrich the current understanding of outsourcing.

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BIOGRAPHICAL NOTES

Maria Glória Fraga holds a MEng in engineering technologies and BEng in computer and electric engineering, from the University of Trás-os-Montes e Alto Douro, Portugal.

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José A.M. Bulas-Cruz graduated in electrical engineering from the University of Porto (FEUP), Portugal, in 1978. He obtained the PhD degree from the University of Bristol, in the UK, in 1995. He served as Vice-Rector for Innovation and Technology (UTAD) from 2005 to 2008. Presently, he is full professor of computer vision in the Engineering Department, UTAD, serving as Head of Faculty. He is also a researcher at the CIDESD/UTAD FCT research centre, involved in the research of functional and morphological assessment in animal (rats) models, using computer vision. During the years 1999 to 2008 he was co-responsible for eight research projects related to information technologies and internet dissemination and use as a learning/teaching tool in the Trás-os-Montes e Alto Douro region.



José A.M. Bulas-Cruz