

# **Information Systems Outsourcing Reasons in the Largest Spanish Firms.**

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**Abstract:** The aim of this paper is to explore the reasons that lead to Information Systems outsourcing in the largest Spanish firms. Our paper takes as its starting point previous literature on Information Systems and tries to analyse if those reasons are related to the outsourcing level as well as to the different characteristics of the firm and its Information Systems department. With this aim, a survey was made among Information Systems managers in those firms. The results show that outsourcing gives the firms the possibility of enhancing their Information Systems services and departments.

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## **1. 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; Georgantzias, 2001:171-2; Tetteh & Burn, 2001:171-2). 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 & Whiston, 1996:179). Some of the activities in which firms most often opt for outsourcing at present are those related to information management; as a matter of fact, outsourcing is one of the information services that has developed the most in recent years (Baldwin, Irani & Love, 2001:16; Bryce & Useem, 1998:635; Caldwell, 1996:51; Heeks, Krishna, Nicholson & Sahay, 2001:54; Kern, Willcocks & Van Heck, 2002:47; Lacity & Willcocks, 1998:363; Marchand & Jacobsen, 2001: 315; McLellan, Marcolin & Beamish, 1995:300; Palvia, 1995:265; Shepherd, 1999:64; Udo, 2000:422; Willcocks, Lacity & Kern, 1999:285).

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 indefinite and can affect the client firm's whole IS, or only a part of it. This type of services became popular in the 1990's, after the spread of the success achieved by Eastman Kodak with the outsourcing of its IS (Loh & Venkatraman, 1992). Although the IS industry had not previously used the term outsourcing explicitly, such services date back to the early years of introduction of this technology into the business world (Cheon, Grover & Teng, 1995:210; Earl, 1996:26; Nam, Rajagopalan, Rao & Chaudhury, 1996:36) under the format of *facilities management* and *shared time* services.

Where does the success of IS outsourcing lie? What advantages does this way of managing IS have? The *Transaction Costs Theory* serves as a basis for the analysis of decisions related to IS outsourcing, which is why various authors have applied it to this

end (Ang & Straub, 1998; Aubert, Rivard & Patry, 1996; Buck-Lew, 1992; Cheon, Grover & Teng, 1995; Jurison, 1995; Lacity & Willcocks, 1995; Nam et al. 1996). That theory, originally developed by Williamson (1975), explains the reasons due to which firms produce certain goods or services internally or acquire them outside the firm through a transaction in the market, considering whether transaction costs (of negotiating and establishing relationships with external providers) exceed or not production and coordination costs using the firm's own staff.

This paper has as its aim to explore the reasons that lead to the IS outsourcing decision in the context of the largest Spanish firms. Our work's starting point is the previous literature on outsourcing fundamentals or reasons, but it differs from that literature in the fact that, apart from analysing those reasons, we try to see if they are related to the outsourcing level and the different characteristics of the firm (like its size or its sector) and its IS department. We also try to find different types of firms, classified according to the reasons that led them to outsourcing. In order to reach that objective, we will first proceed to list the reasons mentioned in the existing literature on this matter after which the methodology, results and conclusions of the empirical work will be presented.

## **2. The Reasons Behind IS Outsourcing Decisions**

TABLE 1

Multiple studies have analysed the reasons that most often lead to IS outsourcing. Table 1 provides a summary of the main works in this field. We can see in the table that economic considerations are important in the firm's decision to resort to outsourcing; by drastically reducing IS department size, we can transform fixed costs into variable ones and, if the contract has been properly managed, into foreseeable costs (Alner, 2001:35). The client knows what it will cost him to receive those services (Gupta & Gupta, 1992:45) and, in some cases, he may pass cost excess on to the vendor. On the other hand, the client firm and the providing firm can take advantage of the economies of scale and scope obtained by the latter (Grover, Cheon & Teng, 1994:37) (Jurison, 1995:239). It is easier and faster for the providing firm to achieve a return on equipment-related fixed costs, as this firm delivers services to many clients, thus achieving economies of scale. The firm also obtains economies of scope (Hayes, Hunton

& Reck, 2000:110) because it performs a wide variety of tasks related to IT. Another economic reason is the possible cash injection (Alner, 2001:36; Jurison, 1995:239; Smith, Mitra & Narasimhan, 1998:65) obtained by the client when he transfers certain IS assets to the service supplier.

However, there are not only economic reasons behind outsourcing. We can detect a whole group of strategic or business factors that drive firms to IS outsourcing. Somehow, market forces are forcing firms to outsource anything that is not their core business (Gupta & Gupta, 1992:46), and outsourcing makes it easier for firms to focus on their basic competencies (Grover, Cheon & Teng, 1996:93; Hayes, Hunton & Reck, 2000:110; Lacity, Hirschheim & Willcocks, 1994:10; Smith, Mitra & Narasimhan, 1998:64). In this way, outsourcing liberates line executives, who do not have to coordinate themselves with a large IS department, and the organisation is simplified too. Because the most monotonous, routine activities have been outsourced, computer experts can concentrate on IS key activities (Grover, Cheon & Teng, 1994:37; Gupta & Gupta, 1992:46).

On the other hand, we find advantages related to IS staff. For instance, outsourcing facilitates access to specialised IT management, as the supplying firm finds itself in a more advantageous position to select, train and manage technology staff. In this way, the client has access to the knowledge of high-level specialists who do not have to belong to his own staff (Alner, 2001:36). Outsourcing can additionally permit a better exploitation of the time and wit of the computer experts hired by the firm. These experts are often too highly qualified to perform routine tasks, which means that they find advantages in the outsourcing of non-critical –but daily and time-consuming– tasks that allows them to concentrate on more specialised work. As is stated by Slaughter & Ang (1996:47), IS work is characterised by the deterioration of knowledge and the shortage of specific knowledge, and retaining the workforce with the required skill can be prohibitively expensive for a firm. With outsourcing, this problem is going to be assumed by the vendor.

Outsourcing also brings client firms advantages related to technology (Jurison, 1995:239; Lacity, Hirschheim & Willcocks, 1994:9). The client can have access to leading-edge

technology, without having to assume the risk of obsolescence (Clark, Zmud & McCray, 1995:229; Grover, Cheon & Teng, 1996:93). On the other hand, the providing firm does not have to assume a great risk either, as that risk is distributed among its wide range of clients.

Finally, we could mention other factors related to business policy which derive, amongst other things, from the possibility of repeating the success achieved by other firms that have outsourced (Smith, Mitra & Narasimhan, 1998:64), eliminating a function that becomes problematic or complicated for the top management (Lacity, Willcocks & Feeny, 1996:13; McFarlan & Nolan, 1995:13), or from the intention of IS managers themselves to cause a good impression by subjecting their function to outsourcing, through which they appear as businessmen committed to corporate goals –not only as technocrats– who are willing to outsource for the good of the firm (Lacity, Hirschheim & Willcocks, 1994:17).

Apart from all these reasons that lead to outsourcing, a whole series of risks exist that are associated with this option, e.g. the potential security problems related to the service, the unclear balance between costs and benefits, the possible IS staff opposition, the excessive dependence on the supplier, the inability to adapt to new technologies, the irreversibility of the decision once it has been made, the hidden costs generated by the contract, or the loss of basic knowledge in the client organisation (Akomode, Lees & Ingens, 1998; Barthélemy, 2001; Dué, 1992:79-80; Earl, 1996:26-32; Fried, 1995:160-164; King & Malhotra, 2000; Lacity & Hirschheim, 1993b; Martinsons, 1993; Meyer, 1994:24; Palvia, 1995:269-270; Shepherd, 1999:65; Willcocks, Fitzgerald and Lacity, 1996:51, Willcocks, Lacity and Kern, 1999; Willcocks, Lacity and Fitzgerald, 1995). These risks will be greater if the client firm opts for total outsourcing, which is why a more intelligent alternative would be to resort to selective outsourcing (Judenberg, 1994:34; Jurison, 1995:239; Lacity, Willcocks & Feeny, 1995:89; Lacity, Willcocks & Feeny, 1996; Willcocks & Choi, 1995:77; Willcocks, Fitzgerald & Feeny, 1995:65).

### **3. Research Methodology**

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 have used the directory *Las 5.000 mayores empresas* (The 5,000 largest firms) of *Actualidad Económica* magazine, which has been collated with other databases largely used in business studies like Duns and Bradstreet. *50.000 Principales Empresas Españolas* (the 50,000 main Spanish firms). Among the 5,000 firms with the highest turnover, 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. We found the handicap that field studies based on surveys on IS outsourcing do not proliferate, case studies being more common (Aubert, Rivard & Patry; 1996; Baldwing, Irani & Love, 2001; Huber, 1993; Kern & Willcocks, 2000; Kern & Willcocks, 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 literature on this matter (Arnett & Jones , 1994; Clark, Zmud & McCray, 1995; Collins & Millen, 1995; Corbett, 1994; Grover, Cheon & Teng, 1994) 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, 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 lists about 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 2 shows the study specifications.

TABLE 2

#### **4. Results**

We now present the results of the empirical work; firstly, we show some general features of the firms, such as their outsourcing level or the size and characteristics of their IS department. These data are necessary to be able to check, in the following subsection, what the reasons are to outsource, and whether these reasons are influenced by the above-mentioned features. We will finally provide a typology of firms, according to which reasons are most important for outsourcing.

##### *4.1. General characteristics of the firms*

Table 3 shows the outsourcing levels of the target firms and some of their general features. We check that IS outsourcing is a widespread phenomenon, since only 14.3% of the interviewed firms have not outsourced any IS services. The outsourcing level variable will help us to determine if the firms' higher or lower outsourcing level conditions the reasons these firms have to outsource their IS services. 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 the number of employees and its sales. Table 3 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 the firms, IS departments do not have a large staff. As is shown in Table 3, 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 to 11% to this department, the maximum budget percentage allocated to IS being 30% (we must point out that the percentage of the budget dedicated to IS was the question in the study which had the least answers, which means that questions referring to this aspect must be treated with caution). In short, both the IS department staff 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 departments.

TABLE 3

*4.2. Outsourcing reasons*

Table 4 shows the reasons leading to the outsourcing of IS services. We must say that, in the corresponding question and following the pattern of previous studies (Collins & Millen, 1995:8), the interviewees were asked to identify the three reasons they considered to be the most important ones. Therefore, the resulting variables are dichotomical, with a 0 value if they have not mentioned a certain reason and a 1 value if they have; the N in the table indicates the number of times interviewees have placed one particular reason among the three most important ones.

TABLE 4

We can see that the most important reasons are, in order of priority, the possibility that outsourcing offers to focus on IS strategic matters, the potentially increased IS department flexibility, and the chance to improve quality and to get rid of monotonous, problematic tasks that are precisely the ones firms try to outsource. The reasons based on staff or technology cost savings do not appear among the ones most often mentioned by interviewees (they are ranked 5<sup>th</sup> and 7<sup>th</sup>). Having access to new technologies does



not appear either as one of the most relevant reasons, as it is ranked 6<sup>th</sup>. In short, we can say that, in general, reasons for IS outsourcing spin around the improvement of the IS department and of the services it supplies, reasons related to costs or the correction of technological deficiencies being less important.

Next, we are going to relate outsourcing reasons to other features of the firms such as outsourcing level and the size and characteristics of its IS department with the aim of determining whether or not those reasons depend on the firm's profile<sup>1</sup>.

In first place, firms with the highest outsourcing level are the ones which choose outsourcing mostly to reduce staff costs and to make easier access to new technologies; however, this does not mean that they want to find alternatives to in-house IS, as these are the firms that least mention this reason.

On the other hand, firms with the lowest number of workers are the ones that most often claim outsourcing can be a way to have access to new technologies and those that least resort to outsourcing to be able to focus on strategic aspects of the corresponding department.

Regarding the possible relationships between the reasons to outsource mentioned by the different firms, depending on their sales level, the following ones have been detected:

- Firms with the lowest sales are the ones that most often seek outsourcing as a way to save on technology.
- These firms are also the ones that most often view outsourcing as a way to facilitate access to new technologies.
- Besides, these firms see in outsourcing a possibility to improve IS service quality.
- On the contrary, firms with a higher sales level are the ones that most often resort to outsourcing to be able to focus on the most strategic IS problems, while firms with less sales level are the ones that least mention this reason.

It can be deduced that smaller firms in terms of sales and number of workers seek outsourcing basically as a way to gain access to new technologies, not with the aim of focusing on strategic aspects, unlike what happens in larger firms.

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<sup>1</sup> Contingency tables and the chi-square test were applied to determine the rest of the results in the subheading 4.2. Readers could apply for further details to the corresponding author.

We can also find important dependence relationships between outsourcing reasons and the sector the firm belongs to. On the one hand, insurance and financial institutions are the ones that have least resorted to outsourcing in order to have access to new technologies. We assume they have such sophisticated IS departments that the acquisition of leading-edge technology must be controlled internally, without relying on external suppliers. However, service firms are the ones that resort the most to outsourcing for this reason. On the other hand, financial and insurance institutions have not resorted to outsourcing in order to improve IS service quality either, a strategy that is more commonly adopted by industrial firms though.

We can also see that the size of the IS department staff is somehow related to the most often mentioned outsourcing reasons. Thus, firms with fewer staff in their IS departments are the ones that most often resort to outsourcing in order to save costs on technology, to facilitate access to new technologies and to improve the quality of the service supplied (in short, to correct deficiencies), these being reasons that were less often mentioned by firms with more staff. The latter resort more to outsourcing with the aim of focusing on IS strategic issues.

#### *4.3. Cluster analysis of outsourcing reasons*

Our next task was going to consist in carrying out a cluster analysis based on the variables that define outsourcing reasons<sup>2</sup>. The objective of this analysis is to group firms according to the different reasons that made them resort to outsourcing. This type of analysis is usually performed on the basis of the factor scores of each case with respect to the factors formed in a principal components factor analysis. However, it is not convenient to do a factor analysis in this case, which is why we must work with the question's original references that have to do with outsourcing reasons. We excluded the *joining the fashion* variable, because, due to the fact that many scores equal zero, the results become distorted (it must be remembered that we are working with dichotomical variables of value 0, if a specific reason does not score, and value 1, if that reason scores).

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<sup>2</sup> Readers could apply for further details about the cluster analysis to the corresponding author.

Once the variables that are going to intervene in the cluster analysis have been chosen, we first carry out a hierarchical conglomerate analysis (in this case, using the Inter-Group Link Method –the most suitable method for ordinal or dichotomical variables), with which we want to identify the ideal number of clusters or groups. Later, after deciding the number of groups, a non-hierarchical method is used to form these groups, and results are validated with the ANOVA analysis or the corresponding non-parametric test (the Kruskal-Wallis test).

In this sense, with the aim of selecting the groups in the hierarchical method, we pay attention to the dendrogram and the agglomeration coefficient. In our study, the number of cases is so high (357 observations) that the dendrogram (a graph that represents the way in which the different groups have been formed, that is to say, it shows how similar or different observations are to one another) becomes nearly impossible to interpret. For this reason, we will have to take the agglomeration coefficient as the basis for the determination of the number of groups.

The analysis of agglomeration coefficients reveals that the most suitable number of clusters is three, as working with three groups makes it possible to see the greatest differences in coefficient percent changes. Taking this into account, we again selected variables related to outsourcing reasons and carried out a non-hierarchical conglomerate analysis (the k-means method), validating the result with an ANOVA analysis and checking that this analysis is appropriate, because all the variables included in it are relevant.

The three resulting groups are formed by 125 cases in the first one, 116 in the second, and 65 cases in the last group. Therefore, out of 357 interviewed firms, there are 51 firms we have not been able to classify in any of the clusters. These 51 firms are the ones which have outsourced no IS activities (see Table 3) and thus have not answered the questions about outsourcing reasons. Then we must proceed to interpret the three groups that have been created and identify, in turn, the differences existing between them.

The first cluster (with 125 firms) is made up of firms which assign more importance to the following outsourcing reasons: increasing IS department flexibility, having an easier

access to new technologies and being able to focus on the most strategic IS matters. The same firms give lower scores to the following outsourcing reasons: saving technology costs and saving staff costs. Therefore, this group is formed by *firms which resort to outsourcing mainly to improve their IS, without worrying so much about the costs this generates.*

The second cluster is made up of 116 firms, which value, above all, staff cost saving as the main outsourcing reason. However, these are the firms that give the lowest scores to other reasons such as the possibility of getting rid of monotonous, problematic tasks, the improvement of IS service quality and providing alternatives to in-house IS. Therefore, this group includes *firms seeking staff cost saving without worrying about improving IS.*

The third cluster is formed by 65 firms which give the highest scores to the following outsourcing reasons: saving technology costs, getting rid of IS monotonous, problematic tasks, improving service quality, and providing alternatives to internal IS. These firms are the ones which give the lowest scores to other reasons such as: increasing IS department flexibility, facilitating access to new technologies, and focusing on IS strategic problems. In short, this group is made up of *firms which basically justify outsourcing as a way to save on technology but also as a way to improve IS; however, they do not see in outsourcing the possibility of focusing on the strategic problems of this service.*

The first cluster is the most numerous one with 125 firms, which confirms the significant improvement outsourcing can bring to firms' IS. Nevertheless, we must also bear in mind that a considerable number of firms (116) are located in the second cluster, which also reminds us that many firms do not seek outsourcing in order to improve their service, but mainly to save staff costs.

After describing these characteristics, it would be interesting to check if each group can be identified with a specific type of firm, based on their outsourcing level, their size, their activity sector, as well as other characteristics that are typical of an IS department like its staff or its budget. However, the statistical analysis shows the absence of dependence relationships; in other words, there is no direct correspondence between each cluster and a specific firm size, a sector or a type of IS department.

## **5. Summary and Conclusions**

The most important reasons why large Spanish firms outsource their IS activities are, in order of priority, the possibility outsourcing gives to focus on IS strategic matters, the possible increase in IS department flexibility, and the chance to get rid of routine, problematic tasks, the ones firms are trying to outsource. In general, the reasons to outsource IS focus on the improvement of the IS department and the services it supplies, reasons related to costs and correction of technological deficiencies being less important.

The reasons to outsource IS are mainly influenced by the size of the firm and the sector it belongs to, the outsourcing level and the size of the staff dedicated to IS being very relevant too. We conclude that smaller firms in terms of turnover and number of staff basically resort to outsourcing in order to gain access to new technologies and not to focus on strategic aspects, unlike what happens in larger firms. On the other hand, insurance and financial institutions are the ones which least resort to outsourcing to make easier access to new technologies and to improve IS quality. We suppose that they have IS departments that can control by themselves the acquisition of leading-edge technology, without having to rely on external suppliers. However, industrial firms are the ones that resort the most to outsourcing in order to improve quality, while service firms seek access to new technologies, which reveals possible shortages in the field of IT in these sectors.

Then, we set ourselves the task of carrying out a cluster analysis based on the variables that define the reasons for the success of outsourcing. The objective of this analysis is to group firms according to the different reasons that led them to outsourcing. The first group is formed by firms that resort to outsourcing mainly to improve their IS, without paying so much attention to the costs this generates. The second cluster is made up of firms seeking staff cost saving without worrying about IS improvement. The third cluster includes firms which justify outsourcing as a way to save on technology, but also to improve IS; however, they do not see in outsourcing an opportunity to focus on the strategic problems of this service. The first cluster is the most numerous one with 125 firms, which proves the significant improvement outsourcing can bring to firms' IS.

Nevertheless, we must also bear in mind that a considerable number of firms (116) are located in the second cluster, which also reminds us that many firms do not seek outsourcing in order to improve their service, but mainly to save staff costs. There is no direct correspondence between each cluster and a specific firm size, sector or type of IS department, which has prevented us from confirming or denying the associations mentioned in the previous paragraph.

Regarding the limitations of our study, we can first refer to those derived from the use of the questionnaire as the essential method to obtain results. Even though there is the advantage of being able to address a large population, there are also important disadvantages: the qualitative information collected in a personal interview or through direct observation is richer. In surveys, interviewees may have answered what is politically correct, not what is real.

Other limitations can result from the design of the questionnaire, in which we gave up the wealth of the information obtained (and even the potential application of statistical methods better than the ones we used) and looked for simple answers, trying to maximise the number of surveys answered. This is why the question about outsourcing reasons gives rise to dichotomical variables, which limits us quite a lot in terms of performing certain statistical analyses (for instance, factor analysis).

Some of these limitations could be overcome in future by carrying out a Delphi analysis in which we would ask the IS managers who have showed interest in our study for their collaboration.

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Table 1: *Outsourcing reasons: a background on literature*

| REASONS   | ARGUMENT  |
|---|---|
| <b>Ahner (2001:35-36)</b>   |   |
| <i>Cost reduction</i>   | Long-term outsourcing contracts convert variable costs into fixed costs, and make technology spending more predictable.   |
| <i>Tax advantage</i>  | Tax advantage comes from the ability to deduct the expense of outsourcing fees from current year earnings as opposed to depreciating an internal data processing department's hardware assets over time.  |
| <i>Yielding capital</i>   | Outsourcing agreements can yield capital for cash strapped organizations if the outsourcer purchases the client's hardware assets.  |
| <i>Cash flow improvements</i>   | Companies that outsource enjoy cash flow improvements resulting from the transfer of software licenses and personnel to the outsourcer.   |
| <i>Guaranteed service and system availability</i>                           | Outsourcing providers guarantee service and system availability.  |
| <i>The client can focus on business planning</i>                            | In an outsourcing relationship, software and hardware upgrades become the concern of the outsourcer rather than a distraction to the senior management.   |
| <i>Hiring and retaining highly-trained technology professionals</i>         | The core business focus of outsourcing providers is on technology, so their staff are well-informed of emerging technologies and their implementation within specific industries.   |
| <b>Ang &amp; Straub (1998:537-538)</b>                                      |   |
| <i>Production cost economies</i>  | A firm will choose to outsource or insource on the basis of the comparative costs of internalising IS as opposed to the price it has to pay vendors for the same IS services.   |
| <i>Transaction cost economies</i>   | Transaction costs refer to the effort, time, and costs incurred in searching, creating, negotiating, monitoring, and enforcing a service contract between buyers and suppliers. Firms may opt for internal sourcing when they perceive transaction diseconomies to override any production cost advantages in market exchanges.   |
| <i>Financial slack</i>  | If investments in IT can promote social prominence and public prestige, managers are induced to invest slack resources on internalising IS services. When slacks resources are low, firms can be expected to downsize internal IS services by selling off IT assets and reducing IS staff expenses.   |
| <b>Baldwing, Irani &amp; Love (2001:23)</b>                                 |   |
| <i>Strategic and organizational</i>   | Focusing on core business. Eliminating a troublesome IT function. Gaining access to high-quality IT services and skills. Reducing a backlog of application developments. Restructuring of IT, i.e. downsizing. Handling fluctuating IT demands. Exploiting new technologies. Market testing. Share risk and rewards. Quick response to IT needs. Accelerating reengineering benefits.   |
| <i>Policy and other reasons</i>   | Government legislation. Credibility enhancement. Solving internal conflicts. Reaction to the bandwagon.   |
| <i>Technical reasons</i>  | Access to expertise/technology. Perceived poor performance of internal staff. Access to better quality services.  |
| <i>Economics</i>  | Saving costs. Generating a cash flow. Converting capital assets into revenue. Control accountability. Freeing resources for core activities. Controlling IT costs (cost predictability).  |
| <b>Clark, Zmud &amp; McCray, (1995:228-230)</b>                             |   |
| <i>Reducing cost and/or injecting cash</i>                                  | There are numerous paths through which such benefits might materialize: disengaging the firm from costly, outdated technological resources, transforming information services from a fixed asset into a variable expense, which can be reduced or increased according to business requirements, reducing staffing levels and transferring personnel to a vendor, or reducing overhead expenses (administration, office space, air conditioning, and so on). |
| <i>Developing information technology applications more rapidly</i>          | Offloading IS activities to a vendor enables a firm to focus its internal resources and energies on those IS activities which remain internal.  |
| <i>Improving service quality and productivity</i>                           | This occurs for numerous reasons. For example, the vendor may have access to more current technological environments, have better qualified or more motivated personnel, have better management systems with which to coordinate or control service provision, and simply be more committed than in-house staff to making the alliance with the customer work well.   |
| <i>Gaining access to leading-edge technologies</i>                          | Developing close relationships with external vendors enables a firm not only to utilize the vendor's technologies but also to tap into the vendor's links with other technology providers and users. Also, as firms making effective use of outsourcing should have less capital tied up in ageing technologies, these firms generally have more funds available to acquire newer technologies that are needed internally.                                  |
| <i>Reducing technological risk and increasing technological flexibility</i> | The vendor rather than the firm must bear the risks of both technological obsolescence and variable service demand.   |

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|---|--|
| <i>Implementing changes more rapidly</i>  | Quite often, it is more effective or much easier for an information services vendor to implement a radical (managerial, technical or organizational) change than it would be for an internal IS group. There are two reasons for this. First, the vendor might simply have more expertise and experience with a particular initiative and with managing change initiatives. Second, the vendor is under far less pressure to follow an organisation's bureaucracy or policy.   |
| <i>Assessing current information management capabilities</i>                        | The existence of external service vendors provides a readily available "reality check" on the quality and cost of a firm's internal capabilities to handle a certain information services activity. In fact, a number of the major IS service providers are reluctant to invest in the analysis required to develop a strong bid, unless they believe the client is truly serious about the outsourcing option.  |
| <i>Enhancing the status of the senior information services executive</i>            | Through IS outsourcing, it is possible for senior information services executives to broaden and redirect their personal organizational role to reflect a more strategic business orientation.   |
| <i>Facilitating information services management tasks for the senior management</i> | IS outsourcing makes the associated costs much more visible and provides the potential to manage these services in a fashion similar to many other corporate functions. Such benefits are specially attractive to the senior executive who has become disappointed with a CIO's inability to demonstrate the business value being obtained from the firm's investments in information technology   |
| <b>Grover, Cheon &amp; Teng (1994:37) (1996:93)</b>                                 |  |
| <i>Strategic factors</i>  | Firms can focus on their core business. Outsourcing allows the management to focus IS talent on IT activities that promote competitiveness rather than the routine activities of systems maintenance or operations. Access to IS staff expertise.  |
| <i>Economic factors</i>   | An outsourcing provider may exploit economies of scale in areas of hardware, software, and staff, since it pools projects from many service receivers. Similarly, the service provider is able to exploit economies of scope, since a single service provider carries out a variety of IT tasks. Another economic factor is that the cost becomes predictable for the service receiver, since the responsibility of cost overruns is often placed on the service provider.   |
| <i>Technological factors</i>  | Access to leading-edge technology form the service provider. Avoidance of the obsolescence risk; due to the accelerated changes in the nature of the IT infrastructure, the risk of obsolescence is high.  |
| <b>Gupta &amp; Gupta (1992:45-47)</b>   |  |
| <i>Strategic focus</i>  | Dynamic organizations analyse what they do best and how can they do it better. These organizations do not view outsourcing as a separate decision affecting one project or a single aspect of information technology. Instead, they view outsourcing as a strategic decision that can have far-reaching effects on the entire organization. These organisations reflect on such questions as: What competitive advantage will outsourcing provide? What are the resources that will be liberated through outsourcing and how can they be used to increase market share and enhance customer satisfaction? What state-of-the-art technologies will outsourcing provide access to?   |
| <i>Economies of scale</i>   | Most outsourcing contracts are fixed-price contracts, which for many organizations eliminates the burden of escalating and uncertain costs frequently associated with information technology. The overall cost of IS operations decreases significantly because organizations whose primary business is information processing achieve greater economies of scale at a faster pace than organisations in which information processing is only a support function. To better use the time and talents of their experts, organisations often outsource non-critical yet time-consuming daily information processing tasks to outside vendors., and by fully using the expertise of their IS specialist and enabling them to focus on what they do best, an organization can gain economic advantages. Another economic advantage of outsourcing is the savings that result from the reduction of IS staff. |
| <i>Market forces</i>  | Mergers, acquisitions, leveraged buyouts, and resizing are some of the market dynamics that can force organisations to outsource support IS functions. The outsourcing of operations that do not fall within the organisations' primary areas of business reduces bureaucracy and increases its ability to respond to market forces. Firms use outsourcing as a strategy to achieve flexibility during reorganisations or restructuring. Organisations also outsource as an effective means of responding to the changing needs of their customers and IS users.   |
| <i>Technical considerations</i>   | Occasionally, organisations may not have the technical expertise to introduce or develop new technologies. The critical shortage of IS talent combined with the increasing salaries of IS professionals makes outsourcing a feasible alternative. Organisations that have a wait-and-see approach toward state-of-the-art technology also tend to outsource because it helps to minimise losses incurred if a certain technology fails to deliver on its investment. Rapid technological changes are no longer a worry to corporate executives because outsourcing vendors assume the burden of remaining abreast of the technology.   |
| <b>Hayes, Hunton &amp; Reck (2000:110-111)</b>                                      |  |
| <i>Economies of scale and scope</i>   | As compared to IS outsourcing firms, IS service providers are often able to bring a higher level of skill and knowledge to a wider array of IS situations, since the providers' work environment offers exposure to a greater variety of problems and experiences. Additionally, IS providers devote their full capacity to the provision of IS services. Thus, in many instances, these two factors combined allow IS service providers to offer greater economies of scale and scope than can be realized by the outsourcing firms.  |

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| <i>Importance of core competencies</i> | By transferring resources from non-value-added staff functions to value-added core competency functions.   |
| <i>Flexibility</i>                     | Given the increasingly rapid pace of technological changes witnessed in recent years, many firms stand to gain a significant advantage from IS outsourcing, in the sense that outsourcing firms will not become technologically obsolete. Firms can increase their flexibility by permanently redesigning their contracts to meet their information needs.   |
| <i>Cost reduction</i>                  | While reducing costs might positively impact a firm's value in the short term, it is questionable whether an IS outsourcing strategy aimed solely at reducing costs will enhance or protect firm value in the long term. The reasoning behind this concern is that cutting costs may cause a firm to indiscriminately outsource IS functions, as a result of which the firm might not separate non-value-added IS functions from value-added core competency IS functions. |

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**Jurison (1995:239-240)**

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| <i>Cost savings through economies of scale</i> | A vendor can often achieve economies of scale that may not be achievable internally and pass back some of the savings on to the client.                        |
| <i>Cash injection</i>                          | Does not argue.  |
| <i>Faster applications development</i>         | Does not argue.  |
| <i>Improved service and quality</i>            | Does not argue.  |
| <i>Access to IT expertise and competence</i>   | Some firms may find it difficult, time-consuming, or expensive to hire new staff, especially if a special technical expertise is needed.                       |
| <i>Access to new technologies</i>              | Does not argue.  |
| <i>Flexibility in managing IT resources</i>    | The objective in this case is to cope more easily with the increasing volatility in business volume and let the vendor absorb fluctuations in the IT workload. |
| <i>Elimination of a troublesome function</i>   | Does not argue.  |

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**Lacity & Hirschheim (1993a:19-21)**

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|---|---|
| <i>Cash infusion</i>                                    | Industries in distress are still the best sales prospects for outsourcing vendors.  |
| <i>Perception that IS are not efficient</i>             | When the IS department is perceived to be inefficient, a vendor can reduce costs.   |
| <i>Perception that IS are not effective</i>             | The perception is that outsourcing vendors are IS professionals, and therefore better able to effectively manage the IS function.           |
| <i>Perception that IS are not technically competent</i> | Outsourcing vendors are able to keep up with the technology curve; vendors can adapt quickly to machine upgrades and new software releases. |
| <i>Ability to focus on more strategic issues</i>        | Management claims that non-strategic functions are outsourced so that they can concentrate on more strategic issues.                        |

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**Lacity, Hirschheim & Willcocks (1994:9-17)**

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| <i>Financial expectations</i> | Cost reductions, mainly because vendors enjoy economies of scale that enable them to provide IT services at a lower cost than internal departments. Improved cost control, because vendors implement cost controls that more directly tie use to cost. Restructuring IT budgets to more flexible operating budgets.  |
| <i>Business expectations</i>  | A return to core competencies, whereas more monotonous, non-strategic IS activities are outsourced. Facilitating mergers and acquisitions, as outsourcing can solve technical incompatibilities, absorb excess IT assets and the additional IT employees generated by mergers and acquisitions. Providing IT for start-up companies, as outsourcing can be a quicker and less expensive way to provide IT services, when start-up companies simply could not afford the capital investment required to create in-house IT departments.   |
| <i>Technical expectations</i> | Improving technical service because the outsourcing vendor could possess a technical expertise that internal IT departments lack. Access to technical talent, as many firms find it difficult to hire or retain staff with the desired state-of-the-art technical skills. Gaining access to new technologies, with access to the products of the vendors' large research and development departments.  |
| <i>Policy expectations</i>    | Proving IT internal department efficiency, because an outsourcing evaluation would show the senior management that the internal IT department was cost efficient. Justifying new resources, such as machine upgrades and additional staff, showing that growth cannot be achieved more efficiently through outsourcing. To duplicate outsourcing success stories. Eliminating a troublesome function, because it is not uncommon for IT to be perceived by the senior management as a headache. Breaking the "glass ceiling": IT personnel rarely reach the upper echelons of management. Hence, IT managers may initiate outsourcing decisions with the purpose of enhancing their credibility. By showing that they are willing to outsource their kingdom for the good of the company, they show the senior management that they are business professionals committed to corporate goals, not technocrats attempting to build technology empires. |

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**McFarlan & Nolan (1995:12-14)**

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| <i>General Managers' concern about Costs and Quality</i> | Frequently, the outsourcer will control costs better than clients; i.e. the outsourcer moves data centres to low-cost areas (modern telecommunications make this possible). The company's existing IS staff may be forced to re-qualify at the time of outsourcing. Hardware capacity is better used. Better control over software licenses. Tighter control over service.   |
| <i>Breakdown in IT performance</i>                       | Failure to meet service standards can force general management to find other ways of achieving reliability. An additional driving factor is the need to rapidly retool a backward IT structure to maintain its competitiveness.  |
| <i>Strong supplier pressures</i>                         | General managers see outsourcing as a highly feasible alternative. The suppliers' sales force aggressiveness gives the general management compelling reasons to outsource.   |
| <i>Simplified General Management Agenda</i>              | A firm under strong cost or competitive pressures, which does not see IT as its core competency, may find that outsourcing is a way to delegate time-consuming, messy problems and focus the scarce management time and energy on other differentiators.   |
| <i>Financial factors</i>                                 | The opportunity to clear the firm's intangible IT assets, thus strengthening the firm's balance sheet and avoiding a stream of sporadic capital investments in the future. Outsourcing can turn a largely fixed-cost business into one with variable costs; this is particularly important for firms whose activities vary widely in volume from one year to another, or which face significant downsizing.                                  |
| <i>Corporate culture</i>                                 | For example, outsourcing can be a way to reinforce decentralized culture in the IT department. Similarly, an internal IT organization may fall behind the state of the art without being immediately attacked, while an outsourcer is forced to keep up with the latest technology in order to be successful.  |
| <i>Elimination of an internal irritant</i>               | No matter how competent and adaptive existing IT management and staff are, there is usually tension between the end-users of the resources and the IT staff. This is often exacerbated by the different languages IT professionals use.  |
| <b>McLellan, Marcolin &amp; Beamish (1995:309-321)</b>   |  |
| <i>Financial motivations</i>                             | Cost savings (these include hardware costs, software costs, IS personnel costs and business operations costs). Efficiency improves dramatically for hardware activities, software purchasing and IS staff size. Effectiveness is reflected in terms of more appropriate and tailored software, a greater range and flexibility in IS task assignments, as well as better business operational integration and consolidation.                 |
| <i>Strategic motivations</i>                             | Contrary to the conventional belief, firms that see IS as a core function that needs a tight control resort to outsourcing. Outsourcing offers an opportunity to use resources beyond those contained in the firm to increase competitive capabilities within the IS function.   |
| <b>Slaughter &amp; Ang (1996:47)</b>                     |  |
| <i>To solve issues related to the IS labour market</i>   | IS work is characterized by skills deterioration and specific skill shortages. Thus, a firm's ability to find and acquire the necessary IS skills is paramount. Under these circumstances, relying on retraining a permanent workforce may have a prohibitive cost.  |
| <b>Smith, Mitra &amp; Narasimhan (1998:64-65)</b>        |  |
| <i>Cost reduction</i>                                    | It is commonly believed that an outside vendor can provide the same level of service at a lower cost than the internal IS department. The often cited rationale is that the vendor typically has better economies of scale, tighter control over fringe benefits, better access to lower-cost labour pools, and more focused expertise in managing IS.   |
| <i>Focus on core competencies</i>                        | Companies may outsource their IS to simplify the management agenda and focus on the firm's core business. If managers do not see a strategic role for IS, then IS outsourcing is often viewed as a means of preserving managerial effort and focusing on areas with greater strategic potential. Also, firms can outsource a significant portion of the IS infrastructure, while still retaining those aspects that are viewed as strategic. |
| <i>Cash needs</i>  | Companies often outsource IS to generate cash. An important part of many IS outsourcing agreements is an introductory cash payment by the vendor for the client's tangible and intangible IT assets.   |
| <i>IS capability factors</i>                             | Because of rapid technological advances, a firm's IS department may lack current technical expertise and equipment. Internal policies, dissatisfaction with the IS department, lack of trust in the CIO, and inadequate IS department service are a few the other reasons why firms outsource IS.  |
| <i>Environmental factors</i>                             | This include factors such as the imitative behaviour among firms, pressure from vendors, positive stock market reaction to the phenomenon, and extensive coverage in the popular press.  |

Table 2: *Study technical specifications*

|                       |   |
|-----------------------|---|
| <i>Scope</i>          | Spain                                     |
| <i>Population</i>     | 4.416 largest Spanish business (by sales) |
| <i>Sample size</i>    | 357 valid answers (8%)                    |
| <i>Sampling error</i> | 5%  |
| <i>Survey date</i>    | June-October, 2001                        |

Table 3: *General characteristics of the 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 |
| More than 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>IS budget percentage</i>          |     |      |
| 0-4                                  | 133 | 37.2 |
| 5-10                                 | 61  | 17.1 |
| 11-30                                | 18  | 5.1  |
| Lost                                 | 145 | 40.6 |

Table 4: *Outsourcing reasons*

| Reasons                                       | N   | Valid % | Ranking |
|---|-----|---------|---------|
| Focus on IS strategic issues                  | 176 | 49.3    | 1st     |
| Increased IS department flexibility           | 144 | 47.1    | 2nd     |
| Improved IS quality                           | 122 | 39.9    | 3rd     |
| Elimination of troublesome, everyday problems | 118 | 38.6    | 4th     |
| Staff cost saving                             | 106 | 34.6    | 5th     |
| Increased access to new technologies          | 94  | 30.7    | 6th     |
| Technology cost saving                        | 62  | 20.3    | 7th     |
| Providing alternatives to in-house IS         | 39  | 12.7    | 8th     |
| Joining the fashion                           | 3   | 0.8     | 9th     |