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Effective strategies for internal outsourcing and offshoring of business services: An empirical investigation

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Abstract

The growing pressure to reduce costs and improve efficiency induces many organizations to undertake shared services initiatives. This consolidation and streamlining of common business functions is also known as insourcing, in-house services, business services, or staff services. While adoption of a shared service structure is viewed by many as an appropriate strategy to pursue, most companies still struggle to devise optimal strategies and to generate adequate returns on investments for their projects, because none of the approaches that are commonly adopted is recognized as universally effective.

This paper builds upon the ''structure-environment'' perspective to uncover configurations of shared services organizations and to explain why and under what circumstances some of these configurations exhibit superior results. The conceptual model proposed challenges the notion of ''best practice'' and suggests that the effectiveness of a shared services project depends on the degree of complementarity between the ''needs'' arising from the environment in which a company operates and the specific capabilities developed to address these needs. The theoretical findings are validated empirically through the analysis of a large sample of European firms that recently undertook initiatives in this domain. Four dominant configurations of shared service organizations are uncovered, and their relationship to performance is explored.

Keywords: Shared services; Offshoring; Outsourcing; Strategy; Empirical analysis

1. Introduction

Increasing competition, the progressive globalization of the economy caused by the lowering of trade barriers, and the emergence of new market players that benefit from significant labor cost advantages is pressuring western firms to devise strategies to reduce costs and improve the efficiency of operations. Among the various alternatives the development of shared services (SS) is increasingly regarded as a potential solution to this problem and is being progressively adopted by a growing number of firms. For example Citigroup has established Citigroup Business Services, a shared services organization located in three regional centers around the globe, dealing with financial reporting, payroll and benefits administration, purchasing, accounts payable, and premises management functions for the entire group.

Shared services is the strategy of standardizing, streamlining, and consolidating common business functions and processes in an organization, in order to improve efficiency and effectiveness with both cost reduction and overall profitability in mind. According to Bywater (2001) it is: ''The co-location of internal services which are removed from the business to whom they provide the service-*internal outsourcing*''.

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In a report by The Economist Intelligence Unit (1998), shared services are described as: ''The apportioning of standardized and consolidated business functions or processes with a service mentality to ensure effective operation''. ''Shared services – also known as insourcing, in-house services, business services, or staff services – is more than centralizing routine transactions: the idea is to leverage best practices, specialized knowledge, and technology to create satisfied internal and external customers'' (The Conference Board, 1998). According to Goold et al. (2001) it is one of the roles that corporate headquarters can take.

In general, it is believed that moving to a shared service organization (SSO) helps companies save costs, increase available time for value-added activities in line positions, improve measurement capability, and achieve better service quality due to a more focused management attention. American Express and Citigroup report cumulative cost savings 3 years after adoption worth more than half a billion and US$ 350 million, respectively. Average cost savings of 25–30% are not unusual after adopting a shared service structure (Quinn et al., 2000). Not surprisingly, an increasing number of companies consider adopting SSOs. According to a study by Bywater (2001) over 90% of Fortune 500 and Europe 500 companies have already or are planning to implement SSOs.

Shared service organizations are seen by some as the step taken before outsourcing, and by others as the alternative to corporate outsourcing. Sometimes the shared service organization is a third party owned business unit. Thus, in the current debate on business process outsourcing practices and offshoring of services, understanding shared service structures and their performance implications will constitute an important piece. To answer questions about whether to outsource or not, companies need to understand appropriate in-house solutions better. Similarly, the question of offshoring requires a good understanding of service structures that guarantee high performance.

Yet, in spite of this rising interest, there is still some uncertainty about the real benefits of shared services. For instance, of the companies that participated in the Bywater study, 3% are reported to have implemented a shared services strategy, and then rejected it. This suggests that while rarely reported, shared service implementations can also fail. According to Steven Kerr from General Electric (Quinn et al., 2000): ''Shared services, like outsourcing, is not a panacea for all functions. Sometimes it works and sometimes it is not the right strategy—especially if it has been forced upon reluctant business units. It is not a hammer!''

By the same token, there is also uncertainty about the most appropriate ways to conceive, implement and manage shared services organizations. A number of alternative – and often antithetical – approaches to SSOs have been proposed and implemented. As a result, existing SSOs differ among each other with respect to their overall objectives, their functional scope and even with respect to the specific business model adopted, which span from purely introverted approaches to more extroverted ones that privilege customer service over cost reduction (Citigroup, 2002).

Yet, none of these models has proven to be generally superior. The blurred picture on the practice side is also symptomatic of a knowledge gap at the theoretical level. To our knowledge, there is no academic study to date that examines the link between strategy, implementation and resulting performance in SSOs. Claims are mostly based on conceptual arguments, perhaps supported by anecdotal evidence that associates certain variables and certain performance measures. However, an empirical justification of a link between SSO strategies and performance is lacking. Given the prevalence of this organizational structure and the large potential benefits associated with its success, understanding how firms organize their SSOs and determining superior configurations is a critical issue for businesses at large.

Researchers have also generally overlooked the question of whether different SS strategies display the same degree of effectiveness for firms that have different operational and organizational needs. This is an important gap, because recent studies that revisited the relationships between strategy, organizational structure and management processes have challenged the notion of ''single best practice'' (Atuahene-Gima and Ko, 2001) and suggested that similar strategies, organizational forms and—by analogy, similar SS models, may produce different results in different environmental settings (Brown, 1994; Brown and Magill, 1998). In summary, a review of the extant literature suggests that there is a need for a sounder characterization of the predominant SSO models (beyond the simple stylized classifications proposed by industry practitioners) and, also, of a better understanding of the relative effectiveness of these models.

The objective of this paper is to fill this gap in the literature and to examine the relationship between different SS strategies and the characteristics of environments in which SSOs operate. Recognizing the need for exploratory research that shed light on the

predominant SS models and following the increasing interest received by organizational gestalts (Hambrick, 1984; Miller, 1987; Meyer et al., 1998) in the field of operations strategy (Miller and Roth, 1994; Bensaou and Venkatraman, 1995; Dennis and Meredith, 2000), we conduct a configurational analysis. That is, we seek to understand whether SSOs organize themselves according to ''internally consistent combinations of strategy, organizational architecture and technology that provide superior performance in a given environment'' (Tidd and Hull, 2002, p. 7).

To this end, we adopt a deductive and theory-driven approach (Ketchen and Shook, 1996), which permits the development of testable frameworks while still maintaining enough degrees of freedom to uncover ''natural'' configurations. Our contribution is two-fold. First, using data from The Citigroup Business Services Annual Survey of European Shared Services (2002) we identify strategic groups of companies that exhibit similarities with respect to their SS operations and their environment (i.e. configurations of SSOs). Second we use the proposed classification to explain performance differences across different companies in the sample and to shed some light on the relationship between the characteristics of SSOs and their business results.

The remainder of the paper is organized as follows. Section 2 discusses some of the most common approaches to shared services and provides a theoretical background. A stylized conceptual model is presented to uncover configurations based on the hypothesis that – to improve performance – firms need to achieve a fit between their shared service needs and their SS strategy. The variables that define SS needs and SS strategy are then introduced. Section 3 describes the methodology and our overall analytical approach. Section 4 presents and discusses the results. We first establish four different clusters of shared service organizations, and subsequently illustrate the link between these clusters and organizational performance. The paper ends with concluding remarks and a discussion of contributions, limitations and directions for future research.

2. Background and literature review

2.1. Alternative models for shared services organizations

The diversity of organizational forms and management approaches observed in existing shared service organizations is symptomatic of the many decisions managers face in setting-up and running SSOs. These involve both the general objective and the scope of the SSO, the business model adopted as well as the specific strategy followed for its implementation.

First and foremost, the motivations for establishing an SSO can be very different. For instance, while for some companies the primary objective is cost-cutting, others consider service level improvement as the most important priority. Standardization of processes or focusing on core capabilities are other common motivations. The functional scope can vary as well. Whereas most SSOs start with the transactional and administrative side of the finance and human resource functions, the scope of activities can also extend to information technology, supply and support functions. It is possible for an SSO to encompass portions of the professional and technical aspects of these functions as well. The Amherst Group Limited and Solutia Inc. distinguish between transaction-intensive services and knowledge based professional services (The Conference Board, 1998). Labeled as *centers of scale* and *centers of expertise*, respectively, these services are then managed and funded differently given their differing strategies.

In addition to differences in functional scope and depth, there are also differences in the business models adopted (Bywater, 2001; Citigroup, 2002). A typical model follows an introspective approach, where the organization is treated as a cost center that serves internal clients. In a different and more extroverted model, the shared service organization is run as a customer-centric separate business entity. In some cases the SSO also serves external clients, as in the well-known example of Shell Services International. The Bywater (2001) study labels these two business models as the *incremental approach* and the *aggressive approach*, respectively. Quinn et al. (2000) describe an evolution from a basic model to one of a separate business entity. A similar spectrum of conservative, moderate, advanced SS strategies are suggested by Connell (1996).

Similarly, there is no general agreement about the most effective approaches to implement an SSO, as one finds differences in implementation strategy as well as performance. Existing SSOs exhibit differences with respect to their location (greenfield, i.e. a new site versus brownfield, i.e. an existing building), size, technological infrastructure, and human resource practices. For instance, while most claim that business potential is maximized with an aggressive approach that designs the SSO as a separate business entity (The Conference Board, 1998; Quinn et al., 2000; Bywater, 2001; Citigroup, 2002), others argue that success requires a fit between strategy and implementation (The Conference Board, 1998; The Economist Intelligence Unit, 1998).

This diversity is clearly symptomatic of the fact that no superior SS model has yet been identified. Indeed, a preliminary analysis conducted on the data set collected for this research indicates a very weak direct relationship between specific managerial choices and performance. For instance we find very limited support for the common claim that the adoption of a customer-centric extroverted model leads to success in SSOs. Sometimes a more introspective approach can result in better outcomes.

However, the fact that similar models have been applied in different contexts with very different results suggests that the proposed dichotomy between introverted and customer-centric approaches is not exhaustive. Combined with the observation that some choices are clearly restricted by parameters outside the control of SSO management, this also suggests that rather than looking for best models as such, managers should consider alternative SS configurations in relation to the specific needs and constraints of their firm. Based on these preliminary observations and supported by the contingency view in strategy we argue that different types of environments call for different types of SSO structures and practices. Testing this view requires an elaboration of common environments and common SSO models, or in other words the identification of dominant SSO configurations.

2.2. A configurational approach to study SSOs

The notion of organizational configurations or *gestalts* (Miller and Friesen, 1977) is one of the most well-established concepts in strategy research. According to Miller (1981, p. 5): ''Instead of looking at a few variables or at linear associations among such variables we should be trying to find frequently recurring clusters of attributes or gestalts''. Conceptual arguments for configurations and an overview of the early literature can be found in Miller (1986, 1987).

While the notion of gestalts has gained increased recognition from a conceptual standpoint, researchers have followed different approaches to study configurations, and they have traditionally distinguished between conceptually established typologies (Hambrick, 1984) and empirically derived taxonomies (Hatten and Hatten, 1985).

Clustering approaches have been the primary method of investigation to establish taxonomies and have also gained acceptance outside the strategy literature. They have for example been used in operations management (Miller and Roth, 1994; Boyer et al., 1996; Boyer, 2000; Dennis and Meredith, 2000; Verma and Young, 2000; Duray et al., 2000; Kathuria, 2000; Jonsson, 2000; Diaz et al., 2003; Yeung et al., 2003) and information systems (Segars and Grover, 1999; Lee et al., 2004) settings.

In this paper, we also establish configurations empirically using cluster analysis, as in Hambrick (1984) and Bensaou and Venkatraman (1995). However, while most applications of cluster analysis are exploratory in nature, and do not test a conceptual model—our work has the distinguishing feature of combining the two approaches.

The point of departure of our analysis is the well-known theoretical perspective that, for purposes of effectiveness, firms should deploy strategies or develop capabilities in accordance with the requirements of the environment in which they operate. While it enjoys a long history in management literature (Lawrence and Lorsch, 1967; Thompson, 1967), this perspective has taken different conceptualizations in the various disciplines that it has – directly or indirectly – influenced: in economics with the notion of complementarity (Milgrom and Roberts, 1990), or in operation management, where both production systems (Keller et al., 1974) and supply chains (Fisher, 1997) and supplier–buyer relationships (Bensaou and Venkatraman, 1995) have been analyzed in relation to different environmental contingencies.

Building upon this perspective, we propose a conceptual model of fit that describes the main decision variables in setting-up a shared service organization vis à vis the most important requirements that this organization must address (Fig. 1). We suggest the general hypothesis that in shared service organizations performance is given by the presence of fit between environmental needs (i.e. factors that influence performance of an SSO not controlled by the manager of an SSO) and the combination of specific SS strategic, tactical and operational decisions made by the SSO manager. For sake of simplicity we refer to this set of variables as 'SS capabilities'.

Accordingly, to establish configurations we follow the two-stage procedure described in Hambrick (1984)

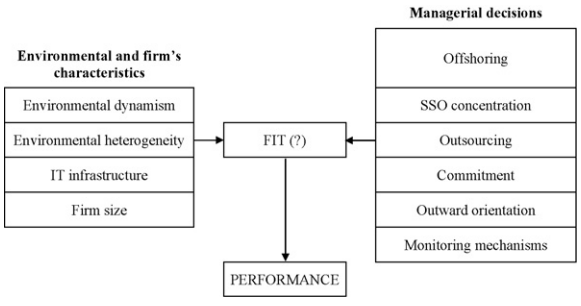

Fig. 1. Conceptual model of fit.

and Bensaou and Venkatraman (1995). In the first stage we cluster organizations based on their shared service needs, and in the second stage, within each SS needs group we cluster organizations based on their shared service capabilities.

2.3. Environmental variables that define shared services needs

Shared service needs originate from the structural characteristics of the firm (type of business model, internal organizational architecture, key strategic priorities, etc.), which are not under direct managerial control, at least during the time horizon of the SSO implementation. In a nutshell, we expect SS needs to generate pressure to use an SSO either to standardize business processes and reduce cost, or as a revenue generating opportunity. We propose that they are primarily defined by means of four variables: the degree of environmental heterogeneity; the degree of environmental dynamism; the firm's IT infrastructure; the size of the firm that establishes the SSO.

2.3.1. Environmental heterogeneity

It is widely acknowledged that "under norms of administrative rationality a firm should match its internal organizational complexity with its environmental complexity" (Thompson, 1967). Depending on their characteristics, environments generate forces for local responsiveness and forces for global integration (Goshal and Nohria, 1990) to which firms must react. Firms that operate in environments with different degrees of heterogeneity must find the right balance between the development of specialized capabilities and centralized competences (Allen and Boynton, 1991). Therefore, we expect that companies that operate in homogeneous environments are more likely to benefit from process standardization and should obtain larger benefits from the implementation of an SS model focused on cost-cutting. Conversely, companies that operate in a large number of countries (i.e. in a heterogeneous environment) are more likely to face the need to adapt their business processes to different local conditions. Hence, we expect these firms to prefer from a customer-centric approach to shared services.

2.3.2. Environmental dynamism

Among the various environmental dimensions that have been analyzed in the context of strategy-structure contingency studies, market dynamism (Aldrich, 1979; Dess and Beard, 1984; Aragon-Correa and Sharma, 2003) plays a pre-eminent role. By regulating the evaluative feedback through which companies assess their effectiveness, the clockspeed of an industry (Fine, 1998) dictates the pace at which organizations need to update their process and organizational routines to remain competitive. We expect this variable to influence the propensity towards shared services as well as the type of SS model implemented.

In highly dynamic markets, demand fluctuations and changing customer preferences make a shared service approach more valuable because this strategy helps firms achieve higher resource utilization. For the same reason, dynamic environments render a SS a profitable business opportunity and should induce SS providers to profit from their experience to deliver services to outside firms as well. Therefore, we expect firms that operate in dynamic environments to privilege extroverted customer-centric models over cost-conscious approaches.

2.3.3. IT infrastructure

The adoption of specific IT infrastructures and systems profoundly shape the nature of business processes and often require business organizations to modify their internal routines to adhere to the system's underlying operating logic (Davenport, 2000). The presence of integrated information systems such as ERP[1] often represents a fertile ground for the establishment of a SS organization. Besides increasing the accuracy and the timeliness of information within the organization, these systems also induce adopters to streamline and re-engineer their business processes (Masini, 2003). In turn, these business process re-engineering (BPR) efforts often enable firms to identify non-core activities that can be insourced or outsourced. In other words, the rationalization of business processes that accompanies an ERP implementation often prepares the ground for the migration to an SS organization. It also facilitates integration across functions and accelerates information exchange. Therefore, we expect firms that use an enterprise system to have greater compatibility with a SS organization. Furthermore, as companies that extensively use ERP systems are also more likely to exhibit standardized processes than companies who do not, we also expect ERP users to have higher needs for process standardization.

[1] Enterprise Resource Planning systems (ERP or ES) are perhaps the most representative example of this class of IT. They are large computer systems that – through a common database – integrate different application programs across all the functions of the firm (Davenport, 2000).

2.3.4. Size

Economic logic suggests that the advantages of establishing a separate shared services organization increase with the scale of the client organizations for two reasons. First, in small firms the fixed costs of setting-up an SSO are less likely to be recovered through the rationalization of business processes or the improvement of service. Second, larger organizations typically exhibit greater inefficiencies due to the higher coordination costs that they need to incur to manage their internal processes.

This phenomenon is also strictly connected to the notion of complexity (Duncan, 1972; Tan and Litschert, 1994) and it arises from the "heterogeneity and range of an organization's activities" (Child, 1972) that require the support of the SSO. As this type of complexity typically increases with the number of tasks and with their variety and as both are also a function of the scale of operations, we expect large companies to face proportionally greater pressure to adopt shared services strategies that privilege cost-cutting.

2.4. Strategic and operational variables that define shared services capabilities

Management scholars increasingly recognize the importance of organizational capabilities for the achievement of sustained competitive advantage, particularly in dynamic environments (Pisano, 1994; Eisenhardt and Martin, 2000). These phenomena have been studied in relation to a variety of business situations such as strategic alliances (Inkpen and Dinur, 1998), mergers and acquisition (Zollo and Winter, 2001), manufacturing processes (Lapré et al., 2000; Carrillo and Gaimon, 2000), and more recently to the information technology area (Bharadwaj, 2000; Stratman and Roth, 2002; Masini, 2003). Within the environment-structure framework, researchers have started applying a contingency perspective to investigate the relation between the mechanisms that subsume the generation of capabilities and the environment, particularly in relation to the different type of knowledge investments undertaken by the firm (Zollo and Winter, 2001).

Along these lines, we also argue that shared service capabilities result from the specific strategic tactical and operational decisions followed when designing and implementing a SS. A review of the literature on shared services has enabled us to identify 6 general variables that are relevant to establish an SS organization: outward orientation, degree of offshoring, degree of outsourcing, SSO concentration, level of commitment of the parent organization to the SSO, and service monitoring mechanisms.

2.4.1. Outward orientation

One of the primary decisions faced by SSO managers is whether the services will be provided exclusively to internal clients, as done by Citigroup for example (i.e. to business units that belong to the same parent companies) or to outside companies as well, as in the case of Shell Services International or Southern California Edison (The Conference Board, 1998). This is the main variable that differentiates between companies that adopt an introverted approach to SS focused on cost-cutting and companies that adopt a customer-centric model focused on service improvement and revenue generation.

Furthermore, besides obvious cost and revenue implications, the decision has also strategic consequences. If providing specialized services to outside companies may generate additional revenue, in the long run it may also distract the SSO from focusing on its major client and provide competitors with access to specific capabilities.

2.4.2. Offshoring

Confronted with increasing competition from overseas firms, European and US firms increasingly offshore their operations to countries that offer significant labor cost advantages (Farrell, 2004). Initially developed in the manufacturing sector, this trend is gradually permeating the service sector, particularly with the diffusion of offshore call centers.

However, in spite of the advantages that it may provide (Venkatraman, 2004) some analysts question the value of the offshoring option (McKinsey, 2004). Lower variable costs have often to be traded off against the lack of specific capabilities at the local level, which then translates into poor customer service and a diminished ability to innovate and seize revenue-generating opportunities.

As a result, we expect the degree of offshoring to be one of the variables that best distinguishes between cost-focused and customer-centric SSOs: cost-concerned companies typically consider offshoring a more useful option than customer-centric organizations, which prefer to locate SS centers closer to their core operations.

2.4.3. Outsourcing

This variable measures the extent to which the SS organization operates independently of the parent company. It reflects the evolution of SS organizational

forms observed by Quinn et al. (2000): from a basic model fully integrated to the main organization to one based on partial or full separation from the parent company (which is typically the last step before a complete outsourcing of services to outside firms). The Bywater study (2001) reports close to half of the centers to be under one of the categories: third party owned business unit, independent business unit, or stand-alone division. To fully capture the different dimensions along which the shared service organization can achieve independence we account for whether this is run as an independent business unit and also as a separate legal entity. Based on our earlier categorization, one can expect SS centers run as independent business units or separate legal entities to reflect a customer-centric and revenue-oriented approach.

2.4.4. SSO concentration

The tension between local adaptation and global integration typically faced by multinational or transnational organizations has been discussed in the literature (Goshal and Nohria, 1990). In SS practice we find examples like ABB Group, operating 36 shared service centers in 17 countries (Quinn et al., 2000), as well as a larger group of companies that run one center for all of their operations (more than 80% in the Bywater, 2001 sample). Accordingly this variable accounts for the degree of local adaptation displayed by the SS organization: firms that choose to operate large SS organizations located in a single country obviously privilege a cost-cutting model that privileges standardization and resource optimization, whereas companies that prefer to manage a network of small SS centers established in many different countries emphasize local adaptation.

2.4.5. Commitment

This variable accounts for the extent to which the SS adopter deploys an appropriate amount of resources to support the SS organization. According to a manager at Weyerhaeuser ‘‘people have to believe that you are in it for the long run, and this can be demonstrated by the processes, organizational structure, and human resources that you invest in’’ (The Conference Board, 1998). This view is supported in practice by SSOs like that of BP Amoco’s with 8000 staff and services worth US$ 1.4 billion (Quinn et al., 2000). This variable attempts to characterize the commitment displayed by a firm towards its SSO. We expect firms with customer-centric revenue-oriented SSOs to exhibit higher commitment, which will be manifested by higher levels of investment.

2.4.6. Type of service monitoring mechanisms

This variable defines the type of mechanisms that the SSO uses to guarantee the desired level of service quality. It clearly distinguishes between companies that establish a shared service organization with a cost-cutting priority in mind, and those that consider it as a business opportunity. We expect that companies that establish SS organizations to cut costs need to enforce service quality by means of contractual mechanisms such as service level agreements. Conversely, we expect companies that consider SS as a revenue generating opportunity to rely on market mechanisms to achieve the necessary service quality standards. In the Bywater sample composed of both North American and European firms (Bywater, 2001), 24% of the companies report having service level agreements.

3. Methodology and analytical issues

3.1. Overall analytical approach

Consistent with Bensaou and Venkatraman (1995), we applied a six-step approach to uncover configurations and to test their descriptive and predictive validity. In step 1, after developing the conceptual model described in the previous section we operationalized the 11 taxonomic variables used in the analysis. In steps 2 and 3 we followed the multi-tiered cluster analysis approach suggested by Hambrick (1983) to derive the configurations of fit between SS needs and SS capabilities. Accordingly, the clustering procedure was applied to environmental variables outside management control (i.e. SS needs). It was then applied to specific decision variables under management control (i.e. SS capabilities) to identify companies that develop similar capabilities, *within* each specific subgroup with homogeneous needs. Together the two sub steps help identify homogeneous clusters of firms that display *both* similar SS needs and similar SS capabilities. In step 4 we assessed the descriptive validity of the configurations. This was achieved first by verifying whether the proposed clustering had any statistical discriminating power and then by interpreting the characteristics of each cluster with respect to the variables that contribute the most to discriminate across groups. In step 5 we refined the interpretation of the clusters by identifying three general dimensions that underlie the 11 taxonomic variables. Finally, in step 6 we assessed predictive validity by examining whether the clustering structure explains observed performance differences across firms.

3.2. Sample selection and data collection

The data necessary to test the model were collected in collaboration with Citigroup, which conducts an annual survey to monitor the status of Shared Service Organizations in Europe. The data collection was subcontracted to an independent research firm and included three steps. The first step consisted of the selection of a random sample of European firms in the manufacturing and service sector. The second step consisted of the identification of a subsample of firms that had a shared services organization among those initially selected. Finally, as a third step a set of 30-min interviews were conducted between January and February 2002 with the manager responsible for decisions related to the strategic development of the company's European SSO in each of the firms selected. In the interview, the name of the survey sponsor was disclosed to the interviewees as well as the research nature of the project. Conversely, to protect the confidentiality of the information, neither the name of the interviewee nor that of the company were disclosed to Citigroup and to the authors of this study. At the end of the process 139 completed interviews were made available to the authors and retained for statistical analysis.

Table 1 – which displays the sample demographics and breakdown by industry sector – suggests that the sample is fairly well balanced between manufacturing and service companies. The two industries most represented are pharmaceutical and chemicals (for the manufacturing sector) and finance, banking and insurance for the service sector. Not surprisingly the sample is heavily biased towards large firms (average turnover is around US$ 45,000 million), given that the development of SSOs is typically considered as a viable option only by companies above a certain size.

Table 1
Sample breakdown by industry sector

	Number of firms	%
Engineering	7	5.0
Food and drink	8	5.8
Textile and clothing	1	0.7
Electronics and software	8	5.8
Pharmaceutical and chemicals	14	10.1
Timber, plastics and construction	7	5.0
Utilities/energy industry	10	7.2
Other manufacturing	14	10.1
Total manufacturing	69	49.6
Transport and communications	13	9.4
Finance/banking and insurance	17	12.2
Information technology	4	2.9
Tourism and leisure	3	2.2
Retail	6	4.3
Distribution	2	1.4
Media	2	1.4
Other services	4	2.9
Total services	51	36.7
Other	19	14
Total	139	100.0

3.3. Operationalization of variables

3.3.1. SS needs

The four constructs that define SS needs have been operationalized as follows. The degree of environmental heterogeneity is measured by means of the number of countries in which the firm has operations. The type of technological environment is characterized by means of an indicator that accounts for the number of macro-functions supported by an ERP system. Size is measured by means of two variables: turnover (in US$ million) and number of employees. Finally to measure dynamism we followed the well-established procedure proposed by Dess and Beard (1984) and computed this variable as the dispersion about a trendline of a set of representative industry variables—after controlling for absolute industry size. For any given sector j we proceeded as follows: first, from public databases we collected yearly data aggregated at the 2-digit SIC code level on 3 representative industry variables (sales, total employment, value-added) from 1996 to 2003. Second, for every SIC code j we regressed each of the three variables over time: $y_j = a_j + b_j \times \text{year} + \varepsilon$ (where y is the sales, total employment, value-added). Finally, we computed the degree of dynamism for sector j as the average of the standard errors of the three regressions divided by the mean of the dependent variable of interest.

3.3.2. SS capabilities

The six constructs that define SS strategy have been operationalized as follows. The degree of outward orientation is measured as the total number of functions (among those supported by SS) that are also offered to outside firms. The degree of offshoring is computed as the number of countries in which the companies have established SS organizations without also having core operations divided by the total number of countries in which the company is established. To account for outsourcing inclination we used an indicator that takes the value of 0, 1 or 2 depending on whether the SSO is fully integrated, run as either an independent business

Table 2
Correlations among taxonomic variables

	1	2	3	4	5	6	7	8	9	10
Environmental dynamism	–									
Market coverage	0.18 (0.05)									
Number of employees	−0.20 (0.03)	0.03 (N.S.)								
Turnover	0.05 (N.S.)	0.17 (0.06)	0.27 (0.00)							
Technological infrastructure	0.14 (0.11)	0.19 (0.04)	0.21 (0.02)	0.21 (0.02)						
Offshoring	−0.05 (N.S.)	0.15 (0.09)	0.10 (N.S.)	0.03 (N.S.)	0.00 (N.S.)					
SSO concentration	−0.07 (N.S.)	−0.46 (<0.0001)	0.07 (N.S.)	−0.03 (N.S.)	0.02 (N.S.)	−0.11 (N.S.)				
Outsourcing	−0.19 (0.03)	−0.11 (0.20)	−0.09 (N.S.)	0.03 (N.S.)	0.01 (N.S.)	−0.08 (N.S.)	0.23 (0.01)			
SS investments per employee	−0.01 (N.S.)	−0.16 (0.08)	−0.47 (<0.0001)	−0.11 (0.23)	−0.07 (N.S.)	−0.14 (0.12)	−0.09 (N.S.)	0.12 (0.18)		
Number of services offered outside	0.08 (N.S.)	0.11 (0.23)	−0.10 (N.S.)	0.01 (N.S.)	0.07 (N.S.)	−0.12 (0.20)	−0.12 (0.19)	−0.11 (0.22)	0.13 (0.16)	
Number of areas covered by SLA	−0.16 (0.08)	0.08 (N.S.)	0.05 (N.S.)	0.04 (N.S.)	0.19 (0.04)	0.09 (N.S.)	−0.14 (0.12)	0.12 (0.17)	−0.04 (N.S.)	−0.02 (N.S.)

Number in parenthesis indicate p-values; N.S. indicate p-values above 0.25.

unit or a separate legal entity, or both. SS concentration is measured by the number of countries in which the firm has an SS organization divided by the total number of countries in which the firm has operations. Commitment is measured in terms of SS investments per employee (i.e. investments allocated to the SSO divided by the total number of employees in the parent company). Finally, the type of service monitoring mechanism is assessed by considering the number of service types for which the SSO has established a service level agreement (SLA) with its internal or external customers.

Table 2 displays summary statistics and correlation among variables.

4. Analysis and discussion of results

4.1. The four configurations of SS organizations

The configurations of SS organizations were uncovered by applying cluster analysis and following the recommendations in Punj and Stewart (1983) and Ketchen and Shook (1996), i.e.: use of standardized variables to limit the spurious influence of the different scale to measure constructs and use of Euclidean distance as similarity measure. The clusters were established by means of the SAS FASTCLUS algorithm. The procedure, which uses a *k-means* model to compute cluster centers (i.e. the cluster centers are computed as the means of the observations assigned to each cluster when the algorithm is run to complete convergence) is recommended for large data sets with more than 100 observations. As the initialization method used by FASTCLUS makes it sensitive to outliers, we run the procedure in two steps. The first step was used to identify 15 outliers that were eliminated from the sample. In the second step we rerun the algorithm selecting seeds from the high frequency clusters in the previous analysis.

The optimal number of clusters in each of the two applications of the clustering algorithm (one to the variables defining environmental characteristics and two to the variables defining SS strategies) was selected based on two criteria (Miller and Roth, 1994). First we looked for pronounced increases in the tightness of the clusters as measured by the pseudo R^2 and F statistics. Second we conducted a multivariate test of overall significance using the Wilk's lambda criterion and the associated F statistics to make sure that the hypothesis that the clusters were equal across the taxonomic variables could be rejected.

The application of this procedure uncovered 2 clusters at each stage of the analysis thereby suggesting

Table 3
Summary of configurations

	SSO configurations				F-value (probability)
	Cluster 1 ($n = 62$)	Cluster 2 ($n = 31$)	Cluster 3 ($n = 15$)	Cluster 4 ($n = 16$)	
Environmental dynamism					
Cluster mean	0.10	0.21	−0.33	−0.48	$F = 2.48$
Std. deviation	0.96	1.07	1.08	0.75	$p = 0.0646$
Rank	2		1	3	4
Market coverage					
Cluster mean	0.19 (3, 4)	0.44 (3, 4)	−0.90 (1, 2)	−0.76 (1, 2)	$F = 12.78$
Std. deviation	0.76	0.72	1.12	1.29	$p < 0.0001$
Rank	2	1	4	3	
Number of employees					
Cluster mean	0.05	0.42 (3, 4)	−0.46 (2)	−0.57 (2)	$F = 5.18$
Std. deviation	0.93	1.10	0.86	0.80	$p = 0.0021$
Rank	2	1	3	4	
Turnover					
Cluster mean	0.35 (3, 4)	0.32 (3, 4)	−1.09 (1, 2)	−0.97 (1, 2)	$F = 22.22$
Std. deviation	0.77	0.54	1.19	0.98	$p < 0.0001$
Rank	1	2	4	3	
ERP					
Cluster mean	0.31 (3, 4)	0.27 (3, 4)	−0.93 (1, 2)	−0.84 (1, 2)	$F = 14.29$
Std. deviation	0.58	0.73	1.17	1.53	$p < 0.0001$
Rank	1	2	4	3	
Offshoring					
Cluster mean	−0.34 (2)	0.83 (1, 3, 4)	−0.07 (2)	−0.24 (2)	$F = 12.54$
Std. deviation	0.02	1.67	0.73	0.37	$p < 0.0001$
Rank	4	1	2	3	
SSO concentration					
Cluster mean	0.03	−0.40 (4)	0.30	0.38 (2)	$F = 3.04$
Std. deviation	0.99	0.18	1.47	1.24	$p = 0.0319$
Rank	3	4	2	1	
Outsourcing					
Cluster mean	0.38	−0.65 (4)	−0.12	−0.09 (2)	$F = 8.77$
Std. deviation	0.86	0.81	1.06	1.16	$p < 0.0001$
Rank	1	4	3	2	
SS investments per employee					
Cluster mean	0.12 (2)	−0.45 (1, 4)	−0.40 (4)	0.77 (2, 3)	$F = 7.37$
Std. deviation	0.85	0.54	0.58	1.75	$p = 0.0001$
Rank	2	4	3	1	
Number of services offered outside					
Cluster mean	0.29 (2)	−0.35 (1)	−0.30	−0.14	$F = 3.76$
Std. deviation	1.21	0.50	0.48	0.91	$p = 0.0127$
Rank	1	4	3	2	
Number of areas covered by SLA					
Cluster mean	0.05 (4)	0.15 (4)	0.52 (4)	−0.96 (1, 2, 3)	$F = 7.62$
Std. deviation	0.88	1.03	0.65	1.12	$p = 0.0001$
Rank	3	2	1	4	

The numbers in parentheses indicate the group number from which this configuration is different at the 0.05 level, as indicated by the Scheffe pairwise comparison procedure. The F-values have been derived from one-way ANOVAs. Rank refers to the ranking of each group with respect to the taxonomic variable in the row headings.

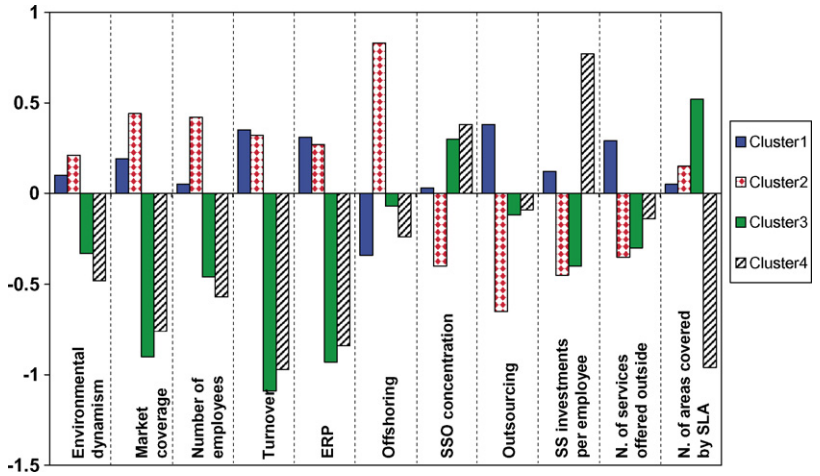

Fig. 2. Summary of configurations. Average values of the 11 taxonomic variables by cluster.

the existence of 4 configurations of fit between environmental needs and SS strategies, composed, respectively, of 62, 31, 15 and 16 firms. We proposed the following denomination for the four clusters: (i) business-minded optimisers; (ii) cost watchers; (iii) focused adopters; (iv) immature service providers.

To test "whether the configurational approach and the analytical procedure employed have any statistical power to distinguish among the uncovered configurations" (Bensaou and Venkatraman, 1995, p. 1480) we performed a series of one-way comparisons among the four clusters for all the 11 variables included in the model. Table 3 and Fig. 2 report the results of this exercise and suggest that all the variables included (with the sole exception of environmental dynamism) strongly discriminate among groups (at $p < 0.05$ with a Scheffe contrast). Table 4 provides information about the cluster breakdown by industry sector. To interpret the configurations through the lens of our theoretical framework we analyzed the four clusters based on the variables for which the observed differences across groups are statistically significant at the 0.05 level or less.

4.1.1. Configuration 1: business-minded optimizers

These are medium to large multinational companies that have well streamlined processes as demonstrated by their extensive use of ERP packages (most ERP adopters profit from the implementation of this software to undertake an extensive re-engineering of their processes). These firms operate in dynamic environments and invest quite heavily in their SSOs. For the most part their SSOs are run as independent businesses, offering some of their services externally as well. The fact that business-minded optimizers make little use of Service Level Agreements (SLA) reinforces the fact that for these SSOs the market controls and provides incentives for service levels. As a result, there is no need for internal quality control mechanisms such as SLA. The SSO exhibits relatively dispersed operations with low concentration. Also, these firms do not rely on offshoring, which is consistent with a well-established, business-minded SSO that displays little concern for cost reduction.

4.1.2. Configuration 2: cost watchers

Like the radical optimizers, these are large multinationals that operate in dynamic environments. Many of their business functions are also supported by ERP systems, suggesting the existence of streamlined processes. However, these firms have a radically different SS model characterized by low SS investments and by the fact that the SSO is run as an internal cost center. Services are not offered externally, and are monitored with an extensive use of SLAs to guarantee acceptable quality levels. These companies tend to extensively offshore their SSOs. However, the low level of SSO concentration indicates that operations are offshored to multiple locations, a practice also known as multishoring.

4.1.3. Configuration 3: focused adopters

This configuration consists of relatively small organizations run locally. Business functions are for the most part not supported by ERP. SS are consolidated in a few locations. The SSO is run internally, with little propensity to offer services outside. The fact that SS investments are kept to a minimum while there is some offshoring suggests a cost conscious approach to SS. Finally, firms in this cluster have SLAs in a larger number of functions than any other group, indicating the importance given to service quality.

Table 4
Cluster breakdown by industry sector

	Cluster 1			Cluster 2			Cluster 3			Cluster 4			SAMPLE	
	Number of firms	% (cluster)	% (sample)	Number of firms	% (cluster)	% (sample)	Number of firms	% (cluster)	% (sample)	Number of firms	% (cluster)	% (sample)	Number of firms	% (sample)
Engineering	4	6.5	3.2	2	3.2	1.6	1	1.6	0.8	0	0.0	0.0	7	5.6
Food and drink	2	3.2	1.6	4	6.5	3.2	0	0.0	0.0	1	1.6	0.8	7	5.6
Textile and clothing	1	1.6	0.8	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	1	0.8
Paper and publishing	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0
Electronics and software	4	6.5	3.2	3	4.8	2.4	1	1.6	0.8	0	0.0	0.0	8	6.5
Pharm and chemicals	6	9.7	4.8	4	6.5	3.2	2	3.2	1.6	0	0.0	0.0	12	9.7
Timber/plastics and construction	4	6.5	3.2	2	3.2	1.6	0	0.0	0.0	1	1.6	0.8	7	5.6
Utilities/energy industry	5	8.1	4.0	0	0.0	0.0	1	1.6	0.8	3	4.8	2.4	9	7.3
Other manufacturing	3	4.8	2.4	5	8.1	4.0	1	1.6	0.8	2	3.2	1.6	11	8.9
Transport and communications	3	4.8	2.4	3	4.8	2.4	1	1.6	0.8	4	6.5	3.2	11	8.9
Finance/banking and insurance	4	6.5	3.2	5	8.1	4.0	2	3.2	1.6	1	1.6	0.8	12	9.7
Information technology	2	3.2	1.6	1	1.6	0.8	1	1.6	0.8	0	0.0	0.0	4	3.2
Tourism and leisure	1	1.6	0.8	0	0.0	0.0	1	1.6	0.8	1	1.6	0.8	3	2.4
Retail	2	3.2	1.6	0	0.0	0.0	3	4.8	2.4	1	1.6	0.8	6	4.8
Distribution	1	1.6	0.8	0	0.0	0.0	0	0.0	0.0	1	1.6	0.8	2	1.6
Media	1	1.6	0.8	0	0.0	0.0	0	0.0	0.0	1	1.6	0.8	2	1.6
Other service	2	3.2	1.6	0	0.0	0.0	1	1.6	0.8	0	0.0	0.0	3	2.4
Other	17	27.4	13.7	2	3.2	1.6	0	0.0	0.0	0	0.0	0.0	19	15.3
Total	62	100.0	50.0	31	50.0	25.0	15	24.2	12.1	16	25.8	12.9	124	100.0

4.1.4. Configuration 4: immature service providers

These are small local firms operating in low-dynamism environments that make little use of integrated information systems. Their SSOs are also well consolidated. In these respects they resemble the focused adopters. However, their SSO is run very differently. First, these firms exhibit high commitment in their SSO, as demonstrated by their aggressive investments. Second, the SSO is externally oriented, once again motivated by market forces. Third, the SSO is run as an independent business that offers services outside the firm as well. Finally these firms do not use SLAs to control quality, and have little interest in offshoring.

4.2. Analysis of underlying dimensions

The 11 taxons used to characterize the SS organizations successfully uncovered 4 distinct configurations. However, as some of these taxonomic variables are correlated, we decided to extend our analysis by applying a dimension-reduction technique to examine whether the 11 taxons revealed any underlying structure. To this end, we applied multiple group discriminant analysis using each of the four configurations (coded into $4 - 1 = 3$ dummies) as a criterion variable and the 11 taxonomic variables as predictors (Miller and Roth, 1994). The analysis was conducted by means of the SAS CANDISC procedure (Canonical discriminant analysis), which is a dimension-reduction technique related to principal component analysis and canonical correlation. Given a classification variable and several quantitative variables, the CANDISC procedure derives *canonical variables* (*or functions*), i.e. linear combinations of the quantitative variables that summarize between-class variation in much the same way that principal components summarize total variation.

The results (Table 5) revealed the existence of three canonical functions with significant canonical correlations using Rao's (1973) approximate F statistics ($R_1 = 0.825$ with $p < 0.0001$; $R_2 = 0.699$ with $p < 0.0001$ and $R_3 = 0.484$ with $p = 0.0003$). F statistics for Wilk's lambda also indicates a significant overall multivariate relationship ($F = 0.125$ with $p < 0.0001$).

The canonical loadings and the standardized canonical coefficients (also displayed in Table 5) can be used to interpret the underlying canonical functions. Canonical structure loadings represent the correlation of the original variables with an underlying unknown dimension and can be interpreted like factor loadings in principal component analysis. Canonical coefficients are analogous to beta weights in a regression and can be used to predict cluster membership.

Based on canonical loadings larger than ±0.30, we interpret the first canonical function to be "operating scale" to reflect the fact that the largest correlates with this functions are the variables that reflect internal size (turnover and number of employees) geographical

Table 5
Results of canonical discriminant analysis

	Eigenvalue	Canonical correlation	Significance of canonical correlation	Sq. canonical correlation
Function 1	2.138	0.825	<0.0001	0.681
Function 2	0.954	0.699	<0.0001	0.488
Function 3	0.305	0.484	0.0003	0.234
Wilks' lambda	$F = 0.125$	$p < 0.0001$		

Predictors	Canonical loadings			Canonical coefficients		
	Function 1	Function 2	Function 3	Function 1	Function 2	Function 3
Environmental dynamism	0.278	−0.100	0.062	**0.377**	−0.129	0.235
Market coverage	**0.576**	−0.167	−0.097	**0.634**	0.129	−0.242
Number of employees	**0.350**	−0.251	−0.031	**0.442**	−0.001	−0.247
Turnover	**0.724**	−0.031	0.005	**0.891**	0.010	0.021
ERP	**0.621**	−0.017	0.012	**0.632**	0.013	−0.154
Offshoring	0.078	**−0.673**	−0.243	0.048	**−0.730**	−0.326
SSO concentration	−0.226	0.267	0.064	−0.134	0.225	−0.016
Outsourcing	0.101	**0.561**	0.286	**0.360**	**0.693**	0.303
SS investments per employee	−0.105	**0.470**	**−0.416**	0.199	**0.430**	**−0.708**
Number of services offered outside	0.173	**0.358**	0.117	0.199	**0.446**	0.229
Number of areas covered by SLA	0.139	−0.253	**0.702**	0.023	−0.346	**0.852**

Bold numbers indicate high loadings (weights) in canonical functions ±0.30.

dispersion (market coverage) and technological infrastructure. The fact that the variable technological infrastructure loads highly on this function is consistent with our interpretation, as extensive use of ERP packages in multiple functions is typical of large organizations that badly need this technology to streamline operations and simplify processes.

We name the second function ''marketplace mentality''. The fact that outsourcing, investments per employee, and outward orientation are all positively correlated with this function whereas offshoring is negatively associated with it suggests that firms that score high along this dimension perceive SS as a revenue-generating opportunity and extensively rely on market mechanisms to capitalize on it. Conversely firms that do not have a marketplace mentality run their SSOs as an internal function aimed at controlling costs.

Finally we call the third canonical function ''incubation model'' because it reflects the approach followed by parent organization to support the growth of the SSO from its infancy to its full maturity. Based on the fact that use of SLA is positive correlated with this function whereas investments per employee is inversely associated with it, we identify two antithetical incubation models. Firms that choose to maximize their investments in the SSO without requiring an SLA to guarantee quality standards clearly follow a ''nurturing'' approach as they provide the SSO with enough resources to develop following market needs, without forcing it to deliver specific results. Conversely firms that limit their investments in SSOs and that need to rely on formal SLAs to guarantee quality are representative of a ''monitoring'' model to SS development, which is somewhat similar to the command and control approach to managing human resources.

The four configurations that emerged from our analysis can be revisited under the light of the three canonical functions. Business-minded optimizers have a large operating scale, have a high marketplace mentality and follow a nurturing incubation model. Cost watchers also operate on a large scale but have a low marketplace mentality and prefer a monitoring incubation model. So do focused adopters, which conversely have a small operating scale. Finally, immature service providers also operate at a small scale but have a high marketplace mentality and prefer a nurturing incubation model.

It is also interesting to interpret the three canonical functions in relation to our initial conceptualization of fit between environmental and strategic variables. The analysis clearly suggests that environmental needs are best represented by a single underlying dimension that reflects the scale of operations. Conversely, the fact that the variables defining the SS implementation model load on two distinct functions indicates that the dichotomy between introspective and extroverted SSOs suggested by the Bywater (2001) and Citigroup (2002) studies is somewhat a partial view of a more complex reality.

4.3. Predictive validity

To assess the external validity of the proposed classification against an external criterion (Ketchen and Shook, 1996) we conducted a series of one-way analyses of variance using a new set of measures as independent variables and the cluster membership as the explanatory variable. To take fully into account the fact that the benefits of a shared services organization may be observed and evaluated at different levels, we examined performance differences along five distinct dimensions, namely: (i) savings per employee in the overall organization; (ii) savings per employee in the SS organization; (iii) savings per dollar invested; (iv) scope of SS benefits (i.e. number of areas in which the firms reported benefits after the implementation of SS); (v) proportion of beneficiaries (i.e. number of employees that benefit from SS divided by the total number of employees in the company). The first three measures are clearly relevant to companies that implement SS to improve efficiency and minimize costs. The fourth and especially the fifth indicator are more general and are often used as proxies to assess the performance of customer-oriented SS organizations.

Finally, to rule out the possibility that the observed performance differences across groups could be due to a different stage of ''maturity'' of the different SS organizations examined, we also included the average age of the SS organization (i.e. measured as the number of months elapsed since its establishment) as a sixth criterion variable.

Table 6 displays the results of a pairwise comparison among the four clusters with respect to the six criterion variables retained. The results confirm that the configurational analysis offers some useful insights to explain the differences observed across groups of adopters, as we found highly significant differences across the four configurations (the F-values range between $F = 5.50$ with $p = 0.001$ for the variable proportion of beneficiaries and $F = 2.35$ with $p = 0.076$ for the variable savings per employee). Also, they highlight that non-negligible performance differences exist across configurations, although the magni-

Table 6
Predictive validity: SSO performance by cluster

	SSO configurations				*F*-value (probability)
	Cluster 1 ($n = 62$)	Cluster 2 ($n = 31$)	Cluster 3 ($n = 15$)	Cluster 4 ($n = 16$)	
Scope of SS benefits					
Cluster mean	−0.15 (2)	0.45 (1)	−0.21	−0.09	$F = 3.020$
Std. deviation	0.89	1.25	0.63	0.96	$p = 0.033$
Rank	3	1	4	2	
Savings per employee					
Cluster mean	0.01	−0.24 (3)	0.57 (2)	−0.09	$F = 2.350$
Std. deviation	0.56	0.44	1.63	1.90	$p = 0.076$
Rank	2	4	1	3	
Savings per SS investment					
Cluster mean	−0.10 (3)	−0.10 (3)	0.81 (1, 2, 4)	−0.20 (3)	$F = 4.100$
Std. deviation	0.82	0.63	1.96	0.57	$p = 0.008$
Rank	2	3	1	4	
Savings/SS size					
Cluster mean	−0.04	−0.04	0.59 (4)	−0.33 (3)	$F = 2.450$
Std. deviation	0.84	1.05	1.57	0.62	$p = 0.067$
Rank	2	3	1	4	
Proportion of beneficiaries					
Cluster mean	−0.15 (3, 4)	−0.29 (3, 4)	0.57 (1, 2)	0.61 (1, 2)	$F = 5.500$
Std. deviation	0.82	0.88	1.18	1.27	$p = 0.001$
Rank	3	4	2	1	
SS experience					
Cluster mean	0.04	−0.03	0.11	−0.21	0.330
Std. deviation	0.93	1.00	1.22	1.11	0.802
Rank	2	3	1	4	

As in Table 3, the numbers in parentheses indicate the group number from which this configuration is different at the 0.05 level as indicated by the Scheffe pairwise comparison procedure. The *F*-values have been derived from one-way ANOVAs.

tude is different in the five cases retained. Conversely the analysis confirms that no statistically significant differences can be observed across clusters with respect to their level of maturity ($F = 0.33$ with $p = 0.80$).

When we look at the results from Table 6, we observe that focused adopters have the highest overall performance. Firms in this cluster not only outperform immature service providers with similar environmental needs, but also do better than the firms with large operating scale in clusters 1 and 2 on some dimensions. In particular, this cluster ranks first on saving related variables and second in terms of the proportion of beneficiaries. The fact that the variable on scope of SS benefits is ranked fourth suggests that companies in this cluster experience benefits along fewer dimensions. We would expect these to be primarily cost, and service to some extent. It is frequently stated by SS managers that cost savings are the first benefit to be observed in SSO implementations. Though not significant, the SSOs in this cluster exhibit the highest maturity in terms of age, which seems to be consistent with this claim. The success of focused adopters seems to lie in their focus on cost-cutting, while ensuring acceptable service levels with extensive SLAs. They differ from cost watchers in that they have lower diversity and size, and higher concentration of their SSO, potentially making it easier to focus.

Immature service providers are similar in operating scale to focused adopters. However, their performance on cost related measures is lower than focused adopters. This is not surprising, given that these firms do not focus on cost-cutting as much. A larger scope of benefits is reported by these companies. Providing services and generating revenue is a higher priority for these firms. Consistent with this, they nurture their SSO, and exhibit a marketplace mentality. Like focused adopters, these firms have high concentration in their SSOs along with a high propagation of services within the organization. We thus observe a pattern, wherein the highly consolidated SSO of small operating scale firms leads to an efficient SS operation, despite differences in management approach. The small operating scale

enables better consolidation, which in turn leads to higher SS effectiveness in terms of the beneficiaries in the organization. Overall, the problem with firms in this cluster seems to be that they lack the necessary size or diversity to benefit from their investment, or suffer from an immature marketplace orientation in a company where processes have not been sufficiently streamlined and taken under control. Indeed, these are the youngest firms among the four clusters (though not significantly so). This view is confirmed to some extent upon comparison to the business-minded optimizers that follow a similar SS model though have radically different SS needs.

Overall, the companies in the business-minded optimizers cluster tend to follow the focused adopters in terms of performance. Hence, among the large operating scale firms, business-minded optimizers outperform the cost watchers. Their savings are somewhat more than the latter, however they report SS benefits in fewer areas. This could imply that they are more focused, but it could also be a consequence of not reporting benefits in areas like process standardization since this has already been achieved. Like the immature service providers, firms in this cluster adopt a high marketplace mentality, nurture their SSO, and consequently do not prefer to offshore their SS. Their superior performance suggests that investments into shared service organizations exhibit increasing returns to scale. Given their diverse needs, their SSOs tend to be spread out in many countries. Compared to the focused adopters and immature service providers both the business-minded optimizers and cost watchers have lower proportion of beneficiaries. This is consistent with our earlier observation on firm operating scale, SSO concentration and SSO penetration. Larger multinational firms have a harder time consolidating their SS, thus employ more people relative to the overall firm size than smaller local firms.

Finally we have firms in the cost watchers cluster with the highest diversity and size in terms of number of employees. These firms are characterized by their significantly higher propensity to offshore their SS operations compared to all others. The multishoring results in the SSO with the worst ratio of SSO employees to total number of employees. While their internal SSO that is closely monitored by SLAs seems to lag behind the business-minded optimizers in terms of cost savings, these firms report the highest scope in SS benefits. Since their SS model is one that emphasizes cost containment, this seems to show that these firms are still struggling on many dimensions like process standardization, service, and costs, and as a result can report benefits on several dimensions. Their size and diversity, and potentially immaturity are resulting in inferior performance compared to a focused adopter firm. Indeed, a regression exploring the direct relationship between SSO age (maturity) and the incubation model provides support for the thought that younger SSOs need more investment and nurturing. The correlation between function3 and age is found to be 0.217 and it is significant almost at the 1% level ($p = 0.0154$). Thus, we find that complexity exhibits decreasing returns to scale. Another possible explanation is that offshoring such a complex operation to SS in multiple countries, and then managing this complex SSO leads to the lower performance demonstrated by firms in this cluster.

5. Conclusions

The analysis has identified four dominant SSO configurations. These can be described via three functions: operating scale, market mentality, and incubation model. Environmental needs are captured by the operating scale function, and SS capabilities by the market mentality and incubation model functions. The configurations provide a rich description of firm and SSO characteristics in each cluster, thus improving the common uni-dimensional view of SSOs. The results provide partial support for the fit model proposed. The following conclusions can be drawn (Fig. 3).

SS needs dictate the appropriate SS model. Firms treating their SS as a cost center and adopting a monitoring based incubation model can perform quite well in small local firms that have not necessarily deployed integrated information technology. On the other hand, this approach seems to become too complex

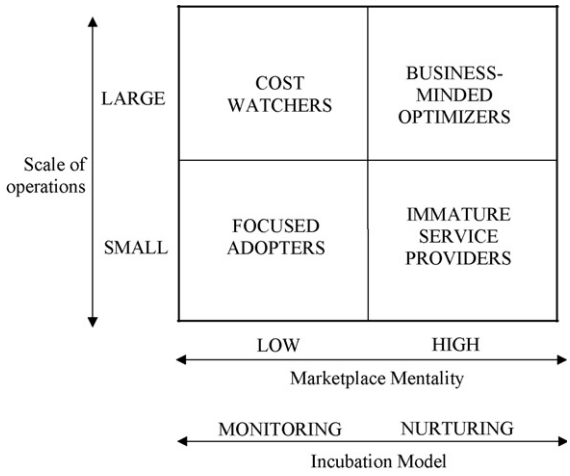

Fig. 3. Summary of the four configurations as a function of canonical functions.

for firms with large operating scale, which offshore their SSO, and savings suffer as a consequence. The model that sets up the SSO as an independent business, focuses on revenues, and invests heavily, does not need SLAs to ensure service and benefits from large operating scale. Incentives are better aligned and the firm overcomes the problem of controlling a complex organization. The superior performance compared to smaller firms may be a result of maturity in terms of processes in such organizations, or the fact that there is more room for savings in large diverse organizations. Thus, unlike the common argument that suggests the superiority of a high market mentality we find that this is contingent on the environmental needs of the SSO. Similarly, we find no significant support for the common argument that as SSOs mature, they shift to a market-oriented model.

SSOs of small local firms with centers in only a few countries, require fewer employees relative to the total number of employees in the firm. This suggests that such firms have more efficient SS operations compared to their highly complex multinational counterparts. Our results also demonstrate that in the sample, only about a quarter of the firms have a strong interest in offshoring. These are large multinational companies that do not outsource their SSO, but offshore it to a large number of different locations. This strategy seems to penalize firms in this cluster on the performance measures being considered. It seems that keeping the SSO in-house, multishoring, and adopting a monitoring type incubation model is not appropriate given the environmental needs of such firms. Albeit not significant, the offshoring seen in the focused adopters seems to provide a lower complexity setting where this strategy results in success. It would be an interesting topic of future research to test the hypothesis that complexity hurts the performance of this type of offshoring strategy.

Our results need to be interpreted in light of the following caveat. Our data did not contain information that would allow us to evaluate more revenue and/or service-oriented performance measures. Such data could have shown us more precisely how each configuration rates on performance, and may have illustrated a tradeoff between savings and other performance metrics in some parts. This remains as the most important issue for future research.

To our knowledge, this is among the first academic studies on shared service organizations. Introducing structures of SSOs as a research topic is an important contribution of this paper. Given the significance of this topic to practitioners, we believe that it merits further inquiry.

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