

Successfully Implementing a Service Business Model in a Manufacturing Firm

Ivanka Visnjic, Bart van Looy

This is a working paper

Why this paper might be of interest to Alliance Partners:

This research looked at 10 sales-and-service subsidiaries of a successfully servitized manufacturing multinational in light of recent empirical evidence which suggested that there may be a performance decline as a result of hurdles associated with implementation of services. Results from this research showed that success in setting up a service business within a manufacturing firm was due to three operational capabilities; the skill set to extend the relationship with broad client base; the capability to develop sophisticated service offerings for selected clients; and the ability to offer all the services efficiently. This paper offers academics and practitioners of servitization a guiding framework to develop a comprehensive set of service capabilities, and highlights the complex nature of their relationships and ways to balance it.

March 2013

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SUCCESSFULLY IMPLEMENTING A SERVICE BUSINESS MODEL IN A MANUFACTURING FIRM

Ivanka Visnjic, ESADE Business School, Spain and Cambridge Service Alliance

Bart Van Looy, Faculty of Business and Economics, K.U.Leuven, Belgium

ABSTRACT

Purpose: The expected economic benefits of ‘servitization’, a popular trend among durable goods’ manufacturers designed to expand the scope of their offerings from products into through-life-cycle services, have been disputed in light of recent empirical evidence suggesting that hurdles associated with the implementation of services may even result in performance decline.

Methodology: We undertake extensive research into ten sales-and-service subsidiaries of a successfully servitized manufacturing multinational to shed light on this ‘service paradox’.

Results: Success in setting up a service business in a manufacturing firm results from the presence of three operational capabilities that facilitate service performance. First, a manufacturer must possess a skill set capable of extending the relationship with its (product) clients towards services in order to achieve presence in the service market. At the same time, the capability to develop service offerings that provide better coverage of customers’ needs, and to deliver these sophisticated after-sales services successfully, is required to grow the service business profitably.

Implications and originality: Maintaining the breadth of service presence while deepening customer relationships can be a challenging balancing act, since capabilities that contribute to ‘service presence’ may conflict with the deployment of ‘service development’ and ‘service process’ capabilities. This paper offers to academics and practitioners of servitization a guiding framework within which to develop a comprehensive set of service capabilities, and highlights the nature of their relationships.

1 INTRODUCTION

Servitization represents a tendency among durable goods’ manufacturers to extend the scope of their offerings into services that accompany products throughout their life cycle. A well-known representative of this business model innovation (Amit and Zott, 2001; Spring and Araujo, 2009) is Rolls-Royce Aerospace, which evolved from being a pure manufacturer of aero engines into a product-service provider of aerospace solutions. Rolls-Royce’s involvement in services started

with the provision of spare parts, developed into maintenance and overhaul services, and then further evolved into the provision of 'power-by-the-hour' or total-care packages, where customers purchase the capability that the engine delivers while Rolls-Royce retains responsibility for maintenance as well as risk (Neely, 2008). Other examples of similar servitized enterprises include ABB, Caterpillar, GE, IBM, and Xerox (Cohen et al., 2006).

Recent data suggest that, globally, over one-third of large manufacturing firms offer services, with the proportion increasing to almost 60 per cent in Western economies (Neely, 2008). Another study reports that, for an average manufacturing firm, the share of service sales has reached 31 per cent (Fang et al., 2008), testifying to the financial weight that service activities now command in a manufacturing firm. The available literature on the performance effects of servitization on the one hand suggests high expectations for benefits, while on the other hand reporting mixed empirical evidence. Both of the large-scale studies available have produced controversial results: one study reports that servitization has a positive impact on the market value of manufacturing firms operating in low-growth industries, but not on those in growing industries (Fang et al., 2008); while the other study warns that servitization may negatively affect profit margins, depending on the complexity of the service portfolio and the size of the firm (Neely, 2008).

The complexity of service business model implementation would appear to lie at the heart of this 'service paradox'. Several authors point to implementation hurdles, which may be due to the cultural and cognitive underpinnings of the manufacturing firms and their reluctance to understand and adopt 'service values' (Bowen et al., 1989; Gebauer et al., 2005; Gebauer, 2009; Tuli et al., 2007). The literature typically prescribes organization design solutions to remedy potential implementation debacles (Gebauer et al., 2005; Mathieu, 2001; Neu and Brown, 2005; Neu and Brown, 2008; Oliva and Kallenberg, 2003). While organizational arrangements are at the forefront of the debate, some contributions point out resource and capability gaps that manufacturing firms face when attempting service business development (Gebauer et al., 2005; Mathieu, 2001; Oliva and Kallenberg, 2003). To date, capabilities literature has concentrated on the capabilities that assure the effectiveness of the product-service interface, while resources and capabilities that underpin the development of the service business have been neglected.

Relying on contrasting case studies of ten country sales-and-service subsidiaries of a multinational product-service provider, we aim to fill this research gap by providing an encompassing and well-structured conceptualization of service capabilities that underpin the success of service business model development. Our findings seem to suggest that service success is a function of three operational capabilities. First, a manufacturer has to possess a skill set **that is** necessary to extend the relationship with its (product) clients into services and achieve a presence in the service market. Second, the capability to develop service offerings that provide

better coverage of customers' needs is assured to further grow the service business. Third, the capability to improve the delivery efficiency of more sophisticated service provision is important if growth is to remain profitable. At the same time, achieving the first objective, along with the second and third, is a challenging balancing act, since a skill set that contributes to the 'service presence' capability set may hamper the deployment of 'service development' and 'service process' capabilities. Developing the breadth of 'service presence', achieved through the 'bargain' sale of basic services, is at odds with deepening customer relationships based on the provision of sophisticated, efficiently delivered services.

2 LITERATURE REVIEW

2.1 Adoption of a servitization strategy and the 'service paradox'

In recent years, the servitization of manufacturing firms has been a topic of discussion in both academic and practitioner circles. Three studies that looked into the performance effects of servitization reported mixed findings (Fang et al., 2008; Neely, 2008; Visnjic and Van Looy, 2009). Servitization seems to have a positive impact on certain performance aspects (Neely, 2008; Visnjic and Van Looy, 2009) and in certain conditions (Fang et al., 2008). However, potential disadvantages and negative performance effects that may appear under alternative conditions seem to be in striking contrast to the benefits expected. Labelled as the 'service paradox', they have become the focus of interest of the academic and practitioner community. In addition to some of the industry-level factors that determine the impact of servitization on performance, success in the implementation process would appear to be one of the most notable internal factors.

First, the literature articulates the challenges that manufacturers face in adopting service values and, in particular, a cultural and cognitive bias against service. Bowen et al. (1989) were the first to stress the reluctance of a product firm's management to accept service-specific values (e.g. acknowledge heterogeneity and flexibility), since these values could contradict traditional manufacturing goals and practices, such as standardization and efficiency. Adopting the culture supporting these values is difficult due to the lack of managerial attention and a cognitive bias towards equipment practices (Gebauer et al., 2008; Gebauer, 2009) that can be found at all levels of the organization but especially in the selling process (Gebauer et al., 2005; Mathieu, 2001; Oliva and Kallenberg, 2003). According to Oliva and Kallenberg (2003), salesmen have been known to consider services as an 'add-on' that is frequently given away free to stimulate product sales. Besides the perceived 'simplicity' of service underpinning the aforementioned sales practices, there is a lack of understanding about return patterns in the service business. While product returns follow large but erratic patterns, services yield more modest but regular returns over long periods of time.

2.2 Organizing to solve a service paradox

As elaborated earlier, manufacturing firms appear to have difficulties switching their product-oriented business model to building the milestones of the service business; they also encounter difficulties in developing the service business. Much of the research performed in this domain seems to seek solutions in organizational arrangements (Bowen et al., 1989; Martin and Horne, 1992; Mathe and Shapiro, 1993; Galbraith 2002; Mills et al., 2008). Some studies seem to emphasize the organizational arrangements necessary for the service business to co-exist with the product business, while other studies place greater focus on the organizational principles that help the development of the service business per se.

Galbraith (2002) was among the first to point out the importance of the organizational integration of products and through-life service provision in the context of durable goods' manufacturers. Baines et al. (2009) also found that product manufacture and service delivery are largely decoupled, resulting in a myriad of issues and challenges; they suggest that a more integrated operations strategy is required. Neu and Brown (2005) suggest that products and services should be managed through the integration of responsibilities, intra-unit collaboration and decentralized decision-making. Finally, Johnstone et al. (2009) warn that the complexity required for the simultaneous and integrated delivery of world-class products and services should not be underestimated.

On the other hand, another stream of contributions views organizational arrangements as a crucial factor influencing the development of the service business per se. Oliva and Kallenberg (2003) and Gebauer et al. (2005) argue that a separate service unit with a dedicated sales force, service technicians and information systems is a necessary stepping-stone for service business development. They argue that it is difficult to pioneer service investments before services are made a profit centre with accountability and transparency; unless organized in a separate organizational unit, services will always be considered and managed as an add-on to the product activities.

2.3 Resources and capabilities for servitization

Complementary to the literature on organizational design, a growing number of contributions signpost the resources and capabilities that a manufacturer must possess in order to become a service provider. The capabilities of a firm refer to the resources, knowledge and competencies a firm possesses that enable it to attain sustainable competitive advantage (Helfat et al. 2007; Teece et al., 1997; Barney, 1991; Prahalad and Hamel, 1990; Wernerfelt, 1984). Proponents of the resource-based view (RBV) of the firm see firms as unique bundles of resources where an increase in firm value is achieved through the optimal development and deployment of resources. Because performance is a function of a mix of resources adopted by firms, differences

in the resource portfolios of firms allow different performance outcomes, where superior research combinations lead to the achievement of competitive advantage (Ansoff, 1965; Barney, 1991).

In order to successfully transform its business model from product-driven to service-driven, the manufacturing firm must possess capabilities to design and deliver services as well as products (Ceci and Prencipe, 2008; Davies and Brady, 2000; Miller et al., 2002). In this respect, capabilities that help manufacturers achieve effective interface between products and services are at the core of the academic debate. In particular, capabilities related to project delivery (Brady and Davies, 2004) and systems integration (Davies et al., 2007; Hobday, Davies et al., 2005) have been flagged up as indispensable for the adoption of a service-oriented business model and the achievement of an effective product–service interface. Building on this research, Windahl et al. (2004) suggest that companies need to strike the right balance between technical and integration competence with market/business, consulting and partnering competences to succeed in providing integrated solutions. Subsequent studies further extend the idea of joint product–service deployment to directly define integration capabilities (Brady et al. 2005). In this respect, Davies et al., (2006) further expand the concept of integration capabilities by outlining prerequisite capabilities and laying out three levels of organizational capability to chart the journey that integrated solutions’ providers must take.

When it comes to the (operational) capabilities that contribute to the manufacturer’s development of the service business, the literature demonstrates less cohesion. Correa et al. (2007) take a step in this direction by outlining a framework containing operational factors that have an impact on the delivery of manufacturing services (stockability, intensity of interaction, simultaneousness of consumption, and ease of performance assessment). While their approach facilitates manufacturing operations, managers’ understanding, and the ability to manage service business operations, further research is needed to clearly outline specific capabilities for delivering services with the characteristics that they specify.

Apart from this contribution, the literature seems to contain only scattered mentions of the specific skills that authors have identified by way of illustration or anecdotal evidence. Gebauer et al. (2005) and Oliva and Kallenberg (2003) both notice that the lack of service–sales skills may be crucial to the provision of solutions, given that the existing product–sales force is trained to build sales’ arguments on the basis of tangible product characteristics rather than intangible service outcomes. Bowen and Ford (2002) argue that a manufacturer needs to hire executives with skills in managing a service business rather than a product business. On the operational side, the capability to articulate and document processes involved in service provision appears to be one of the crucial determinants of service delivery effectiveness (Tuli et al., 2007). Finally,

the lack of service IT infrastructure and effective management systems has been identified as one of the most notable resource requirements (Penttinen and Palmer, 2007).

While organizational literature clearly provides a balanced view of the organizational arrangements necessary to develop a product–service interface, as well as the organizational arrangements suitable for developing a service business per se, the capabilities literature is oriented more towards the capabilities that assure an effective interface between products and services. With this contribution, we aim to close the research gap on the issue of capability requirements for the development of the service business within the manufacturing firm, and to develop a more encompassing view of the capabilities required for setting up a professional service business.

We structure our research endeavours around the following research question:

- What are the key resources and capabilities that underpin the effective/successful development of the service business within a manufacturing firm?

3 RESEARCH METHODOLOGY

3.1 Research setting and case selection

In order to identify all capabilities that underpin performance with respect to service development, we engaged in an exhaustive survey of service-related activities and service-related performance of a representative set of manufacturing organizations involved in service provision. The nature of the research question prompted us to conduct in-depth case studies of ten sales-and-service subsidiaries of a global equipment manufacturer, thereby combining the advantages of an inductive case study design (Eisenhardt, 1989) with multiple, comparative case studies that allow for replication logic (Yin, 1994).

The multilevel study design adopted within one firm, referred to as Servino, lent itself well to the study of variation in resources and capabilities while, at the same time, allowing for homogeneity with respect to the product and service offering, as well as the base organizational structure and activity system at the level of subsidiaries (Cook and Campbell, 1979). The decision to focus on the sales-and-service subsidiaries was motivated by the fact that – for Servino, as well as for most global industrial manufacturers – country subsidiaries play the role of boundary-spanning units and represent the firm in a local market (Daft and Lewin, 1993; Vargo and Lusch, 2004).

The choice of the mother firm has been both deliberate and representative (Eisenhardt, 1989; Yin, 1994). Over the last decade, Servino has been deploying a service business model in most of

its subsidiaries. At the same time, a highly decentralized structure has allowed for considerable levels of discretion in terms of the development of different capabilities on the level of country subsidiaries. By choosing subsidiaries that vary in their relative performance, we were able to learn from the differences in capabilities (while holding the organizational design and activity system constant), and to explain why a given set of antecedents leads to better or worse performance. For additional information on Servino, please consult Appendix 1.

To understand which capabilities underpin the success of a service business, we needed to select subsidiaries according to their differences in *relative* performance. More specifically, we performed a two-stage subsidiary selection process, where we identified subsidiaries that vary, first, with respect to service-related performance and, second, with respect to service potential. First, we considered the performance profiles of all the subsidiaries. In frequent discussions with Servino's top management, we learned that the service-related performance of subsidiaries can be encapsulated in three dimensions: a) service coverage of the customer base; b) sophistication of the service offering or realization of the service market potential; and c) profitability of the service business. The input from the Servino management on how to measure performance on the three dimensions yielded the following indicators:

- 'Service coverage' = % of serviced products in the total product base.
- 'Service realization' = % of total sales coming from sophisticated service offerings.¹
- 'Service profitability' = % of service profits in total service sales.

Afterwards, we clustered all subsidiaries according to the *potential* to develop a service business. As the propensity of customers to outsource service provision is higher in mature and developed markets (Neely, 2008), we looked to select subsidiaries that varied in terms of the economic development of their country markets; we were understandably keen to keep track of environmental conditions. To account for the full variation on three performance indicators and one indicator of potential, ideally we would have needed $2^4=24$ cases. As this was not feasible in practice, we satisfied ourselves with identifying a sufficient number of subsidiaries so that we had four distinct performance profiles for each of the three performance indicators. More specifically, we chose subsidiaries where each service–performance indicator forms four possible outcomes with service potential (high/high, high/low, low/high and low/low). Thanks to the overlap, ten subsidiaries were sufficient to analyze each performance profile (see Table 1). This, in turn, allowed us to better isolate the practices that contribute to or hamper a given performance dimension, *ceteris paribus* in terms of expected differences in service potential.

While it is important to isolate the performance effect of organizational antecedents from environmental factors, such as market development, on performance measures, it is equally

¹ Examples of the advanced service sales are total responsibility plans or performance-based service contracts.

important to demonstrate that each performance measure covers a distinct aspect of performance. While conceptual differences were clarified earlier, it is instructive to say that pairwise correlation statistics performed for three performance indicators over 30 subsidiaries is restricted to the -0.15 to 0.30 range.

Table 1: Performance profiles of the researched subsidiaries

Service performance /Service potential	Service coverage	Service realization	Service profitability
High/High	AGA, BGA, EGA, GGA	AGE, BGA, GGA	AGE, GGA, HGL
Low/High	AGE, HGL	AGA, EGA, HGL	EGA, AGA, BGA
High/Low	BGD, RGA, SGT	BGD	SGT, TGD
Low/Low	TGD	RGA, SGT, TGD	BGP, RGA

Note: 'High' and 'Low' is determined in relation to the average of 30 subsidiaries with available data.

3.2 Data collection and analysis

Collection and analysis of the service performance data for the purpose of subsidiary selection helped initially in understanding the performance profile of each of our research units. Further data collection and analysis was oriented towards organizational data, retrievable from both archival data and interviews. Research has evolved through several phases, starting from data collection and description and leading to analysis and validation (Pentland, 1999; Pettigrew, 1990). As is common with case-study research projects, we allowed for phases to overlap and intertwine (Faems et al., 2008) but, at the same time, we followed a structured approach based on reiteration of each phase through several steps (see Table 3).

We started collecting qualitative data in a week-long visit to a 'representative' subsidiary. This visit was used to construct an exhaustive list of a) activities, b) resources and capabilities that underpin these activities, and c) external factors (customers' positions, economic factors). The list came to represent a base for a semi-structured interview protocol used in a subsequent step (Kvale, 1996). In the second data-collection step, we conducted approximately ninety face-to-face, hour-long interviews during a three-day visit, conducted separately for each of the ten country subsidiaries under study. For each subsidiary, multiple informants were used in order to arrive at a complete picture of the activities and the resources and capabilities deployed, as well

as to validate the milestones of the evolution over the last eight to nine years.² To further counter disadvantages inherited from partially retrospective data collection, we concentrated on concrete events, structural characteristics and decision-making examples (Miller and Salkind, 2001). In parallel with the interviews, we drew on internal company documents, including business-review-meeting presentations and minutes, organizational charts and organograms, employee data and financial reports over an eight-year period for each subsidiary. Archival data was used to understand the formal and structural aspects of the subsidiary and to track evolutionary aspects of the managerial practices deployed in the subsidiary.³ Interview data was primarily used to interpret managerial practices in archival data and to inform researchers concerning the 'soft' side of organizational practices that could not be captured by archival data (e.g. managerial attitudes to services and informal integration practices).

To obtain an accurate picture of the subsidiaries and to structure this wealth of collected data, we began by deploying activity-system mapping (Porter and Siggelkow 2008). We opted for a variant of activity-system mapping called service blueprinting, which has frequently been used as a tool for making sense of service businesses (Bitner et al., 2008). The main characteristic of service blueprinting is a distinction between a front line that is exposed to client contact and a back office or internal part of the activity system. Given that we had sales and service subsidiaries from a single mother company that provided the same range of products and services and shared similar organizational characteristics, we were able to design a generic activity system containing all activities for each subsidiary that directly or indirectly contributed to the sales and provision of both products and services. The generic blueprint of a subsidiary activity system can be found in Appendix 2.

² Informants' roles ranged from general manager, equipment manager, service manager, service marketing manager, service operations manager, service marketing specialist, service planner, service sales engineer, equipment sales engineer, and technical support specialists, to sales supervisor and service operations supervisor.

³ Though we were primarily concerned with concurrent performance, sometimes historical information was helpful to shed light on current practices or even performance; this was especially true for cases where performance was slow to adjust to the change in practice and referred more to historical actions. Archival data was useful for this purpose as it contained references to the subsidiary's strategies as well as planned and performed activities.

Table 2: Process of data collection, analysis and validation

	A. Data collection (quantitative)	B. Data analysis (quantitative)	C. Data collection (qualitative)	D. Data analysis (qualitative)	E. Data validation
STEP 0 'Prepare'	Performance data collected for all 54 subsidiaries from internal sources.	Performance of 54 subsidiaries compared, a representative subsidiary chosen to be 'tested'.	Five-day visit, ten interviews with multiple informants at the test subsidiary.	Semi-structured interview guide developed	Interview guide supported by the VP for services.
STEP 1 'Explore'		Ten subsidiaries chosen on the basis of the service potential (country development) and three performance dimensions.	>Ninety face-to-face one-hour interviews with multiple informants. Bi-annual reports from 2001 to 2008 analyzed for each subsidiary (>1000 slides x 10 subsidiaries).	Activity system map containing all activities and interdependencies among the activities developed.	Activity system map supported by the President for Services.
STEP 2 'Confirm'			Ten key informants for each subsidiary (service manager) interviewed to confirm that data collection is exhaustive.	'Subsidiary profiles' that demonstrate organizational characteristics for each subsidiary, based on the same activity/structure map are developed.	Validated each subsidiary profile by the President for Services and the global VP in charge for that subsidiary.
STEP 3 'Interpret'				1. Extracted capability commonalities across the subsidiaries. 2.Extracted capability differences. 3. Triangulated capability differences with performance differences to assess which capability led to better <i>relative</i> performance. 3. Derived capabilities that contribute to the overall service business development success.	Validated interpretation and the frame of 'success factors' by the President for Services and the CEO of the firm.

Having blueprinted the generic activity system, we were able to identify subsidiary-specific resources and capabilities that, according to informants, underpinned the provision of activities in the front line and internal-service-activity clusters. Data analysis culminated in the arrangement of subsidiary-specific insights in the front line and in internal-service-activity clusters, and in the separation of capabilities shared across all the subsidiaries by differentiating capabilities and resources that were present in some subsidiaries but not in others (see Table 3).

After separately listing the capabilities shared by all researched subsidiaries from the factors where differences among the subsidiaries occurred, we triangulated capability differences with performance differences across subsidiaries to infer which resources and capabilities led to a difference in performance. While the results of this exercise are elaborated in detail in the following section, it is worthwhile noting that, in the early stages of the analysis, data highlighted the association between front-line capabilities and ‘service coverage’ on one side, and two clusters of internal/back-office capabilities and ‘service realization’ and ‘service profitability’ on the other.

Table 3: Shared and differentiating organizational factors

Service activity cluster	Shared factors (most notable)	Differentiating factors
Front line	Skilled technicians Skilled salesman	Service offering: tangible (process) vs intangible (outcome) Customization capabilities: present vs missing Selling resource: salesmen only vs all front-line staff
Internal/Back office	Service manager Administrative support	Business development resources: high vs low Service design and marketing capabilities: high vs low Technology knowledge transfer capabilities: present vs missing Service IT infrastructure: present vs missing Capabilities for setting up process-driven organization: present vs missing Capability for continuous process improvement using performance measures: present vs missing

In the process of validation, we relied on input from top management at headquarters level. Their profound expertise in the subject area and extensive knowledge of country subsidiaries helped to corroborate our understanding of the information presented by informants. Every step in the data collection and analysis process was followed by a verification stage. First, the activity-system map was confirmed by the service manager of each subsidiary. Second, the

profile of each subsidiary containing the activity map and organizational characteristics was then scrutinized by Servino's President for Services and the vice presidents from the headquarters responsible for that subsidiary. After their consent was received, we performed the concluding stage of data triangulation, explained earlier, and had our final result – the organizational antecedents of a successful service business model – validated by the President for Services and Servino's CEO.

4 RESULTS – SERVINO'S SERVICE BUSINESS MODEL

In Section 4, we will elaborate on the factors that underpin Servino's service business development. First, we will outline the overall organizational design of Servino, and we will discuss the shared organizational characteristics of all its subsidiaries. We will then proceed to clarify the discrete implementation practices, including the differences with respect to the resource base and to capabilities, linking them to their impact on performance.

4.1 Servino's service business model choice and overall implementation pattern

Servino's product offering encompasses an assortment of equipment types, which complement one another in covering a variety of industrial applications. For the majority of its customers – largely, industrial manufacturers – these products represent investment goods that will form part of their production units for years to come. In line with its customer-centric product strategy, Servino chose a decentralized structure (Daft, 1997), characterized by direct access to customers through a network of country subsidiaries. Each subsidiary, headed by a general manager (GM), is charged with establishing and maintaining market presence with a full spectrum of product and service offerings in a given country market. While accountable for the implementation of the corporate strategy in his/her local market, the GM has considerable autonomy regarding how to accomplish this.

Proximity to customers and the ability of GMs to act with operational autonomy eventually led to the spontaneous embrace of service activities and the emergence of a service business model at subsidiary level (Mintzberg and Waters, 1985). Appointments of dedicated service business line managers (BLM) in a majority of subsidiaries represented a response to the need for service capability building. From the beginning, service BLMs helped to achieve functional specialization and to develop operational service capabilities.

Today, each of the subsidiaries has a comparable core activity system (see Appendix 2). A front-line product-activity cluster assures that products are offered, sold and delivered to customers, while an internal product-activity cluster prepares, manages and administers the sales process, as well as the service delivery. Similarly, a front-line service-activity cluster follows up with the sale of service offerings and service delivery, while an internal service-activity cluster prepares,

manages and administers sales and the provision of service offerings. Given that the production and design activities of products are not situated in boundary-spanning units, the service-activity cluster is larger and more complex by comparison. The activity system of all subsidiaries is embedded in the same structure at management level; all product-governance activities fall under the responsibility of a product BLM, while all service activities fall under the responsibility of a service BLM (see Figure 3 of Appendix 1).

The relatedness of product and service activities, together with the organizational architecture that assures a high level of intimacy with the customer base, constitute an integrated service business model design that prevails across all subsidiaries. While the business model design choice, and the organizational structure and activity system used to implement it, are similar across the subsidiaries, the capability profiles can differ significantly. As the following section demonstrates, the capability differences among subsidiaries can be associated with differences in performance.

4.2 Capabilities to develop a successful service business at Servino

Servino, like most product manufacturers with an ambition to build a presence in the market for industrial services, has concentrated on three goals. The first goal has been to develop service relationships with a majority of existing product customers⁴ or to achieve 'service coverage'. The second goal has been to deepen these relationships by providing a service portfolio that better satisfies customers' operational needs related to the products – namely, to achieve 'service realization'. And the third goal has been to provide services efficiently and effectively, and hence achieve 'service profitability'. To summarize what follows, we find that distinct resources and capabilities are necessary for the attainment of each of these goals.

4.2.1 Achieving service coverage

One of the first goals of manufacturing firms with respect to service provision is to establish service contacts with existing (product) customers, with the aim of maintaining the customer relationship between two product purchases⁵ and eventually growing the service business. At Servino, the achieved prevalence of service relationships in the existing (product) customer base is monitored through a 'service coverage' indicator (measured as a percentage of total customers receiving service offerings).

The activities necessary to achieve high 'service coverage' were identified as service sales activities that always pertained to the front-line activity cluster. Service salesmen (or joint

⁴ At a later stage, the manufacturer can also aspire to expand service relationships beyond their own customers to the owners of related machines and the machines of competitors.

⁵ A period between two product purchases can exceed ten years for some durable goods. Unless a manufacturer maintains contact with a customer throughout this period, the relationship is exposed to competition.

product–service salesmen) were a resource common to all subsidiaries. While all subsidiaries used the same core activities and resources to achieve ‘service coverage’, the effectiveness of the subsidiaries in achieving ‘service coverage’ varied nonetheless. As we discovered, these variations were correlated to the availability of additional resources and capabilities (beyond basic service sales’ resources) involved in service sales.

According to our respondents, the ability to attract the vast majority of customers was a function of service sales personnel having the capabilities to achieve the following sub-goals. First, the service offering had to appeal to a large number of customers. Second, the service offering and the pricing had to be adjustable to a customer’s specific needs. Third, the involvement of non-sales front-line personnel in the selling process increased the likelihood of sales contact and, hence, customer acquisition. We found that achieving each of these goals was predicted on making available specific resources and capabilities. These are described below.

A tangible service offering captures the service interest of a vast majority of customers. Basic service, such as spare-part replacement or repair of a broken product, is easily ‘sold’ to any customer needing functioning equipment. Given the simplicity and tangibility of selling service as a process (e.g. service visit), rather than as an outcome (e.g. service availability), a firm has no need to hire specialized service salesmen or invest in service training of the product sales force. Subsidiaries that compete on tangible services can easily leverage the existing (large) equipment sales force, which provides them with broader access to customers. It is worth noting that, when the offer focuses on service processes, sales arguments tend to be structured around price negotiation rather than on ‘demonstration of benefit’.⁶

On the other hand, some subsidiaries have decided proactively to offer a more sophisticated service offering and to invest in a specialized sales force capable of presenting the benefits of sophisticated service products to customers (Reinartz and Ulaga, 2008), as with, for example, total responsibility plans that guarantee equipment uptime or other performance-based contracts.

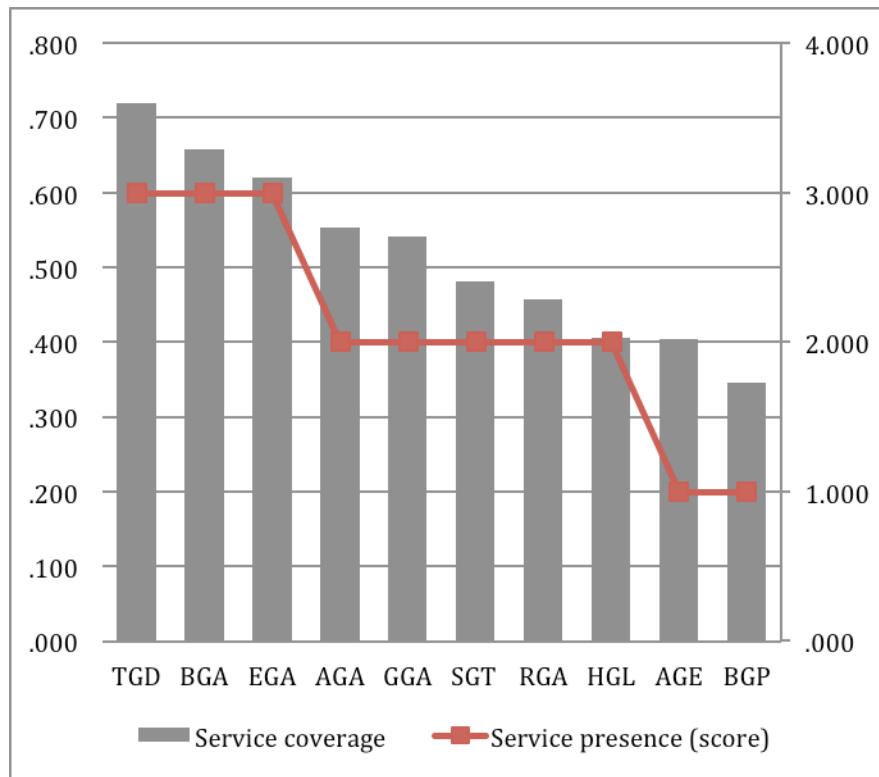
Besides tangibility of the service offering, the majority of customers responded well to the willingness of salesmen to **customize service and remain flexible on price**. Some customers had internal technicians who could perform basic service processes or who already had some of the consumables used in the service (e.g. oil can be bought in bulk, for several equipment types). Customizing the service offering to exclude some of these processes and materials, and adjusting the price accordingly, would help to win over customers (Anderson and Narus, 1995; Ovans, 1997). For example, some subsidiaries were willing to downgrade their maintenance

⁶ Further implications of this approach will be discussed in relation to price flexibility, as well as attainment of ‘service realization’.

programmes or regular repairs for a price discount (e.g. a technician would schedule the customer for one less visit than recommended). Other subsidiaries were even willing to heavily discount the prices of the existing service offering. In extreme cases, service visits would be given free.

By **involving all front-line employees in the selling process**, subsidiaries had broader access to customers and were more likely to make service contacts and forge service relationships. To secure a better grasp over their customer base, several customer centres decided to involve technicians in the selling process. Technicians had most frequent contact with customers and were usually perceived by customers as advisors (Sheth and Sharma, 2008). In exchange for a monetary incentive or a commission, they would promote service offerings to a customer or merely report the sales potential to a salesman, who would then contact the customer. Some subsidiaries also trained and employed operational supervisors as salesmen of ad hoc services, including repairs and overhauls. Supervisors were already conducting frequent visits to client sites and, besides enjoying client trust, they possessed a higher level of managerial insight that made them proactive in recommending services to customers when the opportunity arose.

Figure 1: Relationship between 'service presence' and 'service coverage'



Note: correlation between 'service presence' and 'service coverage' is 0.91.

The adoption of tangible, yet flexible, service offerings and the involvement of non-specialized front-line employees in the sales process are jointly labelled as **'service presence' capability**. To assess the extent of 'service presence capability' for each subsidiary, we gave each subsidiary one point/score for the availability of each of the three underlying capabilities. Tabulation of scores by subsidiary can be found in Table 1 of Appendix 3.

We find that the relationship between 'service presence' capabilities and 'service coverage' performance, presented in Figure 1,⁷ suggests a strong linear relationship (correlation of 0.91). Furthermore, we were looking for clues on the mediating effect of country development but we found nothing to suggest that that factor plays a role.

4.2.2 Achieving service realization

In order to exploit service market opportunities and grow the service business, manufacturers should – in addition to expanding the number of service relationships – deepen existing service relationships. More specifically, instead of capturing only a modest portion of customer service needs through the provision of a basic service offering, such as ad hoc servicing or spare parts, the manufacturer should provide a comprehensive service offering that covers all processes associated with product functioning. For example, financial services or leasing can help to relieve the financial burden of investing in new equipment; total responsibility contracts can insulate customers from a number of operational risks associated with product functioning; and there are a number of services targeted at diminishing the associated costs of product functioning, for example, energy and consumable materials. At Servino, the 'depth' of customer relationships is measured by 'service realization'.

Activities necessary to achieve high 'service realization' were identified as activities related to the design of services that pertained to the back-office activity cluster. Each of the subsidiaries had service personnel involved in the marketing and technical design of the service offering: the core resource of these activities. While all subsidiaries used the same core activities and resources to achieve 'service realization', the effectiveness of the subsidiaries in achieving 'service realization' varied. Careful examination of different subsidiaries, as well as triangulation of performance profiles with the resource and capability attributes that they possessed, helped us isolate three differentiating capabilities: service marketing capabilities, business development capabilities, and technical knowledge transfer. Each of these capabilities is described below.

Across the units we researched, we found varying levels of **service marketing capabilities**. While service BLMs of the subsidiaries with the highest level of 'service realization' argued that 'competence development is one of three top objectives (besides efficiency and transparency)',

⁷ Information on how 'service presence' scores are constructed for each subsidiary can be found in Table 1 of Appendix 4.

we found that some of the subsidiaries with low ‘service realization’ had only begun to realize that they lacked skilled service specialists: ‘Our service sales supervisors are the bottleneck, their marketing competencies need to be improved’; or ‘A good salesman needs to understand the service product, otherwise he sells what is easy (referring to spare parts).’

To develop more sophisticated service offerings, the **transfer of technical knowledge** becomes increasingly important. First, technicians need to be trained to execute service provision when the need arises. While most of the subsidiaries we encountered had robust technical expertise at the service delivery level, a salesman in one unit reported the lack of these capabilities, describing the situation as follows: ‘Operations don’t impress customers with their expertise.’ Among the subsidiaries that had sufficient transfer of technical expertise to technicians, we encountered differences with respect to the transfer of technical expertise to the marketing side of the organization. Subsidiaries where technical knowledge was also leveraged by the marketing side of the organization, and directly by customers, were able to design sophisticated offerings and price them according to cost (i.e. when technical experts assess the reliability of equipment properly, the service plans with risk guarantees can be sold more competitively).

Besides marketing specialists and technical knowledge transfer, ‘service realization’ hinged upon the availability of **managers capable of crafting market strategies and designing service offerings**. Service managers conducted regular follow-up with customers to understand their service needs, and they established relationships with technical experts and operational staff (including technicians) to help design better-targeted service offerings. We found that subsidiaries where management was involved in the design of service offerings would outperform other subsidiaries in ‘service realization’. On the other hand, subsidiaries with lower levels of ‘service realization’ lacked sufficient management resources and would consign service portfolio design to regional supervisors, who were usually busy with the daily tasks of service provision and therefore less likely to commit to long-term service development.

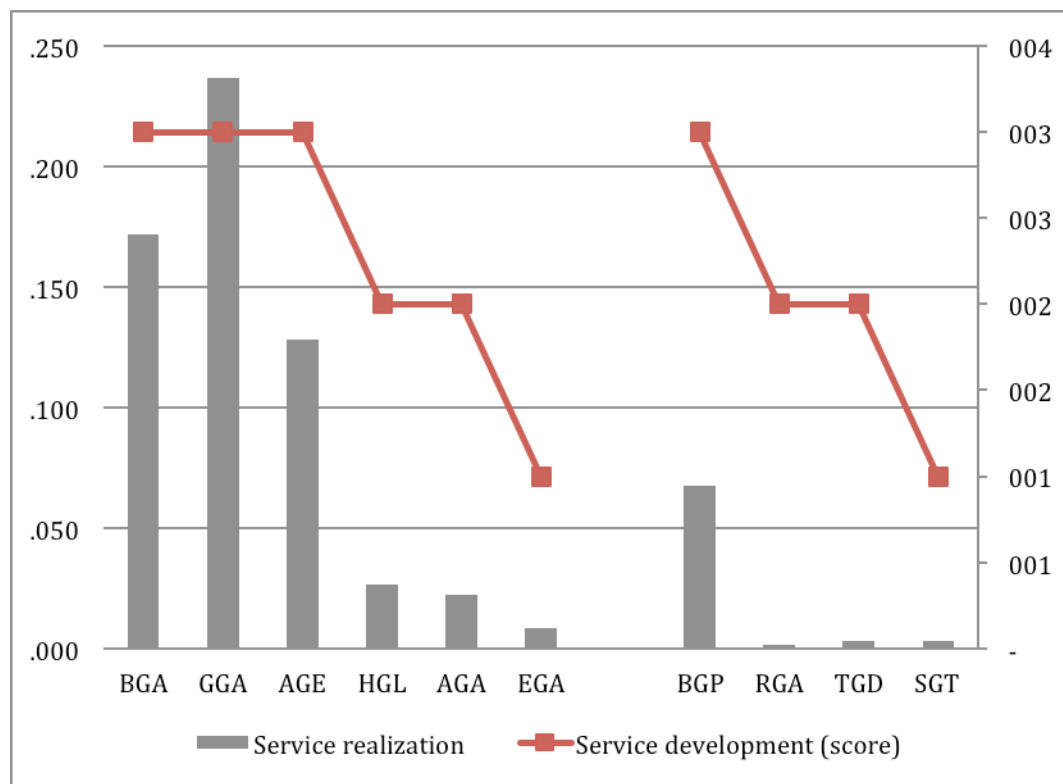
The ability of a firm to offer services that cater for the evolving operational needs of customers in an enhanced and comprehensive manner is labelled **‘service development’ capability**. As elaborated earlier, this capability resides in specialized (service) marketing knowledge, technical knowledge transfer, and business development capabilities. Similarly, as in the case of ‘service presence’, we report scores for ‘service development’ in Table 2 of Appendix 3, while the relationship between ‘service development’ and ‘service realization’ is presented in Figure 2.⁸

In addition to a positive and, arguably, strong relationship between ‘service development’ capabilities and ‘service realization’ (correlation 0.77), our findings suggest that the relationship

⁸ Information about how ‘service development’ scores are constructed for each subsidiary can be found in Table 2 of Appendix 4.

is also mediated by the country's overall level of economic development. Service development seems more effective in developed than in developing countries, for two reasons: the highly pronounced need for labour efficiency; and a long-term outlook on resource efficiency. First, customers in developed countries – where the cost of labour is relatively high – are more highly motivated to save costs by outsourcing services (the product-service provider can realize better capacity utilization of their personnel by pooling the service needs of different customers and providing them at a lower cost than firms internally). In developing countries, on the other hand, labour tends to be cheaper and the benefit is thus depreciated. Second, by investing in services, a customer prolongs the life cycle of an existing asset, realizing benefits over the long run. In stable, developed economies, the economic outlook tends to be longer, and firms are more likely to opt for immediate investments that offer benefits over the long term. In developing markets, where the economy tends to be less stable, the immediate risk is higher and the outlook is shorter.

Figure 2: Relationship between 'service development' and 'service realization'



Note: Correlation between 'service development' and 'service realization' is 0.77 for all countries and 0.86 for developed countries.

4.2.3 Service process capabilities

In addition to its focus on capturing service market opportunities, Servino's management was dedicated to running the service business efficiently. As is the case with most businesses, the efficiency of service organization is measured by 'service profitability' or the profit margin of the service business.⁹

The activities necessary for the achievement of a high 'service margin' were related to operational management activities, situated in the back-office cluster. Depending on the size of the subsidiary, service operations management would be undertaken by the dedicated operations management or, in the case of the smaller subsidiaries, by the BLM. After examining 'service profit' margins, as well as subsidiary resources and capabilities related to the activities of service operations management, we concluded that efficiency was determined by the presence of adequate information systems, the management of administrative processes, and the active use of performance measures in steering service delivery and back-office operations.

Investment in information and communication systems is the *sine qua non* of efficient service provision (Penttinen and Palmer, 2007a). Being intrinsically labour-intensive, service provision is relatively difficult to scale up. The use of information systems, especially in large-scale service operations, helps to achieve certain efficiency gains through better capacity utilization of front-line personnel, as well as automation of administrative tasks.

At Servino, profitable subsidiaries relied extensively on information technology to achieve this. One of the top performers invested significant amounts of time and attention in the implementation of the SAP system. The project was given top priority. In addition to the ICT that is used by dispatchers to optimize capacity by efficiently assigning technicians to service jobs (e.g. by calculating the shortest path from one destination to another), a mobile device called MAM was used by technicians to perform an instantaneous and paperless administrative handover of the service job to a customer. Other top-performing subsidiaries that did not have access to SAP concentrated on in-house development and implementation of systems that tracked service operations and achieved similar results. Subsidiaries that did not institute any investment in ICT clearly lacked the milestones to increase their efficiency.

At the same time, not all subsidiaries made the best use of the systems at their disposal. Systems alone proved to be insufficient; the involvement of management in **designing a process-driven organization** through careful remodelling and implementation of the processes helped curb administrative load and instead made use of these human resources in business development

⁹ When examining profit margins across subsidiaries situated in different countries with varying pricing elasticity levels, we noticed that capturing the service margin relative to the product margin helps isolate the service efficiency and solve the (inconvenience of) effect of country differences in price levels common to both products and services.

and proactive planning. As the service BLM of one of the top-performing subsidiaries explained: 'If you want to increase efficiency and free up some human resources from administrative tasks (so that they can concentrate on business development), well-managed investments in systems are key.' The same subsidiary employed a dedicated operations manager, standardized service-provision processes through the deployment of systems, and managed to centralize dispatchers, as well as their data.

On the other hand, subsidiaries that did not proactively manage information and administration processes actually increased their administrative load by investing in systems. For example, two subsidiaries had to employ additional administrative personnel to manually transfer data between two databases that did not interface correctly. Indeed, one of them failed to centralize data at country level, which blocked the opportunity to centralize dispatchers who were scattered around the country and utilized sub-optimally. Another faced significant dissatisfaction from employees due to system malfunction and poor management, which had escalated to the point of resignations.

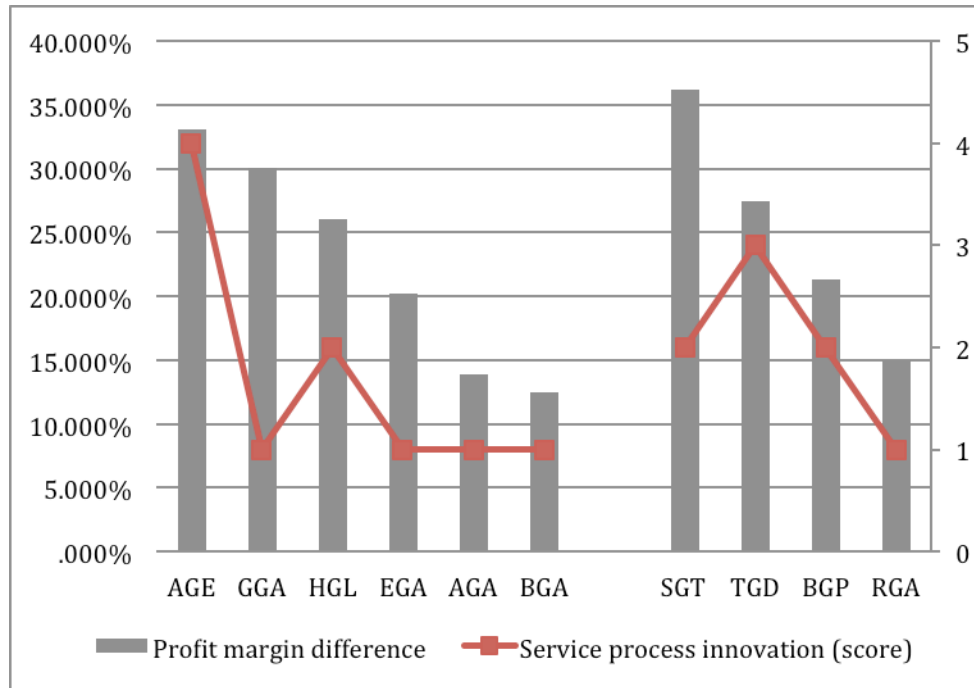
Finally, the **use of performance measures for the continuous process improvement** of service provision was very important. Tracking the relevant aspects of performance resulted in the desired behaviour from service personnel. For example, the use of planned versus achieved time per service job was one of the measures that prompted technicians to use their time optimally. One of the best-performing subsidiaries not only developed measures to track the performance of technicians but also designed efficiency measures for back-office personnel involved in dispatching service interventions and assigning technicians to their jobs. Technicians' travel time was a useful measure for this. On the other hand, one subsidiary misjudged the use of performance measures and devised a technician incentive scheme on the basis of a crucial performance measure (time utilization); but it was a measure over which technicians had no control. This caused considerable frustration within the organization and incentivized technicians to skew their reporting (e.g. they could increase their time utilization by recording a large number of internal jobs).

To summarize, resources and capabilities that underpin efficiency and profitability of the service organization are ICT investments, process-driven operations management, and continuous process improvement through the use of performance measurement systems. These resources contribute to a capability cluster that we label '**service process capabilities**', allowing for better use of the capacity of core service personnel, automation of certain administrative processes, economies of scale in the remainder of administrative processes, and promotion of adequate organizational behaviour.

The subsidiary scores for 'service process' innovation can be found in Table 3 of Appendix 3, while the relationship between 'service process' innovation and 'service profitability' is

illustrated in Figure 3. Similarly, as in the case of ‘service development’, the relationship between ‘service process’ innovation and ‘service profitability’ is mediated by the degree of development in the country within which the subsidiary operates. The importance of ‘service process’ innovation – which essentially enables labour efficiency – is much greater in developed markets with high labour costs than in developing markets where labour costs are low.

Figure 3: Service process innovation and profit margin difference



Note: Correlation between service process innovation and profitability difference is 0.64 for all countries and 0.68 for developed countries.

5 CAPABILITY PERSPECTIVE OF SERVICE BUSINESS DEVELOPMENT

In this contribution, we examined the role of different organizational capabilities (Helfat et al., 2007; Teece et al., 1997) in the effective service business development within a manufacturing firm.

First, to develop a footprint in the market for industrial services, a manufacturer needs to design a (tangible) service portfolio based on service processes that satisfy the operational requirements of a large part of its customer base, to leave the content of the service offering open to adjustments in individual customer needs, and to involve all front-line employees in the selling process. The capability encompassing these three activities, which we label **‘service presence’ capability**, positively affects customer-base coverage measured by the **‘service coverage’ performance indicator**.

Second, to deepen the relationships with customers and meet their needs more effectively, the manufacturer has to develop capabilities to design elaborate (non-tangible) service offerings based on service outcomes (e.g. total solutions). Investment in service marketing and business development capabilities, coupled with an effective technical-knowledge transfer, enables the manufacturer to continuously innovate and develop his service offering. The capability encompassing these three activities, which we label **'service development' capability**, facilitates better capture of service market potential, measured by the **'service realization' performance indicator**.

Third, to efficiently provide an increasingly broad and sophisticated service offering, the manufacturer has to acquire three resources and capabilities: ICT systems infrastructure; capabilities to design and manage process-driven organization; and the know-how to constantly improve processes through the use of performance measures. Investment in this cluster of resources and capabilities – which we jointly refer to as **'service process' capability** – leads to better capture of **'service profitability' performance**.

We find that, to optimize the development of its service business, the manufacturing firm needs to balance 'service presence' on one side, and 'service development' and 'service process' capabilities on the other. Besides competing for scarce financial resources, these three capabilities rest on factors that, in the short to medium term, may be conflicting. First, the adoption of a tangible service offering, which contributes to 'service presence' and hence promotes 'service coverage', tends to limit 'service development', which is aided by a choice of sophisticated and intangible service offerings. Second, the adoption of customization practices, which contributes to 'service presence' and hence promotes 'service coverage', tends to limit the 'service process', since it is in direct conflict with the gradual adoption of a process-driven management style in the service organization. Hence, servitizing manufacturers need to ensure that they balance short/medium-term objectives with long-term ones. A good set of KPIs that reflects a balanced approach and offers a somewhat longer time frame for objective achievement may be useful in this respect.

Eventually, the mediating effect of an environmental regime (market development) may be an arbitrator in this case: service development and process innovation seem to be less effective in developing markets, where giving priority to 'service presence' may be a more viable strategy. In developed markets – where the importance of service development and process innovation is accentuated – the opposite may hold.

Jointly, these findings lead us to the following set of propositions concerning resource requirements for the development of a service business.

PROPOSITION 1: ‘Service presence’ capability – characterized by a tangible service offering that is customizable to the needs of an individual customer, along with the involvement of all front-line employees in the service-selling process – leads to an increase in the number of service relationships, and thereby greater ‘service coverage’.

PROPOSITION 2a: ‘Service development’ capability – characterized by investment in service-specific marketing and business-development resources, coupled with effective knowledge transfer from the technical unit – leads to an increase in the extent and sophistication of services offered and thereby promotes higher capture of service market potential, as measured by ‘service realization’.

PROPOSITION 2b: ‘Service process innovation’ capability – characterized by ICT-system readiness, process-oriented management capabilities, and continuous improvement of processes through the use of performance measures – leads to an increase in the efficiency of service delivery, and thereby an increase in profit margin.

PROPOSITION 3: To optimize development of the service business, the manufacturing firm needs to carefully balance ‘service presence’ on one side, and ‘service development and process’ capabilities on the other, given that factors that, in the short/medium term, contribute to the former may hamper the latter in the long term. The application of a balanced set of KPIs and a long-term outlook is suggested as the means to manage this trade-off.

Figure 4 illustrates the capability framework for the development of the service business in a manufacturing firm, as stipulated in the propositions above.

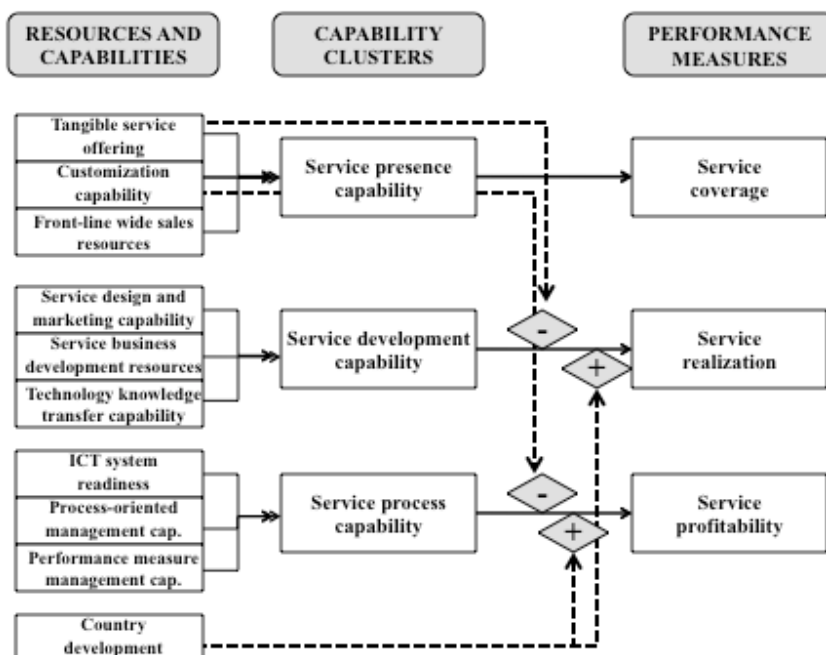


Figure 4: Service business model implementation framework

6 CONCLUSION, DISCUSSION AND LIMITATIONS

A customer-centric strategy and geographic differentiation reflected in subsidiary independence embody the two crucial precursors for the development of services at Servino. The effects were significant: through its subsidiaries, Servino had direct access to the majority of its customers and was able to respond quickly to emerging opportunities, including the demand for services. At the same time, a service divisional structure centred on subsidiaries allowed for the formation of the standalone service activity system and the development of service-specific capabilities.

Even though the base organizational structure, activity systems, and indeed core resources, were comparable across the subsidiaries we researched, service-related performance measures varied substantially from one subsidiary to the other. While, at face value, the top management believed that the differences in subsidiary performance were a consequence of country differences, in-depth case studies of ten selected subsidiaries suggested that salient differences in three resource and capability clusters, labelled 'service presence', 'service development' and 'service process' innovation, respectively impact the difference in performance across three core service performance dimensions – 'service coverage', 'service realization' and service profitability'.

In addition to providing academic and practitioner audiences with a frame of reference concerning the differentiating capabilities with respect to service business development within a manufacturing firm, our findings warrant several recommendations, as well as cautions, on how service business should be developed, with respect to the stage of maturity in service provision, as well as subsidiary country development. A development of a service business begins by putting the factors of 'service presence' into action with the aim of achieving 'service coverage' of the customer base, and then gradually introducing the factors of 'service development' with the aim of attaining 'service realization'. Emphasizing 'service presence' may be even more important in developing markets where customers may not be ready for sophisticated service offerings. Nonetheless, we encountered subsidiaries from developing markets eager to catch up with their counterparts in the developed markets by pressing ahead with sophisticated services and reaping skim rewards. 'First cover the country with spare parts and then climb the ladder instead of trying to jump up two steps on the ladder,' was a recommendation from one product BLM that resonates well with our findings.

At the same time, gradually introducing capabilities that support 'service development' and 'process' innovation represents a high priority, especially in the case of developed countries. First, subsidiaries that failed to attain 'service development' capabilities also failed to capitalize on service market growth opportunities. Though this opportunity loss was more pronounced in developed markets, subsidiaries from developing markets also missed significant potential when neglecting sophisticated services completely; examples of developing market subsidiaries that

managed to achieve significant market momentum by gradually educating their clients to embrace sophisticated services provide robust proof of the concept in this respect. Striking a balance between ‘service development’ and ‘service process’ capability is also important; subsidiaries that had already attained high sophistication in their service offering needed to work on efficiency, since the impact of efficiency was crucial when the service organization became a large service delivery complex. On the other hand, subsidiaries with very basic service offerings could not make the most of process capability, since their processes were basic and often solely reactive (in response to a client’s burning issue), and would have no significant optimization potential; their first priority was to grow the service offering before focusing entirely on efficiency. Overall, one message that summarizes the desired approach to managing trade-offs in service capability development is that all ‘capabilities matter, yet a given capability could be more important in a given context’. Subsidiaries that have understood this concept have navigated their service business development with success.

It goes without saying that the research reported in this paper has limitations. Relying on the experience of subsidiaries within one mother firm allowed us to obtain fine-grained insights into performance and their organizational and managerial antecedents, as well as controlling for organizational design factors and concentrating on capabilities, but it introduces limitations to generalizability with respect to the choice of a service business model. For example, our results would be difficult to generalize to service business models where adopted services are unrelated to the products. More specifically, we have limited generalizability with respect to the choice of the overall organizational design and base activity systems. Moreover, we focus mainly on the direct organizational factors of the service business model’s market-related performance. For example, a study that shows how different servitized manufacturers manage their product–service innovation links would add considerable value. In that respect, translating the obtained findings into larger-scale research efforts – with the aim of assessing the precise impact, as well as the interdependencies of different combinations of managerial and organizational practice – may likewise be worth pursuing. Finally, research illuminating the transition paths from pure product manufacturer to product–service provider may yield valuable insights for both practitioners and researchers. We hope that our findings inspire other scholars to engage in such efforts.

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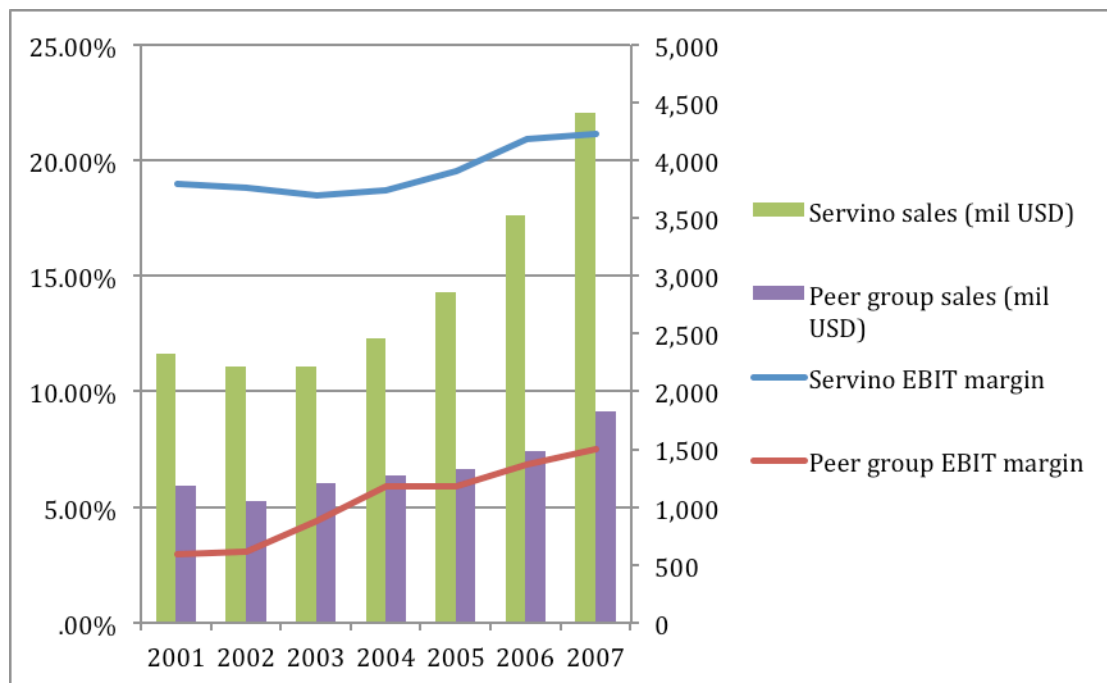
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APPENDIX 1: FACTS ON SERVINO

Servino has been actively developing its service strategy over the last decade, which made it an excellent subject for studying the value-creation dynamics of servitizing firms. Servino is active in more than one hundred countries and its consolidated annual revenues exceed 4 billion USD, with the service business contributing approximately 40 per cent in 2007. In deploying this strategy, Servino achieved outstanding financial performance and continues to significantly outperform the industry average (see Figure 1).

Figure 1: Servino's financial performance and servitization



Note: Peer group represents an industry average of +800 firms belonging to the same 2-digit SIC code (OSIRIS database).

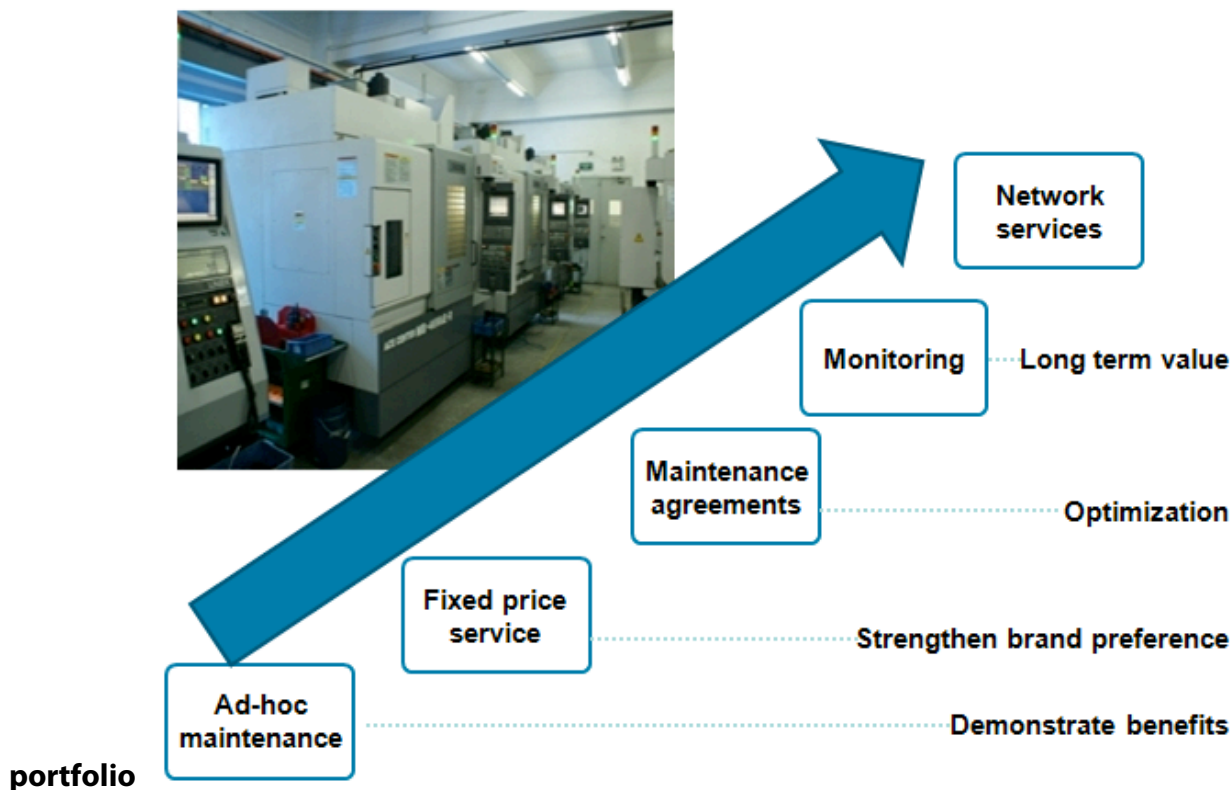
Servino's product and service offering. The firm's product offering encompasses an assortment of equipment types, which complement one another in covering a variety of industrial applications. For the majority of customers – largely, industrial manufacturers – these products represent investment goods that will remain part of their production unit offerings for years to come.

More specifically, Servino's product portfolio comprises machinery that is used in the customer's production facility. The equipment size and type may vary but most equipment variants represent complex pieces of machinery, which the customer considers a good investment that will serve its production facility over a period of years. In most cases, customer operations

require several variants of functionally related machines, which usually vary in type and age. Furthermore, it is not uncommon for the customer to deploy equipment from competing manufacturers within a single production unit.

Servino's product portfolio offers significant potential for servicing. Service market opportunities range from the sale of spare parts and ad hoc repairs to maintenance agreements with varying degrees of coverage (e.g. from preventative maintenance to maintenance plans with wide coverage of operational and financial risks). In addition to promoting more advanced service agreements for customers, Servino has in recent years concentrated on several service products that offer further optimization of customer operations, such as remote monitoring and optimization of energy consumption. Furthermore, the firm has been developing a service offering that also covers the functioning of related machinery, aimed at improved reliability and reduced energy costs for the entire functional group of products (i.e. in addition to services for its core product offering, Servino provides services for related products, such as driers, in addition to servicing for competitor products). The progression of their service portfolio is illustrated in Figure 2.

Figure 2: Climbing the service ladder – Servino's service



While Servino today has a vast service offering that allows it to compete strongly in the service market, it nonetheless faces fierce competition. Besides having to compete against the customer's internal service personnel, Servino faces competition from several other service providers. Three types seem to prevail across different markets: specialized service providers and manufacturers of generic spare parts, whose service offerings may well be proposed of significant discounts compared to Servino's offer; facility maintenance providers who offer after-market services for a wide range of machinery, including that of Servino; and other product manufacturers of equipment with the same applications who are determined to tap into Servino's service market. Hence, while Servino is committed to competing on the value it offers through the provision of a full range of product service offerings, service sales are not guaranteed by the sale of products nor can the competition on the service side be considered inconsequential.

Currently, about 40 per cent of the service offering represents spare parts, while ad hoc maintenance, or fixed-price services sold on an ad hoc basis, account for an additional 28 per cent. On the other hand, service agreements – accounting for 29 per cent of sales – offer some sales stability for approximately a five-year period. Nevertheless, fierce (re)negotiations on price, as well as the terms of the agreement, occur not only between the two contracts but also throughout the life of each contract. What is left of service sales (about 4%) are new services that provide special and extended benefits in energy optimization and the monitoring of product functioning and health.

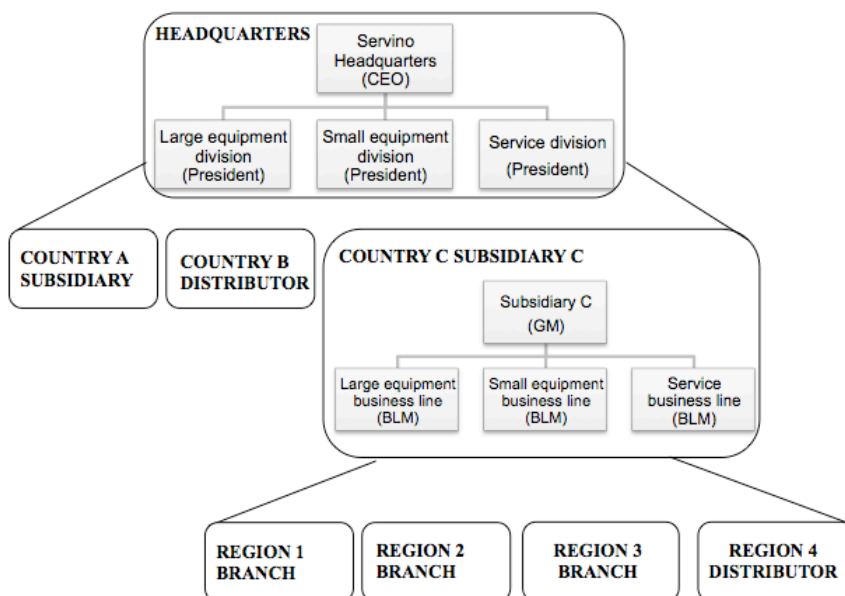
Products and services – overall business model. For Servino, being an industry leader with a competitive advantage based on top-quality products, the development of a complementary after-sales service portfolio seemed like a logical next step. Servino's service strategy began to evolve around two goals: the first was to achieve a service contact with each of Servino's customers or a 'one-to-one' ratio between products and services; the second goal was to evolve towards a more sophisticated service offering for each customer, namely, to 'climb the service ladder'. While Servino has been committed to extending its service offering to cover a wide range of customer service needs and improving the efficiency of its operations, its service offering remained firmly allied to the product portfolio it offered. For example, Servino would extend its service offer to competitor equipment or equipment functionally related to its product offering, but venturing beyond that into an unrelated service strategy was considered off limits. By relying on this 'integrated business model', where product and service offerings are functionally related, Servino managed to enact specific value creation dynamics.

Servino's structure. At Servino, the sale of products and the provision of services are effectuated through a network of country subsidiaries. Each subsidiary is charged with establishing and maintaining market presence with a full spectrum of product and service offerings in a given

country market. In countries where the sales potential does not justify a dedicated subsidiary, products are sold through a network of dedicated dealers. Sometimes, these indirect sales channels are also leveraged in the countries with a dedicated subsidiary, specifically in the remote areas where the size of the local market does not warrant a specialized Servino branch and where dealers who sell a range of other equipment can be more effective.¹⁰

Each of the subsidiaries, headed by a general manager (GM), is responsible for the provision of an entire product and service portfolio in a given country. In addition to geographic diversification, Servino is divided into different business divisions, each of which offers a specific market segment (e.g. small equipment and large equipment). The senior divisional management at the level of (global) headquarters devises a global strategy. The country subsidiaries are subdivided into 'business lines' that represent each of the divisions and have their own sales representatives and business line managers (BLMs) at country level. The Divisional President from headquarters would propose a strategy to both the GM and the BLM responsible for the business within a given country and begin discussions on the 'localization' of the strategy and the delineation of performance targets. The BLMs report to a divisional head at headquarters level, as well as to the GM of the country, who oversees different business lines and the overall performance of the country as a whole.

Figure 3: Servino's organizational structure

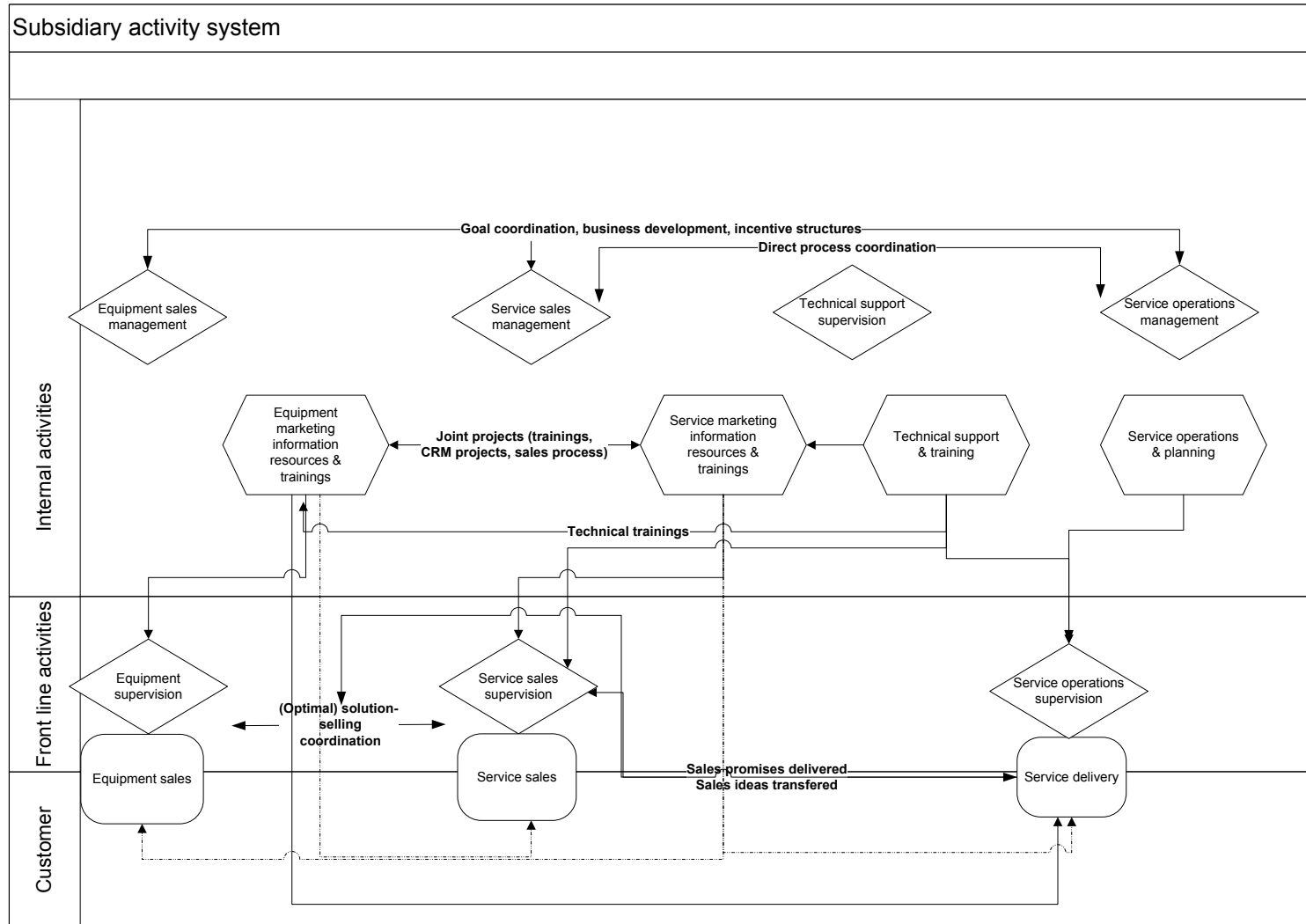


GM= General manager; BLM= Business line manager, HQ= Headquarters , CS=Country subsidiary, B=Regional branch

Engaging dealers thus allows for product sales to be less reliant on the size of the subsidiary or the number of people they have. On the other hand, dealers significantly block Servino's access to the service market: dealerships retain the right to offer services to their customers, while they only obtain spare parts from the original equipment manufacturer (Servino).



APPENDIX 2: SUBSIDIARY ACTIVITY SYSTEM





APPENDIX 3: SUBSIDIARIES & ORGANIZATIONAL FACTOR SCORES

Table 1: Service presence scores

CC	Scores	1) Tangible service offering*	2) Customized offering	3) Front-line FTEs participate in selling process
BGA	3	Yes	Yes	Yes
GGA	2	Yes		Yes
HGL	2	Yes		
AGA	2	Yes		Yes
AGE	1			Yes
EGA	3	Yes, Yes	Yes	
BGP	1	Yes		
RGA	2	Yes		Yes
TGD	3	Yes	Yes	Yes
SGT	2	Yes, Yes		

* 'One-fits-all' sales approach is given 2 points (Yes, Yes), as it ensures faster and broader access to customers than the 'Targeted' approach (Yes). Note: Omission signals 'No'.

Table 2: Service development scores

CC	Scores	1) Service marketing resources	2) Service management resources	3) Technical knowledge transfer
BGA	3	Strong	Strong>Weak	Strong
GGA	3	Strong	Strong	Strong
HGL	2	Weak	Strong	Strong
AGA	2	Strong	Strong>Weak	Weak
AGE	3	Strong	Strong	Strong
EGA	1	Strong	Weak	Weak
BGP	3	Strong	Strong	Strong
RGA	2	Weak>Strong	Moderate	Strong
TGD	2	Strong	Strong	Weak
SGT	1	Weak	Weak>Strong	Weak>Strong

* 'Moderate' and change from Weak>Strong was given 1/2 point; for recent change from Strong>Weak, 1 point was given as past service success holds value for an extended period (e.g. signed service contracts can generate revenues for five years).



Table 3: Service process innovation scores

CC	Score	1) ICT system 'readiness'	2) Process orientation*	3) Use of performance measures	% of non-admin. FTEs
BGA	1	High	0	Low	80.80%
GGA	1	High	1	Low	88.55%
HGL	2	Low	2	Low	95.16%
AGA	1	Low	1	Low	87.69%
AGE	4	High	2	High	98.00%
EGA	1	High	0	Low	85.88%
BGP	2	Low	1	High	88.44%
RGA	1	Low	1	Low	93.00%
TGD	3	High	1	High	90.29%
SGT	2	High	0	High	77.50%

* Scores for 'Process orientation' have been calculated according to an administrative load (% of administrators in total workforce) and then assigned to 3 levels: <85%=0; 85-93%=1; >93%=2.

Note: 'ICT systems readiness' and 'Use of performance measures' were deemed 'High' when interviewees were able to demonstrate organizational efforts to put in place ICT systems or use performance measures in steering personnel. 'Low' meant the absence of systematic efforts. 'High' was, in both cases, given a score of 1 and 'Low' a score of zero.