

## **2.2 The Key Issue in the Customer Management**

### ***2.2.1 Improved Relationships with Customers***

In PSS, unlike traditional settings, customer relationships are critical success factors (Galbraith 2002; Tukker 2004; Gebauer et al. 2005; Davies et al. 2007; Kindström 2010; Reim et al. 2015). It is important to define the type of interaction that must be established with customers in order to transmit value and maintain it during the life cycle of the product (Meier et al. 2010; Barquet et al. 2013; Liu et al 2014). The increase in interactions with the client is a signal of evolution of the relationship towards a servitization logic (Azarenko et al. 2009). This also includes the definition of the ways in which information sharing should take place (Windahl and Lakemond 2010; Reim et al. 2015). Customer relationship management is strictly related to the generation of added value through direct connections and intensified contacts with the client (Mont 2004). This implies that relationships with customers are structured and long-term, as opposed to short-term treatment of the “product sale” context (Mont 2004; Williams 2006). The relational course is undertaken by establishing and constructing operational intersections, exchange of information, legal contracts and defining cooperation rules (Matthyssens and Vandenbempt 2010).

### 2.2.2 Customer Interaction

In PSS, a close relationship and improved interaction between company and customers are the basis for the success of the development and management of the solutions offered (Galbraith 2002; Davies et al. 2007; Cova and Salle 2008), allowing the mutual creation of value through the co-creation scheme. In fact, the success of value co-creation is heavily based on the involvement and the client’s efforts (Sheth and Uslay 2007).

Customer participation in design, production, sales and delivery are typical of PSS (Kindström and Kowalkowski 2009). This implies that sporadic interactions become continuous over time and require a contractual structuring that will be further investigated. The boundaries between customer and supplier are therefore permeable to information and experiences, favouring the osmosis of knowledge and skills that enriches both. Given this strategic aspect, if the interactions are not managed carefully, the process of enrichment of the solutions offered cannot be unlocked, leading to the failure of the customer experience. It is possible to design the interaction with the client by analysing four aspects (Fig. 2.12):

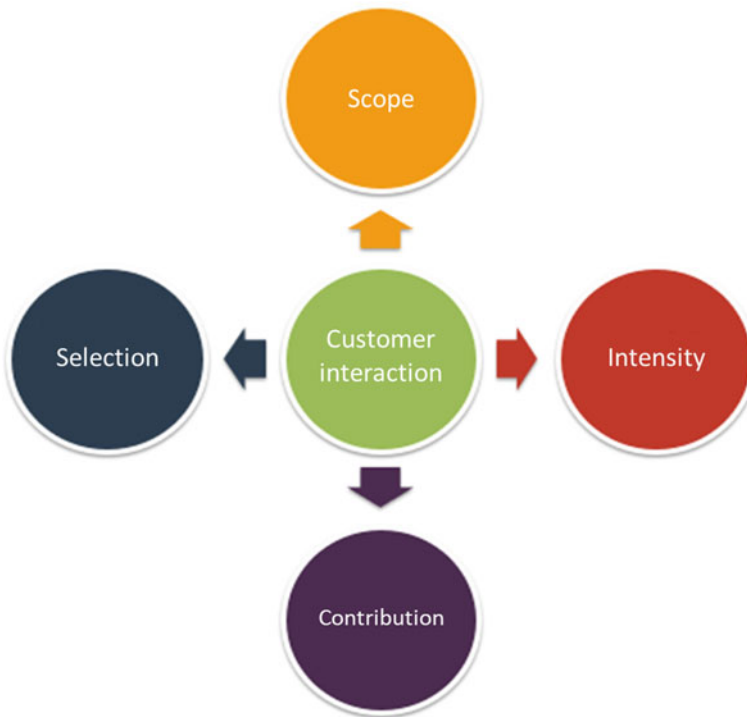


Fig. 2.12 Key characteristics of customer interaction

- **Scope:** the scope refers to the propensity of the provider to involve the clients along all the phases of the development of the PSS. During development stage, customer activities are an integral part of the value co-creation process and the provider must interact more closely with the customer. Parallel to the life-cycle phases of the product, also customer–supplier relationships are developed. The life cycle of the product consists of conceptualization, design, production, testing, installation, use and maintenance, while the *cycle of interaction* passes through phases related to access to information, diagnosis and delivery until follow-up.
- **Intensity:** intensity refers to three levels of customer involvement in the development process: “FOR the customer”, “WITH the customer” and “FROM the customer”. The first level implies the highest responsibility for the provider, the second one the cooperation between the two and the last one the maximum responsibility on the client.
- **Contribution:** the set of contributions made by the customer during the co-creation phase.
- **Selection:** the phase consists in selecting the contributions that the client can bring during the co-creation phase.

### 2.2.3 Information Sharing

The enrichment of interactions requires a correct management of shared information (Table 2.3). The sharing of information between company and customer is a prerequisite for establishing a close relationship with the customer and therefore for the successful implementation of service systems (Mont 2002; Reim et al. 2015). More than that, collecting and exchanging information and understanding how to use the data allows the manufacturer to be well informed about the client’s activities (Ulaga and Reinartz 2011). Providing information and guidance on operational activities helps the supplier to ensure a better service (Kindström and Kowalkowski 2014). The information exchange, therefore, involves all the phases, from the design and development phase to the end of life of the product. During the product design and development phase, the customer informs the provider of his needs, objectives and previous experiences. Then, this information is translated into product or service features. During the operational phase, prevailing information is related to the state of operation of the machinery, the state of wear of the components, quality performance. The information shared at this stage then translates into repairs and plans to improve performance and preventive maintenance of components to avoid machine downtime.

**Table 2.3** Classification of shared information

Life-cycle phase	Shared information	Related aspects
Product development	<ul style="list-style-type: none"> <li>• Needs</li> <li>• Experiences</li> <li>• Design capability</li> <li>• Information systems for design and engineering</li> </ul>	<ul style="list-style-type: none"> <li>• Product specifications</li> </ul>
Operational phase	<ul style="list-style-type: none"> <li>• Data related to the solution’s operation</li> <li>• Wear condition</li> <li>• Availability</li> </ul>	<ul style="list-style-type: none"> <li>• Preventive maintenance</li> <li>• Repairs</li> <li>• Performance improvement plans</li> </ul>

### 2.2.4 Sales Channels’ Effect in Value Communication

Understanding how value is transmitted to the customer is fundamental, but companies should also rethink how to create awareness on the new service offered and how to communicate the added value (Reim et al. 2015). In order to allow the transition from product-centric sales to PSS logics, the sales areas should make the PSS option more attractive than the traditional basic products (Tukker and Tischner 2006) and to do so require adequate preparation in order to “sell the idea” with targeted marketing campaigns. The search for new ways to transmit the value of the PSS involves a new definition of the pre- and post-sales channels, through an internalization or outsourcing of specific resources in order to develop or acquire new skills (Storbacka 2011; Kindström and Kowalkowski 2014).

#### *Sales Channel Configuration*

Sales channels must be able to create customer awareness and facilitate evaluation of the offer. The personnel involved in these activities must therefore be accredited in terms of reliability, knowledge of the PSS and must become a resource to create added value for customer. So, sales forces should change their sales strategies (Kindström et al. 2015). Sales parameters must be focused on the perception of value and not on internal costs. Given the very complex and personalized nature of the PSS, the most suitable sales channel is the direct one. Relying on third parties would be complicated and difficult to implement given the nature of the information that is shared throughout the product life cycle. The sales channel therefore adapts to the reality of the PSS context. Usually, when a company distributes solutions in the B2B context, the practice is to use direct sales channels, while in the B2C context indirect channels are used, also considering the lower complexity of the solutions offered (Nordin 2005) (Figs. 2.13 and 2.14).

#### *After-Sales Channel*

Once the channels concerning the distribution of the asset have been designed, it is necessary to concentrate on those concerning the after-sales services. The management of the field service network is a key component in the success of PSS delivery. This includes a, for example, repair or maintenance of the product or its components

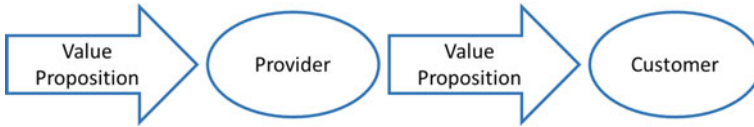


Fig. 2.13 Direct distribution channel (B2B)

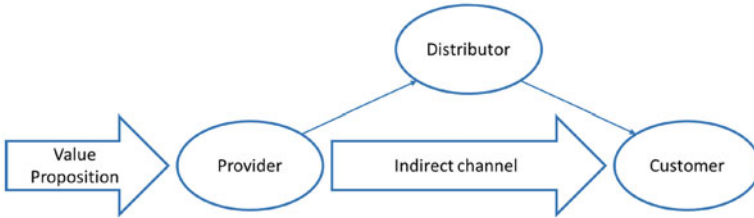


Fig. 2.14 Indirect distribution channel (B2C)

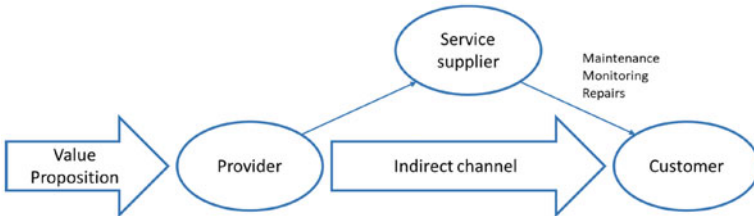


Fig. 2.15 Indirect channel, service supply (B2C)

at the end of the life cycle before and after disposal or recycling of materials. If you talk about activities that directly support operations, the technicians take great care. The technicians, in fact, are often in contact with the customer and the latter tends to be confident with them (Ulaga and Reinartz 2011). For this reason, in the PSS business models the after-sales channel should be highly integrated with the sales channel dedicating to the customer a unique and specific line of communication on which the entire customer–supplier relationship is based. Coherently with the specificity of the communication channel, specific teams must be set up to manage customer problems (Gebauer and Kowalkowski 2012; Kindström et al. 2015). To understand how the after-sales channel should be managed, the complexity of the service and its intensity must be assessed. Usually, when the service is very complex in terms of know-how and must be provided with extreme frequency, the practice is to make use of a subcontractor who works on behalf of the provider, while if the service component is relatively simple to manage, or should be provided with low frequency, the provider should evaluate the internalization of this activity to maintain a direct channel with the customer (Nordin 2005) (Fig. 2.15).

### 2.2.5 *Different Contractual Models*

The introduction of the PSS requires the supplier to move to a new pricing discipline. The traditional cost-plus approach, in which the price was obtained by summing the costs of production, design and development and a margin which constituted the producer's profit, is replaced by a value-based logic (Rapaccini and Visintin 2015); in this case, it is more difficult to understand if and how the product will cover the costs incurred and risks and potentialities are difficult to predict, but the new pricing models guarantee profitability because very often the value that the customer is willing to pay is higher than that obtained with cost-plus methods (Oliva and Kallenberg 2003; Tukker and Tischner 2006; Neely 2009). Ownership of the asset is one of the most critical aspects of the contract: as seen above, it can remain in the hands of the supplier or be transferred to the customer. If it is not transferred to the customer, the rights concerning all the activities related to it must be carefully established in order to avoid unpleasant disputes during the use phases (Richter et al. 2010) and it is crucial to define reliable outputs to be included in contractual terms (Bonnemeier et al. 2010). There is a need to turn the offer into terms and specifications such as to describe what and how it is distributed to the parties of the contract (Azarenko et al. 2009; Meier et al. 2010; Reim et al. 2015). The contracts are complex and concern the procedures and penalties that take place in the case of non-satisfaction of the clauses. Also, in this case, it is possible to use an approach that analyses the nature of contracts according to their context of use (Reim et al. 2015). A contract PSS should be built with a view to shed light on all aspects concerning the rights and duties of each party.

Many supply contracts are extremely complex and their terms must be adapted taking into account the context of the PSS. This complexity varies according to the quantity of specified regulations, so it will vary according to the business model linked to the PSS. Contrary to complexity, the level of contract formalization indicates how much it should be readjusted to each new customer. Very formal contracts tend to be less complex, since they have to adapt to a vast number of contexts (Reim et al. 2015). Long duration is an unavoidable factor in PSS contracts, so companies should establish an appropriate balance between the interests of the parties. According to Richter and Steven (2009), the contractual phase plays a key role in the definition of the business model: its formulation has a greater impact on profits than the choice of the business model with which to operate. In order to maximize the value generated, it is essential to align the characteristics of the business model with the contractual terms regarding the aspects of liability and risk representation. More in detail, there are three key aspects to be carefully taken into account: (1) *responsibility and terms of the agreement*, (2) *complexity and formalization* and (3) *level of risk*.

1. *Responsibility and terms of the agreement*: concern how the tasks are divided between the parts of the contact and which specifications are necessary to clarify rights charges from a purely legal perspective. In product-oriented types, the customer is the owner of the product and the only responsibility of the provider regards the services related to the product. This means that the contract must

establish and define the level of service provided and the outputs. With a supply contract, the tasks to be performed and the time frames to complete the activities must be included. It is equally important to agree on payment terms and how additional costs are credited in case of repairs (Azarenko et al. 2009). The contract should concern the management of shared information (Schuh et al. 2011). In use-oriented contexts, certain terms such as availability, price, control over machinery and responsibilities for losses caused by periods of non-availability must be reported in the contract. In this case, since the ownership of the product is not transferred to the customer, the decision rights must be allocated carefully (Richter et al. 2010). The client's responsibility is greater in the use-oriented context rather than the product-oriented one, but reaches its maximum in result-oriented realities because the provider has complete responsibility for ensuring the result (Meier et al. 2010). As the level of responsibility increases, the terms of the agreement become extremely important. This not only leads to increased responsibility, but also a great need to share information. Often, however, information can be sensitive, so there is a need to agree on what information to build interchange.

2. *Complexity and formalization of the contract:* formalization is higher in contracts for product-oriented because this type of offer solutions is very standardized, and this makes very similar contracts possible in different contexts. The lowest level of formalization is expected to be found in result-oriented models because they offer unique and unrepeatable solutions to each individual customer. The complexity increases with the increasing responsibility of the provider. Agreeing on the services provided when working in a product-oriented context is not very complicated and both parties must check whether the shrewd are respected or not. The level of complexity is maximum in result-oriented contexts because the result must be guaranteed according to well-defined specifications. Moreover, as the customer-supplier relationship grows, the complexity of the agreements also increases. In these cases, it may be useful to make use of several parallel contracts (Azarenko et al. 2009).
3. *Level of risk:* usually, the level of risk increases when the provider moves from a product-oriented to a results-based model, but this is not necessarily valid for all types of PSS. The provider could see a way to secure premium incentives when taking a major risk share. In product-oriented contexts, risks are mainly linked to situations where more resources are needed to meet the terms of the contract, which would oblige the provider to review its operations. However, even a customer's averse behaviour is also a risk that can be mitigated through terms added to the agreement (for example, revocation of the guarantee when the customer does not meet the terms of the contract) (Azarenko et al. 2009). The risk of incorrect behaviour of the customer increases in the case of use-oriented models because the ownership of the product remains in the hands of the provider. This makes it necessary to agree on the decision rights and what costs will be linked to the use will be discharged on the customer (Reim et al. 2015). For suppliers, the main incentive for this type of contract is the higher revenue expected from the service offered. In result-oriented contexts, in

**Table 2.4** Schematization of contracts characteristics

PSS category	Liability and terms of the agreement	Formalization and complexity	Risk component
Product-oriented	<ul style="list-style-type: none"> <li>• Charges for services</li> <li>• Agreement on tasks, payments and information management</li> </ul>	<ul style="list-style-type: none"> <li>• High formalization</li> <li>• Low complexity</li> </ul>	<ul style="list-style-type: none"> <li>• Low risk</li> <li>• Adverse behaviour</li> </ul>
Use-oriented	<ul style="list-style-type: none"> <li>• Charges concerning availability</li> <li>• Definition of the level of availability and monitoring activities</li> </ul>	<ul style="list-style-type: none"> <li>• Average formalization</li> <li>• Average complexity</li> </ul>	<ul style="list-style-type: none"> <li>• Average risk</li> <li>• Adverse behaviour</li> </ul>
Result-oriented	<ul style="list-style-type: none"> <li>• Charges concerning performance</li> </ul>	<ul style="list-style-type: none"> <li>• Low formalization</li> <li>• High complexity</li> </ul>	<ul style="list-style-type: none"> <li>• High risk</li> <li>• More freedom for provider</li> </ul>

which the contract is based on the guarantee of certain performance, the risks are mainly based on the achievement of the patented results. In this case, the entire responsibility falls on the provider and usually this type of solution is proposed only by a limited number of entities capable of taking on such a risk at a high premium. The client, for his part, benefits from the reduction of the efforts necessary to achieve certain results.

Table 2.4 summarizes the different contractual models of the three PSS categories

**Seven Key Facts**

- The shift towards servitization brings significant changes in the role of customers and their involvement from the design to the delivery of the offering.
- The value proposition at the core of servitization can be declined according to customer value, value co-creation, product ownership and service offering.
- The value for customer can consist of tangible and intangible elements, i.e. performance, customization, cost reduction, risk reduction, usability and contract flexibility.
- The service offering is one of main distinctive elements of a PSS: there can be services that support the product or services that support customer activities, and the value logic can be focused on inputs or either on outputs.
- Value co-creation is a central element in the value proposition of servitization: the customer is directly involved in value creation process.



- Unlike traditional selling, servitization does not (always) involve shifts in product ownership: the customer pays for product's performance and not for possession.
- Key element for the success of servitization and PSS is a mindful management of relationship with customers and their involvement: this might imply a redefinition of channels, interactions, and contracts.

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