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In search of a Product-Service Strategy



ASAP SMF White Paper

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ASAP Service Management Forum



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This report has been written by Mario Rapaccini and Filippo Visintin (ASAP SMF, Università degli Studi di Firenze) with the collaboration and review of Sergio Cavalieri (ASAP SMF, Università degli Studi di Bergamo), Marco Perona and Nicola Sacconi (ASAP SMF, Università degli Studi di Brescia). The contents of this paper have been amended and validated by the CEOs who participated at the ASAP SMF CEO meeting held in Brescia on September 24th, 2009.

The report consists of two sections. The first presents a contingency model that can be used by manufacturing companies to develop their product-service strategies on the basis of their customer expectations whereas, in the second section, some amendments to the model, have been introduced together with other interesting considerations, as discussed during the first ASAP SMF CEO Meeting.

The contingency model was developed by Mario Rapaccini and Filippo Visintin (Rapaccini and Visintin, 2009) on the basis of data and information from the research activities (including case-studies, workshops and focus groups) that have been conducted by the ASAP Service Management Forum over the last six years. These activities have involved scholars of five different universities (Milan Polytechnic, Bocconi University, and the universities of Brescia, Florence and Bergamo) as well as Service Managers of leading multinational companies (such as Canon, Epson, HP, Fiat, Toyota, Indesit, Sony, Iveco, Volvo, BMW, and others, see www.asapsmf.org for the full list); and have led to the publishing of white papers, scientific publications, and the book titled "*Riprogettare il servizio post-vendita*", by Cavalieri et al. (2007). So, if you are a scholar, a researcher, or a PhD student working on these topics, you should read this report starting from the beginning. If you are a service manager, a marketing manager, or a CEOs of a leading manufacturer that has already started to develop a servitization process, you might only be interested in reading this report from page 21.

We would like this report to be enjoyed by those, like us, that are deeply involved in the field of service management research and by those, like the managers who participated at the ASAP SMF, who are asked to apply these principles in their businesses.

1. INTRODUCTION

1.1. The drivers of servitization

A generalized decrease in returns on product sale, coupled with an increased focus on customer satisfaction, have encouraged a rising number of manufacturing companies to supplement their offerings with product-related services (hereinafter *product-services*), both pre and post sales. This evolutionary process is called servitization. The term *servitization* was first coined by Vandermerwe and Rada (1988), and is now widely used to identify a complex process of creating value by adding services (*product-services*) to manufactured products. A range of authors (Wise and Baumgartner, 1999; Oliva and Kallenberg, 2003; Slack, 2005) have specifically sought to understand the implications of this concept. The rationale lies in the financial and competitive benefits that the provision of product-services can generate (Mathieu, 2001, Baines 2009). As a matter of fact, in addition to assuring stable and profitable revenue streams, product-services allow, on the one hand, to differentiate the market offerings and, on the other hand to establish close relationships with customer. These relationships, in their turn, can be leveraged to build customer satisfaction and loyalty, and to design products and/or services more tailored to the customers' needs (Goffin and New, 2001).

1.2. Challenges beyond servitization

Servitization constitutes a major managerial challenge for the manufacturing company. Service offerings require organizational principles, structures and processes that are new to the product manufacturer. This can eventually lead to the creation of a totally new and/or independent organization with a unique service orientation, in order to better focus the service process design and engineering (Oliva and Kallenberg, 2003, Mathieu, 2001), and rethink the whole business logic to include services as an integral part of the value proposition.

“Commonly, the literature suggests three sets of factors that drive companies to pursue a servitization strategy; namely, financial, strategic (competitive advantage) and marketing (Mathe and Shapiro, 1993; Mathieu, 2001b; Oliva and Kallenberg, 2003; Gebauer and Friedli, 2005; Gebauer et al., 2006; Gebauer and Fleisch, 2007). The main financial drivers often mentioned in the literature are higher profit margin and stability of income (Wise and Baumgartner, 1999; Gebauer and Friedli, 2005). For manufacturers with high-installed product bases (e.g. aerospace, locomotives and automobiles) Wise and Baumgartner (1999) estimate that, in some sectors, service revenues can be one or two orders of magnitude greater than new product sale. Slack (2005) agrees, and points out that in these sectors higher revenue potential often exists. Likewise, Sawhney et al. (2004) identifies companies that have enjoyed success with this approach (e.g. GE, IBM and Siemens and Hewlett Packard) and achieved stable revenues from services despite significant drops in sales. Ward and Graves (2005) emphasise that the increased life-cycle of many modern complex products, such as aircrafts, is pushing the most significant revenues downstream towards in-service support. These product-service combinations tend to be less sensitive to price-based competition (Malleret, 2006), and so tends to provide higher levels of profitability in comparison to offering the physical product alone (Frambach et al., 1997). Finally, product-service sales tends to be counter-cyclical or more resistant to the economic cycles that affect investment and goods purchase (Oliva and Kallenberg, 2003; Gebauer and Fleisch, 2007).”

According to Neely (2009), servitizing companies have to manage relevant issues, such as shifting the mindsets of marketing people, of sales people and of customers, redefining the timescale of partnerships, focusing the value expectations according to a service-logic, developing capabilities to design and deliver services rather than products, disseminating a service culture. According to the same author, who provided interesting insights into what is called “the service paradox”, the servitization process is undoubtedly riskier and more complex than expected and its financial consequences can even be dramatic.

These challenges can be better faced if the firms rely on such clear and consistent product-service strategies. According to Blumberg (1991, p.66), we call product-service strategy the plan that identifies the strategic objectives (revenues, differentiation, customer satisfaction, etc.) to be achieved through the provision of product-services and the product-service portfolio to accomplish these objectives.

Hence, in order to develop some sort of effective product-service strategies, firms have to identify: 1) *what actually creates value for their customer*, and 2) *how product-services can enable/enhance such a value creation process*.

1.3. The role of the products’ supplier

The role that a supplier can play in the value creation process, and, as a consequence, the business logics it should embrace, are thoroughly described in (Grönross, 2008). In his paper the author takes part in the international debate around service (dominant) logic (Vargo and Lush, 2004, 2008) and reaches the following conclusions: *value is always created by customers when they apply their skills and some additional resources to the resources (goods, services, information and or other*

This can help secure a regular income and balance the effects of mature markets and unfavourable economic cycles (Brax, 2005; Malleret, 2006). The literature frequently refers to strategic drivers that are largely concerned with gaining competitive advantage. These use service elements to differentiate manufacturing offerings and so provide important competitive opportunities (Frambach et al., 1997; Mathieu, 2001b; Gebauer and Fleisch, 2007). Competitive advantages achieved through services are often more sustainable since, being less visible and more labour dependent, services are more difficult to imitate (Oliva and Kallenberg, 2003; Gebauer and Friedli, 2005; Gebauer et al., 2006). While discussing these aspects, many authors (Coyne, 1989; Frambach et al., 1997; Mathieu, 2001b; Gebauer and Fleisch, 2007) reflect on the increased commoditisation of the markets, where differentiating strategies based on product innovation, technological superiority or low prices, are becoming incredibly difficult to maintain. Frambach et al. (1997) point out that the value-add of services can enhance the customer value to the point, where, homogeneous physical products are perceived as customised. These increase barriers to competitors (Mathieu, 2001b). Marketing opportunities are generally understood as the use of services for selling more products (Mathe and Shapiro, 1993; Gebauer et al., 2006; Gebauer and Fleisch, 2007). The service component is well known to influence the purchasing decision and assessing its importance has been a lasting tradition in marketing literature (Mathieu, 2001b; Gebauer and Fleisch, 2007). This is especially true in B2B or industrial markets where customers are described as increasingly demanding for services (Vandermerwe and Rada, 1988; Oliva and Kallenberg, 2003; Auramo and Ala-Risku, 2005; Slack, 2005). Reasons for these are pressures to create more flexible firms, narrower definitions of core competences and higher technological complexity, and these often lead to increasing pressures to outsource services (Lewis et al., 2004; Auramo and Ala-Risku, 2005; Slack, 2005).

resources) provided by a supplier.

Within this value-creation process, the supplier acts according to three roles: as a “*creator of value in exchange*”, as a “*value facilitator*” and as a “*value co-creator*”. In the first case, the supplier limits its action to promote its goods and/or services, and exchange them for money (e.g. “*we sell high-quality printers*”). In the second case, the supplier tries to develop a value proposition and, if the customer accepts, provides the resources (goods and services) required by the customer to create value *in isolation from the provider* (“*we provide you with anything you need to have high-quality printed pages*”). In the latter case, the provider acts both as a value facilitator, providing the resources required to enable the value generation process, and as a value co-creator, interacting and supporting the customer during the value fulfillment process (e.g. “*we help you manage your printing processes*”). It is worthwhile to note that, in certain industries, the role played by the leading companies changed over time. For example, in the last 30 years, the suppliers of heavy industrial equipments switched from selling single highly-specialized machines or critical components, to the supply of entire production systems; these days the world-leaders do most of their business by re-engineering the production process of their customers. When the supplier acts (also) as a *value co-creator*, it is said to adopt a “service business logic”. When it only enables the customer value creation process, without taking part in it, it is said to adopt a “good business logic”. Otherwise, it is said to adopt an “exchange logic”.

As Grönroos (2008, p. 310) warns, however, “adopting a service logic, is a strategic decision” that not necessarily turns out to be effective. In fact, if customers are more interested in the attributes of what they buy, rather than in the way it can help them to create value-in-use, an exchange logic seems to be more adequate; whereas, if customers focus on the value-in-use but they do not need to interact with the provider to create it, then a good logic is preferable.

Services are also claimed to create customer loyalty (Vandermerwe and Rada, 1988; Correa et al., 2007) to the point where the customer can become dependent on the supplier. Services tend to induce repeat-sale and, by intensifying contact opportunities with the customer, can put the supplier in the right position to offer other products or services (Mathieu, 2001b; Malleret, 2006). Finally, by offering services, companies gain insight into their customers’ needs and are able to develop more tailored offerings.”

[Source: Baines, 2009].

“Although customers use both goods and services as input resources in self-service processes, i.e. they use them to produce a service that creates value for them, and although every firm in this sense is a service business, customers may still buy them as either resources (goods), based on their value facilitating capabilities, or as services, based on their value fulfillment capabilities. In the former situation, goods are bought as goods and no customer-firm interactions are expected to be included in the market offering, whereas in the latter situation they are bought as part of value-supporting processes with customer-firm interactions as part of the market offering.”

Adopting a service logic is a strategic decision. If customers are buying goods and services as value-creating processes or can be persuaded to do so, a strategy based on a service logic is supportive – on the other hand, if they only buy them as resources, developing a market offering based on a goods logic makes more sense.”

[Source: Grönroos, 2009].

1.4. Benefits from the product-service provision

The customer's decision to purchase (or rent/lease) a new product or to replace an existing one are driven either by expectations about the value (in use) that, by means of the product, they will be able to create, or by the belief that value (in exchange) is somewhat embedded in the product they buy (Grönroos, 2008). The value that the customer can create, in its turn, depends on several factors. Firstly, it depends on the product's attributes, in terms of functionalities, performance and aesthetics. Secondly, it depends on the process and the experience that the product enables. Thirdly, it depends on the capability of the supplier to assure that, over time, the product's performance will not decrease, the process enabled by the product will run smoothly, the product's end user will be able to fully enjoy the experiences related to the ownership and/or utilization of the product itself. As a result, the customer's capability to create value depends - to a certain extent - upon the supplier's capability to support, through product-services, the product, the product's end-user and the customer's processes. Hence, the extent to which customers will value the offer of product-services (no matter if bundled with the product or not) depends on their perception about the benefits that product-services can generate for them.

We classify these benefits as *financial benefits* and *relational benefits*.

Financial benefits are related to cost, missed profit and, in general, to the risk the customer avoids thanks to product-services (such as maintenance and warranty services).

Relational benefits, instead, originate from the relationships that, through product-services customers can establish with the service providers and/or with their peers. Relational benefits can be further subdivided into social benefits and learning benefits (Gwinner, 1998, Barnes, 1994). Social benefits can originate from: (i) the sharing of a feeling of familiarity and friendship between customers and the service provider's employees (e.g. a trusted technician); and (ii) the sharing of product-related experiences and rituals among peers (let's think, for example, of a Harley Davidson bikers' meeting). Learning benefits, in their turn, stem from: (i) the know-how that customers acquire both from the service provider or their peers, and (ii) the personalized treatment that customers receive when the provider, by being in a relationship with its customers, learns how to fulfill their preference and expectations.

The financial and relational benefits that customers expect to receive determine, respectively, their *willingness to pay for product-services* and their *willingness to interact* with the product-service provider (see Figure1).

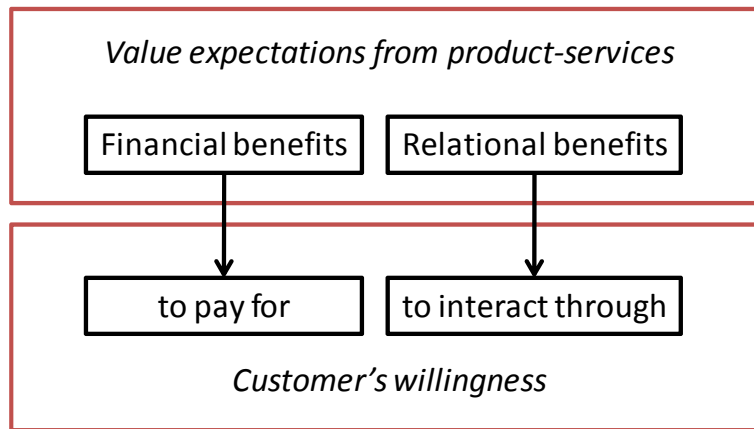


FIGURE 1 – VALUE EXPECTATIONS DRIVING CUSTOMER'S WILLINGNESS

Financial benefits are somewhat easy to assess in monetary terms. Therefore, customers will be willing to pay for product-services at a higher price, the higher the expected economic gains and the greater the reduction in risk they can achieve from them. On the contrary, relational benefits are more intangible and difficult to assess. As a result they will not probably encourage, *per se*, customers to pay for product-services. Nonetheless the possibility to achieve relational benefits encourages customers to invest their time in order to establish a relationship with the provider (and with their peers).

The customer's willingness to pay for product-services and to interact with the provider have a major impact on the role that the provider can play in the value generation process. The extent to which customers expect to draw relational and/or financial benefits from product-services depends on the characteristics of the product itself. These aspects will be discussed in the next paragraph.

1.5. Proxies of relational and financial benefits

The customer's expectations regarding the product-service supplementing the product offering are influenced by the characteristics of the serviceable product in relation to its end-user/owner. For example, customers may have different expectations in terms of benefits that can be achieved from product-services when they buy an unbranded household appliance rather than a iPhone or a Sony Play Station. In the same fashion, the same product gives rise to different service requirements if it is used for professional or private purposes.

The possibility for a customer to obtain relational and/or financial benefits from product-services, depends, mainly, on two proxies (*customer's perception*): the *perceived product complexity* and the *perceived product criticality*.

- The (perceived) product complexity refers both to the gap between the technical skills, the competences and the resources that the product configuration, utilization and maintenance require and those mastered/owned by the product end user. Products perceived to be the more complex are, therefore, capital goods which are difficult to

operate (such as a gas turbine) and/or consumer products which are difficult to utilize (such as a high-tech electronic device) and/or a product whose utilization and ownership generate emotional experiences that are not easy to be fully enjoyed by the customer on his/her own (e.g. a Harley Davidson motorbike).

- The (perceived) product criticality, instead, refers to the severity of the consequences that the customer perceives to be associated with the product's failure and/or damage and/or deterioration. Products perceived to be the most critical are, therefore, mission-critical assets used for professional purposes (e.g. an application server running an e-commerce site); nonetheless, either a family car or a domestic boiler can be perceived as critical goods, and a fridge can be perceived as more critical than a washing machine (you can rely on a laundry to wash your clothes)

When products are perceived as complex, customers think they need support to configure, interface, utilize, maintain and update them. Hence, customers would expect substantial learning benefits from product-services that are specifically designed and delivered to teach, train and support them (e.g. help-desk services, training services, consulting services). In the same way, services enabling customers to interact with each other in order to share solutions for common problems can be highly appreciated (e.g. web-forum, chat, FAQ hosted on the company's web site). In this case, even the service personnel that provide maintenance and repair services should be trained to give advice and to answer the customer's questions. These customer-to-customer and/or customer-to-provider interactions, generate social benefits as well. In the case of products whose utilization and ownership imply a strong emotional component, remarkable social benefits can be also achieved from service which helps customers fully enjoy product-related experiences. For example Ducati offers a service, known as the *Ducati Riding Experience*, that allows bikers to attend a course to teach them how to ride safely on a race track. In the same fashion, Harley Davidson encourages their customers to join the Harley Owners Group® in order to share with their peers the Harley's rituals and way of life, to plan their trips and vacations.

To make some examples of factors influencing the customer's perceptions, let's consider the expectation in terms of residual lifetime of a product. When users, ceteris paribus, expect a shorter life (or, that's the same, foresee a limited usage of product in the future) they will be, presumably, less inclined in investing time and/or money for establishing long lasting relationships with the service providers or with their peers. In addition, if product life is expected as a short life, incurring in economic losses as a consequence of a not appropriate use of product will be perceived as lower. In this case, the interest to be protected against risks through an all-inclusive maintenance contract will be lower as well. On the contrary, users will be more inclined to invest money and to get acquainted (or even "fall in love") with (perceived as) long lasting products, in order to have time to capitalize their investments (time and/or money), become real expert/advanced users, be recognized as exceptionally-talented "community gurus", etc. Therefore, we can state that a different awareness of the residual life of a product leads, ceteris paribus, to different customer's perceptions in terms of product's complexity and/or criticality

When products are perceived as critical, customers expect that their unavailability would determine high missed profits, wastages and, in the case of missed deliveries, penalties and

reputation losses. In addition, the substitution of the failed product, would give rise to high purchase and set-up costs. If this is the case, customers think they can receive significant financial benefits from product-services targeted at: preventing failures (e.g. preventive maintenance), quickly restoring the product in case of failure (e.g. corrective maintenance), prolonging the product lifetime (e.g. update/upgrade, revamping), providing protection against risk (warranty extensions or full-rental services). On the contrary, when products are perceived as non critical (e.g. small household appliances), failures are expected to have minor consequences because customers think the damaged products could be easily replaced, either they have redundancies or low-cost alternatives. As a result, customers will be interested in product-services such as extended warranty and maintenance/repair service, if and only if, these services are provided for free or their price is far lower than the price of the new product. For (perceived as) non critical and non complex products basic product-services (such as warranty extensions) are priced on the basis of the purchase price of product (e.g. 5%, 10%). This is the current practice even if determining the most profitable price value can be very cumbersome, and many successful and unsuccessful cases have been reported. In the case of more critical and complex products (such as IT equipments), the providers of extended warranty services are used to accompany the customer during the entire lifecycle of the product; as a matter of fact, customers are willing to interact with the service providers for receiving additional support (including in product usage), which they cannot always obtain from the manufacturer (not even from self-service web solutions made available by the manufacturer). In these cases the customer is prepared to pay even up to 25% of the value of the product.

As pointed out earlier, both product criticality and complexity are not intrinsic characteristics of the products but depend, mainly, on the customer/user perceptions regarding his/her opportunity-costs and ability to make proper use of the product. As a result, a lot of exogenous and endogenous variables as well social factors (such as profession, education, income and age of customers) can, eventually, exert an influence on these perceptions. Depending on their life style and value system, certain people would feel a particular affection for some brands, whereas other people would perceive as relatively simple to use a product in their everyday practices, because they are accustomed to.

Nonetheless it is possible to state that, *ceteris paribus*:

- the higher the perceived complexity and the higher the relational (learning and social) benefits the customer expects to receive from product-services, the greater the willingness to interact with the product-service provider;
- the higher the perceived criticality and the higher the financial benefits the customer expects to receive from product-services, the greater the willingness to pay for product-service as well.

To summarize, on the basis of the perceived product complexity and criticality, customers will expect certain financial and relational benefits from product-services. Accordingly, they will show a certain willingness to pay for product-service and to interact with the provider. As a result, the relationship between product criticality and complexity, the benefits deliverable through product-services and the role that the provider can play in the value creation process (such as presented by Grönross, 2008), can be represented in Figure 2.

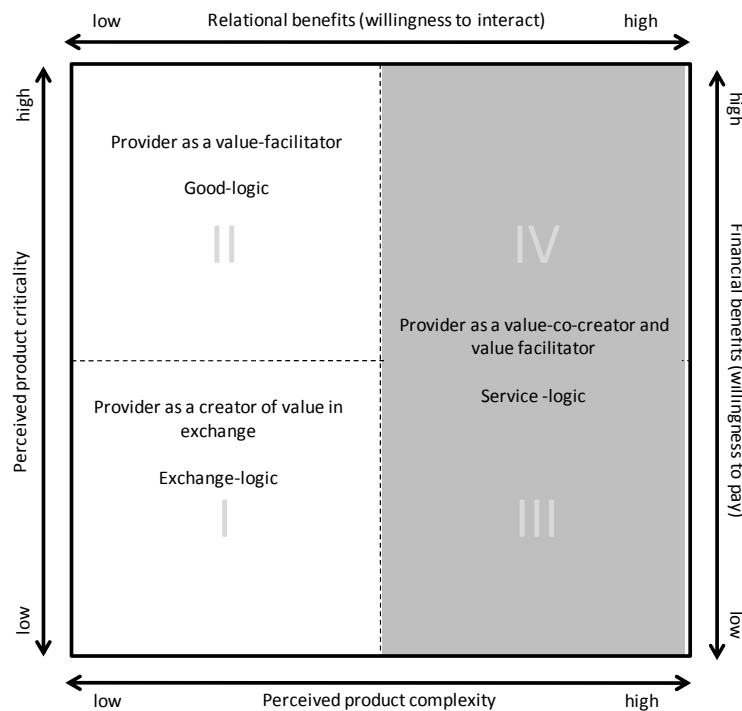


FIGURE 2 – BENEFITS, ROLES AND LOGICS FOR THE PROVISION OF PRODUCT-SERVICES

Hence, on the basis of the perceived product complexity and criticality, the product supplier should embrace different business logics. Then, coherently with the business logic adopted and with the overall business strategy, the supplier should develop a product-service strategy in terms of objectives to be reached and product-services offered to accomplish these objectives. As we will point out hereinafter, four generic product-service strategies can be identified.

2. MODELLING THE PRODUCT-SERVICE STRATEGY

2.1. Product-service classification

The supplier should identify the product-service mix with which to supplement its product, based on a certain product-service classification. Several classifications of product-services exist in literature (Blumberg 1991, pp.122, Goffin, 1999, Lalonde and Zinszer, 1976, Mathieu 2001, Frambach 1997 Oliva and Kallemberg 2003). A very meaningful classification is the one provided by Mathieu (2001) who proposes to classify product-services in two categories: “product-services supporting the supplier’s product” and “product-services supporting the client actions in relation with the supplier product”. According to the author, the former are

transaction-based, low-customized services, aimed at ensuring the product functioning, whose direct recipient is the product itself. By contrast, the latter are relationship-based/highly customized services, whose direct recipient is an individual and whose aim is to support client initiatives and missions. Starting from the classification of Mathieu (2001), we can divide product-services into three categories, splitting the services supporting the client actions in two categories that differ in terms of direct recipients, aims, and contents of the service itself.

- a) Services Supporting the Product Functioning (SPF services). SPF services ensure the product's functionality over time, *from cradle to grave*. Examples of SSP services are transportation, installation and commissioning, repair services, spare parts and consumables provision, maintenance and repair service, decommissioning and disposal services. The direct recipient of these services is the product and, in certain cases, the product end-user. Maintenance services, for example, are not necessarily limited to interventions on the product, but can include also advice and explanation about the product's utilization and maintenance provided directly to the products' end user.
- b) Services Supporting the Product's Utilization and Operations (SPU services). SPU services facilitate the product's end-user(s), in the daily interaction with the product, and help them fully enjoy all the product-related experiences. Examples of SPU services are the provision and update of technical documentation (e.g. procedure manuals, user guides), help-desk services with operators able to provide remote support, web-site hosting product-related technical forums, FAQs and chats, the organization of meetings and events reserved for the product end users. The direct recipient of these services is usually the product end-user which can be either the product's owner/franchisor/renter or someone who is asked to operate the product on behalf of customer.
- c) Services Supporting the Product-enabled Process (SPP services). SPP services aim at helping customers (re)design, manage and optimize the processes that are enabled by the product. Examples of SPP services are consultancy and professional services for process engineering, test, simulation as well as training services. The direct recipient of these services is the process owner. These services are, by their nature relational and highly customized.

A product-service offer is, therefore, characterized by a bundle made up of a serviceable product (with its characteristics and performances), of its add-on (such as spares and consumables) and of a mix of SPF, SPU and SPP services (defined by their expected/contractual quality, coverage and response time, accessibility, dependability, etc.). This is called the Product-Service System (PSS).

2.2. Towards a contingency model

As already pointed out, in order to develop a product-service offering, companies should, at first, identify the role that they can play in the customer value creation process, and therefore the business logic that they should embrace. Hence, they should formulate, coherently with the overall business strategy, a product-service strategy in terms of objectives and product-services to offer to accomplish these objectives.

The implementation of the product-service strategy will determine, eventually, the organizational structure and the control mechanisms of the service delivery system (Pawar, 2009, Baines 2009b). Certain services which can prove complex to manage can be outsourced to specialist providers especially if these services are not aligned with the core business of the manufacturer or could prove a distraction (Nordin, 2008). So, another cumbersome task is to find the right partners to whom certain operations can be outsourced.

In the previous paragraphs we have illustrated how the perceived product complexity and criticality influence the expectations of the benefits received through product-services. By influencing the customer perception, the proxies mentioned have a major impact on the customer's approach toward product-services. As a consequence, they should be accurately taken into account while developing the product-service strategy, for each customer and/or customer segment.

The following propositions can be formulated (see Figure 3).

- I. When product is (perceived as) simple and non-critical (and/or unbranded), customer does not expect any significant benefit from product-services. As a result, the product provider should only offer a basis of product-services.

Explanation: when product is simple and non-critical, customer considers product-services as a non influential aspect of the market offerings. In this case, the provision of product-services basically represents a cost without providing any benefit to the supplier. In this case (Box I), servitization should be pursued as a priority if, and only if, the customer's perceptions could be influenced by radical innovations (e.g. design-driven innovation) that induce new meanings and/or new ways of use of products, or by promoting the brand intensively. Otherwise, the emphasis should remain on product and process design and engineering, on quality improvements, on cost control and reduction. This is typically the case of disposable products, such as small domestic appliances, where the servitization of firms seems to be limited in goal and scoping, and the product-service offer includes only the services that the provider is obliged *by law* to provide and/or that customers consider as *market qualifiers* (i.e. precondition to the purchase of product).

- II. When product is (perceived as) simple and critical, product-services are “consumed” as “goods”. If costs are kept under control and product-services are priced correctly, the supplier can achieve remarkable financial results from the provision of product-services.

Explanation: When product is (perceived as) simple and/or unbranded and critical, the replacement and unavailability costs are high, therefore customer is likely to need repair and maintenance services, as well as consumables and spare parts. However, customer does not think he/she needs the support of the provider to use his/her product, does not identify him/herself with the product brand and does not feel particular affection for it. Hence, customer is neither interested in establishing a relationship with the provider, even though he/she might be willing to pay for product-services, nor is he/she interested in the ownership of the product. Moreover, if the product is really simple, there will be other suppliers (such as other manufacturers or independent third parties) able to provide product-services. As a result, every time customers need product-services, they will probably search for anyone capable to meet their requirements without considering *any preferential partner*. To state that product-services are “consumed” as “goods” means that the provider wouldn't be allowed to interact with customers and co-create value. Nonetheless, provided that customer is willing to pay for service, the supplier can achieve financial results from its provision. In order to develop attractive service offers, the core package should be expanded: firstly, to include more advanced (value added) SPF services (such as preventive maintenance services, remote monitoring); and secondly, to improve the delivery performance in terms of coverage (e.g. 24/7 coverage), response time (e.g. 4-hour response time) and effectiveness (e.g. first time fix rate). Even if the perceived product criticality makes the availability of product-services a precondition for selling the goods, these services neither provide differentiation nor determine customer loyalty. In fact, if the product is simple: on the one side, other suppliers will be able to serve it; on the other side, the customer can easily switch service provider since he/she is not engaged in a close relationship with the manufacturer/reseller of the product. As a result, the possibility to leverage product-services to increase revenues and/or cash flows is inherently temporary and depends on the strength of market competition. In order to render the financial results achieved by servitization sustainable, the manufacturer should try to lock-in the customer, preventing him/her from changing the service provider. Such a lock-in strategy can be achieved by modifying the technological characteristics of the product and/or the ways the product and services are offered and sold. In the first case, new features can be added in order to increase the perception of the product complexity and to make it more difficult for external providers to deliver a value proposition to serve the product (i.e. the position moves

towards the right). In the second case, the products maintain the same characteristics, but the supplier, instead of selling the product and product-services separately, persuades its customer to pay a fee for every unit of output the product will produce (number of copies for a printing-machine, numbers of kilometers for an engine, number of hours a boiler operates, and so on). In this case, the customer-provider interaction may still be limited and transactional in nature, but could be used as a barrier for preventing other competitors from establishing a relationship with the customer.

- III. When product is (perceived as) complex and not critical, product-services are seen by customers as a complementary offer. As a result, the product supplier and/or the brand owner can leverage a superior-quality product-services offer to increase customer's satisfaction.

Explanation: when product is (perceived as) complex and not critical, customer is likely to need some interaction pre and post the sale with the product supplier, in order to exploit the full potential of his/her product and enjoy the product ownership/utilization. This could be the case of high-tech consumer electronics, luxury motorbikes, etc. Even though the relational benefits the customer can obtain from product-services can be remarkable, these benefits are hard to recognize and quantify. Hence, the customer focuses primarily on the functionality, performance and intangible/aesthetic attributes of the product, and product-services are seen as a complementary offer enhancing the provider's brand. The product ownership is still a "must-have", so pay-per-use formulas are not common or desired. The customer's unwillingness to pay for service makes the provision of product-service unprofitable. Nonetheless, product-services helping customers enjoy the product ownership and utilization can be leveraged to achieve differentiation (especially when the product's characteristics and functionalities are similar across vendors) and increase customer satisfaction and brand loyalty. In order to meet these objectives the core service package should be expanded to provide additional SPU services and improve the delivery performance especially in terms of effectiveness (customer satisfaction) and customization. Provided that in the short term product-services represent a cost to be sustained, in the long run they give a remarkable contribution to the firm's competitiveness.

- IV. When product is (perceived as) critical and complex, product-services are seen as part of an integrated solution able to deliver value in use. As a result, the product manufacturer can act as a solution provider.

Explanation: when product is (perceived as) critical and complex the customer can have multiple needs. In fact he/she needs to identify what will be his/her present and future requirements in terms of process performance, to select a product allowing the achievements of this performance, purchase this product and have it installed, configured and assisted over time. Customer may also need to optimize and improve the product-enabled process. Hence, the customer's focus is likely more on the process where the product is involved rather than on the product itself. If the product is critical, the value that can be created through it is generally high but the product complexity makes the fulfillment of value in use difficult. As a result, customers expect the manufacturer to be able to assure solutions (e.g. a given process outcome, a given process configuration) rather than a certain product performance. In this case, product-services are seen as part of an integrated solution able to deliver value in use. This is typically the case of assets enabling mission critical processes. In such a situation, product-services should be considered to be part of an integrated solution able to create substantial benefits for the customers and, at the same time, to allow the provider to achieve all the financial, strategic and marketing benefits described in the first section. In this case, the service mix should include SPF, SPU and SPP services as well. In the long run, as companies increase their expertise in supporting processes of a wide number of customers, they should try to get new revenue streams and profits by expanding their offer. Typically, the expansion can be i) the provision of new services on the current customer base; ii) the provision of the same services, but on the basis of new SLAs (that is the offer of a broad delivery time coverage and/or a faster response time); iii) the provision of services as a third-party service provider to new customers.

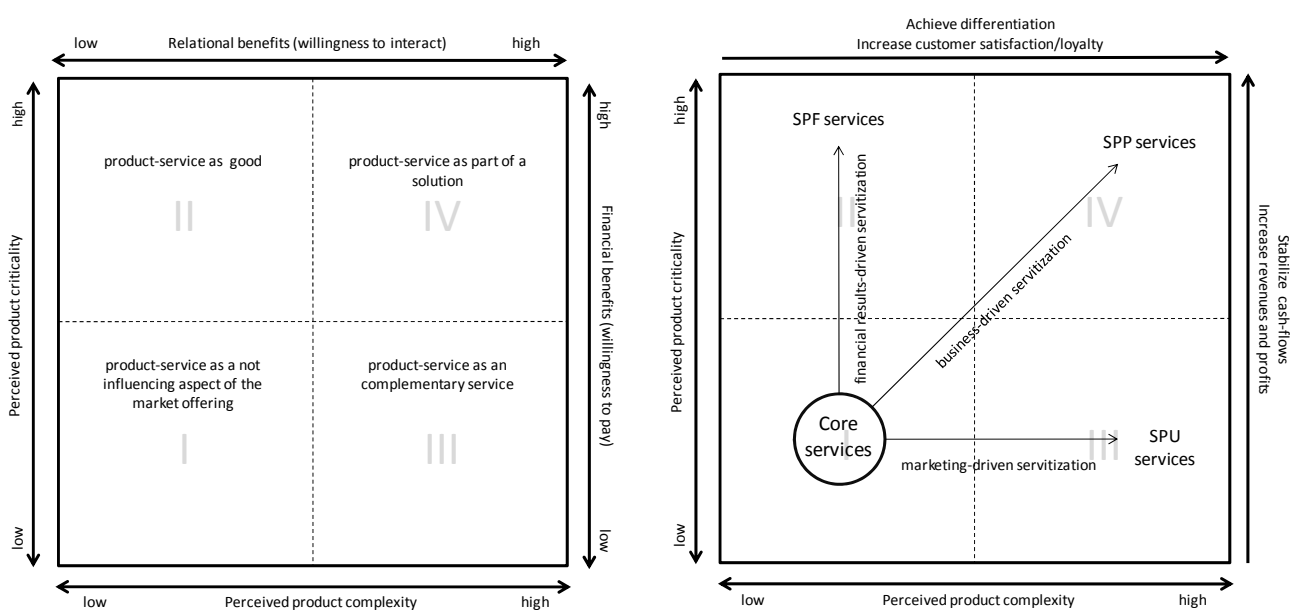


FIGURE 3 – PRODUCT-SERVICE STRATEGIES AND CUSTOMER-BASED APPROACHES TO SERVITIZATION

In Figure 3, three different servitization processes are depicted: marketing-driven (I to III), financial-driven (I to II) and business-driven (I/II/III to IV). It is up to the firms to leverage their commercial and technological competences in order to move towards the top right corner of the model, by influencing their customers' perception.

The proposed model can be used also to discuss and compare the different after-sales service strategies, such as the ones described by (Cavaliere et al., 2007). As a result of extensive research that involved many business cases, four different profiles (namely Product Support, Cash Generator, Business Generator and Brand Fostering) were identified and characterized in order to devise the mission, the economic accountability and the internal organization of the aftermarket division of manufacturing companies. As reported by Saccani (2009), in a Product Support strategy aftermarket services are only focused on traditional product support, such as installation or field service repair. Services are seen as a necessary evil (Lele, 1997) and managed as a cost centre, mainly deputed to manage warranty issues or product defiance. Services are provided on a transactional basis, generally only after a specific request by the customer. This is the typical strategy adopted for disposable items (e.g. small domestic appliances). In this approach, however, some attention may be devoted to the design of an information feedback system to gather data from the field, in order to assess the product performance and to support improvements in product design. This profile corresponds to the product-service strategy of Box (I) in Figure 3.

In a Cash Generator strategy (corresponding to Box II) the sale of services follows the product sale and interaction with the customer occurs on a transactional basis. Nonetheless services are an important source of revenue and profits. Profits are mainly generated by selling spare parts and accessories (e.g. tangible items related to the product). Companies following this strategic approach may try to raise the low margins resulting from the sale of the products by counting on the provision of services (as for original spare parts in the automotive industry), or accessories and apparel (in particular for branded products, as is the case with luxury motorbikes).

The third strategy is named Business Generator (Box IV). In this case the offer contains not only product-services, but also customer-oriented services (e.g. maintenance contracts) and process-oriented ones (engineering, consulting). A relationship-based approach to customer interaction is adopted, and the services delivered may be totally independent from the goods. A customer, in fact, may experience the service offered without consuming the underlying company's goods. The offer may consist of a complete integration of product and services, that provides value in use to the customer (Baines et al, 2007) without transferring the product ownership (e.g. rental, pay-per-use). Services in a Business Generator strategy are an important source of revenue and profit. A market-focused vision leads, moreover, to the consideration of services as an important competitive tool. Through its service offer, the firm

seeks differentiation from competitors and new business opportunities (Wise and Baumgartner, 1999). The service organization, in this case, is a strategic business unit, operating with a profit-and-loss responsibility and giving emphasis to customer satisfaction (Gebauer et al., 2005).

Finally, in a Brand Fostering strategy (Box III) the main role of the service offer shifts from the achievement of revenue and profit to the fostering of brand image and accomplishment of customer loyalty in the long term. The service offer itself might not differ much from the Business Generator strategy, but the financial focus is on cost control rather than on profit. The relational approach to customer interaction is emphasized even more, since it enhances customer loyalty and has a positive impact on future product sales. Hence, the Service organization is considered as an investment centre, which contributes to sustain the brand image and increases product sales in the long term.

3. CONCLUSIONS

3.1. Empirical evidences

The model reported in this paper was presented at the first ASAP SMF CEO meeting (Brescia, Sept., 24th 2009). On that occasion, the most common implications of the model were discussed, and insightful comparisons from different industries were presented. Many exceptions as well as confirmations were brought to our attention and this greatly stimulated our reflections. Useful recommendations for the development of the product-service strategy were proposed.

Even if almost everyone agreed with the general basis of the model, some major limitations did emerge. The first one refers to the subjective nature of the proxies (perceived complexity and criticality) that have been used for positioning a given strategy on the contingency model. Even for the same product, the same company and brand, the value expectations of different customers can differ greatly, depending on the product's usage and customer behaviour, on her/his awareness, on the presence or otherwise of redundancies of the installed products, and of alternatives to accomplish a given mission. Profession, education, income and age of customers can greatly influence the willingness to pay for and to interact with the product-service provider. Everyone agreed the most critical issue in applying this kind of model should be in choosing the appropriate market segmentation, in order to reduce the variance inferred by social and individual factors.

Other factors can exert, to some extent, a strong influence over the customers' willingness, and this should be taken into account. These are the commercial channels used to promote the product-services, and the environmental and country specific laws, that influence the consumer perception on one side, and the business logic to be adopted on the other. For example, a case of relatively simple and non critical products was reported, where the product-services turned

out to be remunerative. This happened when, under Italian law, special grants (in the form of tax rebate) were provided for product acquisition. However, the documentation to be complied turned out to be difficult and complex for the customer. So, a manufacturer leveraged this opportunity and started delivering a priced product-service that turned out to be successful. In this case, the perceived product criticality increased the more the customers took account of the financial benefits of the amount promised as rebate, which was however difficult to obtain. The lesson to be learned is that even if your product-service strategy may suggest you should act based on, basically, an exchange-value logic, certain changes in the external environment could somehow provide the opportunity to supplement your products with valuable product-services, so firms should be always prepared for this switch (from an exchange-logic to a good-logic).

Another issue that was suggested by the participants at the meeting, which is better explained by the model, refers to the level of interconnection between products in the usage process. If a technology provider starts developing and delivering complete systems and solutions, rather than single products (e.g. a production process rather than a work center), its offer is perceived as more complex and more critical. This increases the customers' willingness to pay for and to interact through product-services. From these interactions, the firm achieves useful information (about needs) and knowledge (about practices) to set up the competences that are required to act as a value co-creator and starts to enforce its reputation as a service provider. The change management process (training, commercial development, technology development, etc.) can even be funded by the revenues resulting from the selling of contractual-services (*business-driven servitization*).

3.2. Concluding remarks

Many participants at the CEO meeting reported interesting on-going servitization projects, where it clearly emerged that there is a strong need to develop effective product-service strategies, in a strong alignment with the players of the value-chain (supply-chain, service-chain). There are cases where the customer is loyal both to the manufacturer's brand and also to the retailer/reseller of a product. It is important therefore not to underestimate the value of the service content offered by both, which must not contradict but complement each other, in order to create a better perception of product-service and its generation of value in the eyes of the customer.

Several attempts have been made to shape the product-service offerings through customization of the product-service outcome. In these cases, the product-services were tentatively priced based on the expected willingness to pay for them, even considering the customer's income and social status. The request for customized product-services unveiled new issues: the lack of competences expressly devoted to service design and to the development of product-

embedded product-services (e.g. BMW teleservices). This can prove a real drawback, preventing innovative SMEs from servitization. Often built and grown around a successful product-centric business idea, SMEs are mainly driven by product innovation, and suffer from financial, managerial and cultural weaknesses in devising their product-services strategies.

With regards the so called knowledge chain, various interesting considerations came to light. Many participants reported that, in recent years, their companies were overwhelmed by the requests for information (for information-based product-services, both pre and post sales) concerning the best way to use the product, performance, configuration and technical specifications, etc. Firms cannot handle and fulfill all these requests, so they should persuade the customers to self-train, in order to become aware of the product and the product-service offering. To this aim, Internet can prove an important driver and can certainly add value in the world of service, if properly used by firms to support and provide customers with the requested information. However, in a consumer market like Italy where the majority of sales, for instance, are still transacted over the counter, the relational benefit to be gained from the service proposition offered at point of sale remains significant. Especially in the case of innovative products, customers may lack awareness about product criticality and complexity, having no experience about the product usage. In this case, manufacturers and/or resellers should support customers in assessing the lifetime of the product, the use intensity, the fault severity, the total cost of ownership of the product, and so on. This would drive customers towards the right perceptions in terms of product complexity and criticality and, therefore, they would be more willing to pay to receive certain convenient (for them) and/or effective product-services, irrespective of bundled or unbundled offers. On the other hand, customers of mature and experienced products (such as the ones offered in substitution markets) can be better aware of the actual cost of ownership, of the product criticality, and they could refuse unattractive product-service offers from competitors.

The promotion of service management culture, the development of higher education projects in the field of service, the modeling of the customer's value assessment mechanisms, are all activities that can be supported and encouraged by the ASAP SMF community.

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ASAP SMF

The mission of the ASAP Service Management Forum (SMF) is to promote service culture and excellence of the service management, by means of research, practice, education and technological transfer. 15 researchers from 5 research centers (University of Bergamo, of Brescia, of Florence, Politecnico of Milan, Bocconi University) and almost 60 multinational companies collaborate to the activities of the forum.

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