INFORMATION SYSTEMS OUTSOURCING SUCCESS FACTORS: A REVIEW AND SOME RESULTS

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ABSTRACT

Information Systems outsourcing is a widespread activity that has been growing on a worldwide basis in recent years. Considering the interest raised by this phenomenon, this paper offers the results of a survey in which participated 357 Information Systems managers. These results allow us to identify the most important outsourcing success factors from the client point of view and present the relationships they have with certain characteristics of the firm like, for instance, its size.

KEYWORDS

Information Systems Management, Outsourcing, Success Factors, Survey.

INTRODUCTION

The traditional concept of firm, in which the different value chain activities are carried out internally, is being replaced by the idea of a network organisation or even a virtual organisation, in which fewer and fewer operations are performed within the firm (Burn & Ash, 2000:15; Georgantzas, 2001:171; Tetteh & Burn, 2001:171). Only those functions which generate added value and represent the firm's competitive advantage must be performed internally; the rest of functions are outsourced (Ching, Holsapple & Whinston, 1996:179). Some of the

activities in which firms most often opt for outsourcing at present are those related to information management.

Information Systems (IS) Outsourcing means that the physical and/or human resources related to an organisation's Information Technologies (IT) are going to be provided and/or managed by an external specialised supplier. The situation can be temporary or permanent, and can affect the client firm's whole IS, or only a part of it. IS outsourcing can be traced back to 1963 when Ross Perot and his company EDS (Electronic Data Systems) signed an agreement with Blue Cross for the handling of its data processing services (Hirschheim & Dibbern, 2002:5). IS Outsourcing became popular in the 1990s, after the spread of the success achieved by Eastman Kodak with the outsourcing of its IS (Loh & Venkatraman, 1992).

IS outsourcing has experienced a considerable growth in recent years (Baldwing, Irani & Love, 2001:16; Bryce & Useem, 1998:635; Caldwell, 1996:51; Currie, 2000:241; Heeks et al., 2001:54; Kern, Willcocks & Van Heck, 2002:47; Lacity & Willcocks, 1998:363; Marchand & Jacobsen, 2001:315; McLellan, Marcolin & Beamish, 1995:300; Palvia, 1995:265; Sepherd, 1999:64; Udo, 2000:422), so much so that some authors suggest we find ourselves in the 'Outsourcing Era' (King, 2001:15). Judging by the forecast figures offered by some computer market analysts, this growth also seems to be guaranteed, at least in the near future. Thus, according to the forecast made by the Yankee Group in

October 2002, the global outsourcing market for that year would reach a figure between 85 and 95 trillion US dollars, with a foreseen growth rate located between 10 and 12% for the four following years (The Yankee Group, 2003). It can also be observed that these services are spreading geographically, from North America, the United Kingdom and Australia to Western Europe, South America and some countries in Southeast Asia, amongst others Japan (Moran, 1999:1).

The growth of outsourcing in our nearest environment –Western Europe– has also been very significant since the early 1990s. A 1998 IDC (International Data Corporation) survey revealed that outsourcing expenses had passed from 22.666 billion US dollars in 1996 to 33.616 billion in 2001. Among the factors that may have caused this growth, and apart from human capital shortages and the growing competitiveness in European firms, we should also have to mention firms' process of adaptation to the European Monetary Union (Baldwing, Irani & Love, 2001:16).

The scope and range of services being outsourced are also growing; we are witnessing the promotion of:

- *BPO (Business Process Outsourcing)*, a relatively new concept that implies combining IS outsourcing with support or consulting for the business functions outsourcing refers to (Currie, 1998:169).
- *ASP (Applications Service Providers)* is growing too (Smith, 2002:451) –ASPs are third party service firms which deploy, manage and remotely host software applications through centrally located services

under a rental or lease agreement– (Currie & Seltsikas, 2001:123; Kearney, 2000:37; Yang & Huang, 2000:227).

- *Web and eBusiness Outsourcing*, where vendors are contracted to provide web-based applications that enable a firm to enter the eBusiness era, is another growing area within IS outsourcing (Hirschheim & Dibbern, 2002:7).
- *Global Outsourcing*, which consists in developing software in foreign countries with highly-trained computer staff and comparatively very low salaries. India is the world's leader in this field of global outsourcing (Chen & Lin, 1998; Heeks et al., 2001).

Where does IS outsourcing success lie? Grover, Cheon & Teng (1996:95) define IS outsourcing success as the satisfaction with the benefits derived from outsourcing that are gained by an organisation as a result of following an outsourcing strategy. This paper has as its aim to explore the factors that determine IS outsourcing success, from the client point of view, in the context of the largest Spanish firms. The starting point for our research is the study of previous literature on IS outsourcing success, in which those factors are listed and explained. The paper's empirical part comes next; after the methodology, we will analyse the results of a survey in which IS managers of the largest Spanish firms were asked to specify their outsourcing level and what the most important IS outsourcing success factors are in their opinion. We will try to see if those factors are conditioned by the outsourcing level or the diverse characteristics of firms (such as their sector and size) and their IS departments.

IS OUTSOURCING SUCCESS FACTORS IN LITERATURE

The study of previous literature on this topic has allowed us to identify a set of factors regarded as essential for IS outsourcing success: *Provider's understanding of clients' objectives; Choosing the right provider; A clear idea of what is sought through outsourcing; Provider's attention to clients' specific problems; Frequent client-provider contacts; A good-value-for-money relationship; Top management's support and involvement; Proper contract structuring.*

Provider's understanding of clients' objectives. The same as it is important to make sure the client knows what is sought through outsourcing, it must also be guaranteed that the provider knows that client's objectives. Client-provider relationship management should basically focus on the provider's managing to achieve clients' aims (Kern & Willcocks, 2000:344). Suppliers that have a good understanding and an interest in the outsourcing firm's business will be better positioned to help define mutually beneficial goals (Behara, Gundersen & Capozzoli, 1995:50) that turn out to be essential for the middle/long term continuity of an outsourcing relationship.

Choosing the right provider. The success or failure of the outsourcing agreement can depend on this choice (Barthélemy, 2001:61). For this reason, prior to contract signature, a detailed evaluation and selection of potential vendors must be carried out. The provider must be

chosen from a wide range of IT vendors (Baldwing, Irani & Love, 2001:22); to locate a potential outsourcing provider, an organization should investigate current outsourcing partnerships in the same sector as well as in related industries (Martinsons, 1993:22). It is advisable to analyse the stability, quality and reputation of the provider chosen. After all, technology or business conditions may change during the contract's validity period, which means it is necessary to count on his stability and quality (McFarlan & Nolan, 1995:20) along with his reputation (Barthélemy, 2001:61) to make sure the provider will be a suitable one. The provider's stability and vocation for the future must materialise in the design of a long-range business plan; quality and reputation will be based on staff composition and the range of technological resources.

It is important to see if client and vendor have the right mixture of competences and know-how for the client's information needs to be met. It should equally be checked that their respective organisational culture and working behaviours fit at all levels (Diromualdo & Gurbaxani, 1998:80).

A clear idea of what is sought through outsourcing. A basic condition for outsourcing success is the accurate definition of the project's scope and specifications (Lacity, Willcocks & Feeny, 1996:22; Zviran, Ahituv & Armoni, 2001:332). Unfortunately, many firms resort to outsourcing with only a vague idea of what they want to obtain from the vendor, as a result of the unavoidable uncertainty related both to

technological aspects of the IS service and to the volume of needs that must be met. In other words, they wonder how to identify the technology that will be the most suitable one for the firm in a few years' time or how to determine the amount of data it will handle in future (Barthélemy, 2001:62). For this reason, it is advisable to outsource only those activities that are clearly understood and for which a solid contract can be drawn up. It is also recommended to sign the contract for a length of time that allows the firm to monitor its business requirements (Lacity & Willcocks, 1997:104).

The client firm must make an effort to clarify the business objectives that will be reached through outsourcing: What is the primary intent of the relationship? To reduce cost? To ensure permanent access to new technology? To introduce a radical change in the firm's technological position? To use technology to gain strategic flexibility? Not only is it important to make the objective of outsourcing clear so that we can choose the provider that best fits that objective; different objectives may actually require different styles when handling relationships with providers. When the main aim is cost reduction, a very rigid contract becomes the best choice. However, when trying to gain access to new technology, it is more convenient to establish a flexible relationship with the provider. We can thus restructure both the nature of the services being provided and the technical platform from which these services are supplied (Clarck, Zmud & McCray, 1995:235).

Provider's attention to clients' specific problems. Clients do not want to be treated impersonally, like a number on a list; they want the provider to take into account their special technological and business characteristics. This is why firms are usually advised against standard contracts (Lacity & Hirschheim, 1993b:80; Martinsons, 1993:23), since each organisation is different and will consequently require a different contract (Saunders, Gebelt & Hu, 1997:77).

Frequent client-provider contacts. These contacts will make it possible:

- To build working relationships, confidence, comfort and trust, which takes time, and can involve dealing with problems and difficulties (Clarck, Zmud & McCray, 1995:235; Willcocks, Lacity & Kern, 1999:306). These relationships will result in a partnership-type agreement between client and provider that is essential for outsourcing success (Judenberg, 1994:35; Lee, 2001:332).
- To ensure the provider's extensive acclimatisation to understand his customer's style, standards, and culture. We must bear in mind that management and cultural fit turns out to be a key outsourcing success factor (Hurst & Hanessian, 1995:107; Martinsons, 1993:23; McFarlan & Nolan, 1995:19).
- Good communication between client and vendor. Both parties must agree to communicate effectively to make the outsourcing deal successful for everybody (Baldwing, Irani & Love, 2001:22; Lee & Kim, 1999:53).

- Enable continuity by designing relationships that anticipate change. The intent and ambition for outsourcing may change over the course of the contract as business conditions and technology evolve. Therefore, it is important to foresee shifts in these priorities.
- Set up the relationship structures and management mechanisms that ensure successful work with the outsourcing vendor over time (Diromualdo & Gurbaxani, 1998:80).

A good-value-for-money relationship. The Outsourcing Institute Membership (1998) sees financial justification as one of the top ten outsourcing success factors. Consequently, outsourcing is thought to be successful when such financial-economic expectations as the achievement of a cash infusion, cost reduction, production and transaction cost economies, financial slack or even tax advantages are covered. It is precisely these expectations that numerous authors (Alner, 2001; Ang & Straub, 1998; Baldwing, Irani & Love, 2001; Clarck, Zmud & McCray, 1995; Grover, 1994; Gupta & Gupta, 1992; Hayes, Hunton & Reck, 2000; Jurison, 1995; Lacity & Hirschheim, 1993a; Lacity, Hirschheim & Willcocks, 1994; McFarlan & Nolan, 1995; McLellan, Marcolin & Beamish, 1995; Smith, Mitra & Narshiman, 1998) place among the most important reasons leading firms to consider IS outsourcing.

Top management's support and involvement. The involvement of the top management in IT-related decisions has repeatedly been described as the determining factor for the good or bad performance of IS

departments within organisations (Brabander & Thiers, 1984; Dos Santos, 1989; Feeny, Edwards & Simpson, 1992; Jarvenpaa & Ives, 1991; Kanter, 1992; Rockart, Earl & Ross, 1996; Ross, Beath & Goodhue, 1996; Schein, 1994; Yap, Soh & Raman, 1992). By the same token, senior management support is also crucial in the IT outsourcing process (Zviran, Ahituv & Armoni, 2001:332). Both senior management and IT management involvement is thus required to conduct a rational outsourcing evaluation. When both are involved, each assumes a role that helps reduce political behaviour (Lacity, Hirschheim & Willcocks, 1994:17):

- The senior management assumes the roles of identifying the objectives –either financial, business, or technical–, defining the scope of the outsourcing evaluation, developing bid analysis criteria, and finally verifying the bid analysis.
- The IT management assumes the critical role of creating the detailed request for proposal, evaluating the legitimacy of vendor economies of scale, estimating the effects of price/performance improvements, and providing insights on emerging technologies that might affect the business.

Proper contract structuring. The contract is the materialisation of the outsourcing relationship, which is why research works on outsourcing have recurrently highlighted its relevance (Lacity & Hirschheim, 1993b:80). As some authors point out (Palvia, 1995:271), the contract is very important; you live or die by the contract, you cannot rely on verbal

promises. If an organisation outsources IT, the outsourcing contract is the only certain way to ensure that expectations will be realised. In practice, weak contracting based on inadequate assessment of a vendor bid and backed up by poor monitoring systems, not only results in unanticipated, higher costs; it can create major problems for clients, too (Willcocks, Lacity & Fitzgerald, 1995:341). This is why, even though we admit the contract is not the panacea that guarantees a successful relationship, the contract turns out to be unarguably essential for outsourcing success (Kern & Willcocks, 2002:16).

These are some pieces of advice for proper contract structuring:

- The contract must be as comprehensive as possible, defining all pertinent issues. It must discuss the obligations of each party, cost, duration, terms and conditions (Judenberg, 1994:37). A contract with ambiguities and loopholes that does not specify the client's present and future needs can lead to opportunistic behaviours on the part of the provider (Willcocks, Lacity & Kern, 1999:304).
- The contract must include clauses that refer to its evolution, reversibility, termination and penalisation. Evolution-related clauses will help technology, price and contract scope evolve over time. Reversibility clauses have to do with both material and human reversibility (Barthélemy, 2001:63). One gives the company the option to rebuy premises and equipment from the vendor; the other allows the company to hire employees from the vendor. With such clauses, the company or a new vendor may have to rebuild the entire IT

department. Termination clauses must stipulate the possibility of cancelling the contractual relationship if some aims are not achieved, and cash penalties for poor performance should be contemplated (Lacity & Hirschheim, 1993b:81; Ngwenyama & Bryson, 1999:353).

- The contract must be flexible in order to reflect the evolution of technology and business needs along with the emergence of new competitive services (McFarlan & Nolan, 1995:17). The contract can be viewed as a set of master terms and conditions, with details about the specific work required and the compensation for that work treated as additional components (Judenberg, 1994:38).

RESEARCH METHODOLOGY

After identifying the essential outsourcing success factors from the client point of view, in the literature, we are going to explore how these factors apply to the largest Spanish firms. The reason why we decided that our target population for our outsourcing study should be formed by the largest Spanish firms is similar to that provided by Fink & Shoeib (2003: 305) in the research they carried out in Australia: since no previous data on IS outsourcing in Spain were available, we could not establish population characteristics for our study. Instead, we decided to do a survey on large Spanish organisations, assuming that they would have large IT installations and, therefore, would have greater knowledge and experience with IT outsourcing. In order to determine our target population, we used the directory *Las 5.000 mayores empresas* (The 5,000 largest firms) of *Actualidad Económica* magazine, which was collated with other databases largely used in business studies like Duns and Bradstreet's *50.000 Principales Empresas Españolas* (the 50,000 Main Spanish firms). Among the 5,000 firms with the highest sales, we tried to find in the list of the first database mentioned above which ones had the same telephone numbers and addresses, as this was a symptom revealing that both the IS manager and the structure itself could coincide. Once that information was known to us, we decided to send the questionnaire only to the firm which, having the same telephone number and address as others, had the highest sales.

In this way, we eliminated 584 firms, after which our final database consisted of 4,416 firms, to which was sent a questionnaire along with a

stamped addressed envelope for the questionnaire to be returned. Surveys appear among the most popular methods used by the IS research community (Newsted, Huff & Munro, 1998:553); nevertheless, we had to face the handicap that field studies based on surveys about IS outsourcing do not proliferate, case studies being more common (Aubert, Rivard & Patry, 1996; Baldwing, Irani & Love, 2001; Huber, 1993; Kern & Willcocks, 2000, 2002; Lacity & Hirschheim, 1993a, 1993b; Lacity & Willcocks, 1997; Lacity, Willcocks & Feeny, 1996; Loebbecke & Jelassi, 1999; McLellan, Marcolin & Beamish, 1995; Palvia, 1995; Willcocks & Choi, 1995; Willcocks, Fitzgerald & Lacity, 1996; Willcocks, Lacity & Kern, 1999). However, on the basis of previous literature about this matter, we prepared a questionnaire draft, which was later subjected to a pilot test and a pre-test. 5 out of the 19 questions of the final questionnaire were used in this study (see appendix), as this paper is part of a larger empirical study which deals with a wide range of aspects related to IS outsourcing. The questionnaire's addressee was the IS manager of the firms included in the final database. A new inconvenience arose here, because unlike what happens in other countries, no listings of these managers are available in Spain, which means that the addressee's identity was unknown.

The information obtained in the questionnaire was later elaborated using the statistical program SPSS for Windows and treated with univariant and multivariant statistical methods. Table I shows the study specifications. 357 valid answers were obtained, which represents an 8%

ratio. This is a low ratio if we compare it to that obtained in other studies (like the 17% of Arnett and Jones (1994), the 20% of Corbett (1994), the 19% of Grover, Cheon and Teng (1994), the 25% of Collins and Millen (1995), the 74,5% of Claver et. al (2002) or the 44% of Aubert, Rivard and Patry (2004)). However, the population under study in the said research works was much smaller (252 individuals in Arnett and Jones (1994), 100 in Corbett (1994), 1,000 in Grover, Cheon and Teng (1994), 500 in Collins and Millen (1995), 47 in Claver et. al (2002), 1,410 in Aubert, Rivard and Patry (2004) in contrast with the 4,416 individuals included in the present study). What is more, obtaining an answer in surveys carried out among executives is problematic, particularly so in surveys done with IS executives. This is due to the fact that the rapid technological change, the considerable investments firms have made on IT and the great interest aroused by outsourcing have made these executives become the common target of many surveys (Poppo & Zenger, 1998:862). The firms which answered correctly the questionnaire are representative of the total population in terms of sales and sector, so there is non-response bias¹.

TABLE I

RESULTS

The results of the empirical work will be presented next. Firstly, we are going to show some general features of firms, such as their outsourcing level or the size and characteristics of their IS department. We will need these data in the following section in order to identify the

¹ To verify it we used a difference of means T test and a Chi-square test, respectively. The value of the T was (-1.699) and the signification level was 0.089. The value of the Chi-square was 3.8 and the signification level was 0.151.

most important IS outsourcing success factors, and to know whether these factors are influenced by the above-mentioned features.

The practice of outsourcing and other general characteristics of firms

Table II shows the activities that are typical of an IS department and the outsourcing level in the interviewed firms. We can see that hardware maintenance, followed by programming, software maintenance and systems implementation, are the activities for which an external provider is most frequently sought. However, firms do not often subcontract services such as staff training, network services, and even less systems operations, security, support to end users or e-business solutions.

Except for hardware maintenance, the interviewed firms do not outsource a large part of their IS activities. Instead, they do a kind of outsourcing that we can call selective (Lacity, Willcocks & Feeny, 1996). Besides, the tasks most commonly outsourced can be easily justified. They are the least specific ones, those in which a special attention to clients' characteristics is least required. In other words, they are rather standardised activities.

TABLE II

We check that IS outsourcing is a widespread phenomenon, since only 14.3% of the interviewed firms do not outsource any information management activities (Table III), but we have also verified that the

decision to outsource or not is not associated with any specific characteristic of the firm. This is why we have created a new variable, called 'outsourcing level', which receives value 1 if the outsourcing level is above the mean (the median in this case) and value 0 otherwise. The outsourcing level variable will help us determine if the firms' higher or lower outsourcing level conditions IS outsourcing success factors. Thanks to the way in which this variable was designed, a fair distribution of firms with outsourcing levels above and below average is possible.

The size of a firm can be measured by number of employees and sales. Table III shows that the interviewed firms are very large with respect to these two variables, since the lowest percentages are found in the smallest firms (only 6.2 % of them have between 0 and 50 workers and 10.1% turn over up to 5 billion pesetas, ca. 30 million €).

Most of the interviewed firms belong to the Industrial sector (58.8%), followed by the Service sector, in which one third of the firms are included. We have detected that 8.1% of the answers came from firms belonging to the Financial Institutions and Insurance sector.

Despite the size of firms, IS departments do not have a large staff volume. As shown in Table III, most firms have between 1 and 10 employees, and only very few have IS departments with more than 100 employees. The budget firms allocate to IS with respect to the firm's total budget is equally quite low. It can also be seen in the same table that

most firms dedicate between 0 and 4% of their budgets to IS, and only very few dedicate more than 11% to this department, the maximum budget percentage allocated to IS being 30% (we must point out that the question referring to the percentage of the budget dedicated to IS was the least answered one in the whole survey, which means that results about this aspect must be treated with caution). In short, both the IS department staff volume and the percentage of the budget allocated to this function prove that, regardless of firm size, only few human or financial resources are assigned to these services.

TABLE III

IS outsourcing success factors

Table IV shows the most relevant factors for success in an IS outsourcing relationship according to the IS managers of the firms interviewed². In the corresponding question, and following the guidelines of previous works (Collins & Millen, 1995), interviewees were asked to identify, among a number of factors included in a given list, the three most significant IS outsourcing success factors (N represents the number of times a factor was ranked among the top three). Firstly, provider's understanding of the objectives the client seeks to reach through outsourcing is the most important factor. In second place comes choosing the right provider, and finally, the client's clear vision of the relationship's aim takes third place. Other factors that we also held as very important, have been little valued in the survey and appear at a great distance from

² The order in which are presented the success factors in the section about the literature review is the same as the ranking in Table IV, to make it easier to understand the results.

the three above-mentioned top-three factors. Examples are provider's attention to clients' specific problems, frequent client-provider contacts or a good-value-for-money relationship. It specially surprised us that proper contract structuring is the least valued factor, despite the relevance it has in literature.

As a summary of Table IV, we can point out that the factors presented to the interviewees reflect quite faithfully those which determine IS outsourcing success, since even the least often selected was described as important in 21.6% of the cases.

TABLE IV

We will now try to check the existence of dependence relationships between the different factors that favour success in an outsourcing relationship and the different characteristics of firms (all at $p < 0.05$). To start with, no dependence relationship exists between those factors and firms' outsourcing level (see Table V).

TABLE V

On the other hand, we do observe some dependence relationship between outsourcing success factors and firms' number of workers. For instance, firms with fewer workers focus more on provider's attention to clients' specific problems, while firms with more workers see proper contract structuring as the most relevant factor. This can be seen in Table VI.

TABLE VI

Dependence relationships can also be found (in Table VII) between outsourcing success factors and firms' sales. Thus, whereas provider's attention to clients' specific problems is the most relevant success factor for firms with lower sales, firms with higher sales assign much more importance to proper contract structuring.

TABLE VII

On the other hand, no dependence relationship seems to exist between success factors and activity sectors, as can be verified in Table VIII.

TABLE VIII

We did find some dependence relationships, instead, between outsourcing success factors and IS department staff volume (see Table IX). More precisely, firms with fewer staff are the ones which most value provider's attention to clients' specific problems. This is probably so because they need staff to attend to IS needs, and since in-house staff is scant, they seek that support outside the firm. On the contrary, proper contract structuring is the most important factor for firms with more staff in their IS departments, that is, they are more concerned about contractual relationships than about personal ones.

TABLE IX

Finally, we tried to verify the existence of dependence relationships between outsourcing success factors and the total percentage each firm dedicates to IS. From the results obtained, it can be inferred that no dependence relationship exists, as can be seen in Table X.

TABLE X

SUMMARY AND CONCLUSIONS

IS outsourcing is a widespread phenomenon worldwide, and is also very common among large Spanish firms, although they usually outsource a small proportion of their IS activities, the most often outsourced being the least specific activities (e.g. hardware maintenance, software programming and maintenance, etc.). For this reason, these large Spanish firms can be said to apply a selective type of outsourcing.

Despite the large size of the firms interviewed (in terms of both sales and number of workers), certain resource lacks in IS departments become visible judging by the staff volume in those departments and the budget allocated to IS activities.

The main outsourcing success factors for large Spanish firms are, in order of priority, the provider's understanding of clients' objectives, choosing the right provider, and the client's clear idea of what is sought through outsourcing. The fact that proper outsourcing contract structuring is the least valued aspect among the group of firms interviewed becomes really surprising if we take into account that it is one of the most relevant factors according to the literature.

However, when we analyse results, and depending on some firm characteristics, relationships between the size of the firm and that of the IS department are detected (no such relationships exist between success

factors and other features such as the outsourcing level, the economic sector or the percentage of the budget dedicated to IS). Thus, the largest firms (in terms of sales and number of workers) among those we interviewed, which also had more IS staff, are the ones which see proper contract structuring as the most relevant success factor, while smallest firms (also in terms of sales and staff) assign much more importance to the attention the provider must pay to clients' specific problems.

A possible explanation for these results lies in the fact that the smallest firms, which also have fewer IS staff, try to make up for their lacks in this area with a more customised attention on the part of the provider. On the contrary, the largest firms, which have more IS resources available, seek a more distant relationship regulated through a suitable contract.

We must highlight the sixth place (on a ranking of eight) for the factor called 'a good-value-for-money relationship'. This low position with respect to other factors shows that, although financial-economic justification has been one of the most typical reasons for IS outsourcing, other equally important or even more important motives leading to the outsourcing decision appear in IS managers' minds.

We must finally point out that the proposed success factors must be considered if we want IS outsourcing to be successful, as all of them have proved to be important in the case of the largest Spanish firms.

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APPENDIX: QUESTIONNAIRE

1. What percentage of the following activities is carried out through *outsourcing*?

Percentage	Activity	Percentage	Activity
<input type="text"/> %	Applications analysis	<input type="text"/> %	Systems Operation
<input type="text"/> %	Support to end users	<input type="text"/> %	Programming
<input type="text"/> %	Staff and/or user training	<input type="text"/> %	Security
<input type="text"/> %	Systems implementation	<input type="text"/> %	Network service
<input type="text"/> %	Hardware maintenance	<input type="text"/> %	E-business solutions
<input type="text"/> %	Software maintenance	<input type="text"/> %	Others (specify)

2. Put a tick on the top three outsourcing success factors

☐	Top management's support and involvement	☐	Proper contract structuring
☐	Provider's attention to clients' specific problems	☐	Choosing the right provider
☐	A good-value-for-money relationship	☐	Frequent client-provider contacts
☐	Provider's understanding of clients' objectives	☐	Others (specify)
☐	A clear idea of what is sought through outsourcing		

The organisation's profile and the Information Systems Department's profile

3. The organisation size (year 2000) and its age.

Staff	Sales (billions of pesetas*)	Date of creation
☐ 0-50	☐ Until 5	<input type="text"/>
☐ 51-100	☐ More than 5 until 10	
☐ 101-500	☐ More than 10 until 15	
☐ 501-1,000	☐ More than 15 until 25	
☐ 1,001-25,000	☐ More than 25 until 50	
☐ Over 25,000	☐ More than 50 until 100	
	☐ More than 100	

* One euro equals 166,386 pesetas

4. Sector

5. The Information Systems Department/Service's profile (in the year 2000).

IS department staff	<input type="text"/> Workers	Department's date of creation	<input type="text"/>
Department's name	<input type="text"/>		
Percentage of the IS budget in relation to the total organisational budget	<input type="text"/> %		

Table I: *Study technical specifications*

<i>Scope</i>	Spain
<i>Population</i>	4,416 largest Spanish firms (by sales)
<i>Sample size</i>	357 valid answers (8%)
<i>Sampling error</i>	5%

Table II: *Outsourced IS activities (percentages)*

IS Activities	N	Minimum	Maximum	Mean	Ranking
Hardware maintenance	357	.0	100.0	64.1	1st
Programming	357	.0	100.0	41.6	2nd
Software maintenance	357	.0	100.0	39.4	3rd
Systems implementation	357	.0	100.0	38.4	4th
Staff and/or user training	357	.0	100.0	29.8	5th
Network service	357	.0	100.0	25.9	6th
Applications analysis	357	.0	100.0	24.3	7th
Systems operation	357	.0	100.0	21.3	8th
Security	357	.0	100.0	19.4	9th
Support to end users	357	.0	100.0	18.7	10th
E-business solutions	357	.0	100.0	14.9	11th

Table III: *General characteristics of firms*

<i>Outsourcing</i>	N	%
No	51	14.3
Yes	306	85.7
<i>Outsourcing Level</i>		
Below the mean	175	49.0
Above the mean	182	51.0
<i>Staff</i>		
0-50	22	6.2
51-500	202	56.6
Over 500	132	36.9
Lost	1	0.3
<i>Sales (billions of pesetas*)</i>		
Up to 5	36	10.1
More than 5 up to 50	227	63.6
More than 50	93	26.0
Lost	1	0.3
<i>Sector</i>		
Industry	210	58.8
Services	118	33.1
Financial and insurance institutions	29	8.1
<i>IS staff</i>		
1-10 Employees	240	67.2
11-100 Employees	96	26.9
101-400 Employees	5	1.4
Lost	16	4.5
<i>Budget percentage allocated to IS</i>		
0-4	133	37.2
5-10	61	17.1
11-30	18	5.1
Lost	145	40.6

* 1€ is 166,386 pesetas

Table IV: *IS outsourcing success factors*

Factors	N	%	Ranking
Provider's understanding of clients' objectives	197	64.4	1st
Choosing the right provider	164	53.6	2nd
A clear idea of what is sought through outsourcing	151	42.3	3rd
Provider's attention to clients' specific problems	87	28.4	4th
Frequent client-provider contacts	81	26.5	5th
A good-value-for-money relationship	78	25.5	6th
Top management's support and involvement	71	23.2	7th
Proper contract structuring	66	21.6	8th

Table V: *Chi-square test: outsourcing level and IS outsourcing success factors*

	Chi-square	Sign.
Top management's support and involvement	0.045	0.832
Provider's attention to clients' specific problems	0.004	0.948
A good-value-for-money relationship	0.011	0.917
Provider's understanding of clients' objectives	0.867	0.352
Frequent client-provider contacts	0.555	0.456
Proper contract structuring	0.126	0.722
Choosing the right provider	0.011	0.915
A clear idea of what is sought through outsourcing	0.952	0.329

Table VI: *Chi-square test: staff and IS outsourcing success factors*

		Staff		Total	Chi-square	Sign.
		Up to 500	From 500			
Provider's attention to clients' specific problems	No	126 (57.5%)	93 (42.5%)	219 (100%)	6.796	0.009
	Yes	64 (73.6%)	23 (26.4%)	87 (100%)		
Proper contract structuring	No	156 (65.0%)	84 (35.0%)	240 (100%)	3.999	0.046
	Yes	34 (51.5%)	32 (48.5%)	66 (100%)		
Top management's support and involvement					0.339	0.561
A good-value-for-money relationship					1.526	0.217
Provider's understanding of clients' objectives					2.418	0.120
Frequent client-provider contacts					0.036	0.850
Choosing the right provider					0.263	0.608
A clear idea of what is sought through outsourcing					1.842	0.175

Table VII: *Chi-square test: sales and IS outsourcing success factors*

		Sales		Total	Chi-square	Sign.
		Up to 15*	From 15*			
Provider's attention to clients' specific problems	No	91 (41.6%)	128 (58.4%)	219 (100%)	12.984	0.000
	Yes	56 (64.4%)	31 (35.6%)	87 (100%)		
Proper contract structuring	No	124 (51.7%)	116 (48.3%)	240 (100%)	5.866	0.015
	Yes	23 (34.8%)	43 (65.2%)	66 (100%)		
Top management's support and involvement					3.490	0.062
A good-value-for-money relationship					2.939	0.086
Provider's understanding of clients' objectives					0.397	0.529
Frequent client-provider contacts					0.570	0.450
Choosing the right provider					0.544	0.461
A clear idea of what is sought through outsourcing					2.977	0.084

*Billions of pesetas.

Table VIII: *Chi-square test: sector and IS outsourcing success factors*

	Chi-square	Sign.
Top management's support and involvement	2.570	0.277
Provider's attention to clients' specific problems	1.060	0.589
A good-value-for-money relationship	0.093	0.955
Provider's understanding of clients' objectives	4.078	0.130
Frequent client-provider contacts	0.051	0.975
Proper contract structuring	1.323	0.516
Choosing the right provider	5.497	0.064
A clear idea of what is sought through outsourcing	0.435	0.805

Table IX: *Chi-square test: IS staff and IS outsourcing success factors*

		IS staff		Total	Chi-square	Sign.
		Up to 5	From 5			
Provider's attention to clients' specific problems	No	75 (35.5%)	136 (64.5%)	211 (100%)	11.519	0.001
	Yes	47 (57.3%)	35 (42.7%)	82 (100%)		
Proper contract structuring	No	104 (45.8%)	123 (54.2%)	227 (100%)	7.234	0.007
	Yes	18 (27.3%)	48 (72.7%)	66 (100%)		
Top management's support and involvement					0.037	0.847
A good-value-for-money relationship					1.305	0.253
Provider's understanding of clients' objectives					0.446	0.504
Frequent client-provider contacts					0.016	0.898
Choosing the right provider					0.016	0.898
A clear idea of what is sought through outsourcing					0.180	0.671

Table X: *Chi-square test: IS budget percentage and IS outsourcing success factors*

	Chi-square	Sign.
Top management's support and involvement	0.822	0.364
Provider's attention to clients' specific problems	0.025	0.874
A good-value-for-money relationship	0.371	0.543
Provider's understanding of clients' objectives	0.151	0.697
Frequent client-provider contacts	0.090	0.764
Proper contract structuring	0.989	0.320
Choosing the right provider	2.479	0.115
A clear idea of what is sought through outsourcing	0.127	0.722