Value Blueprint and Service Design Space for Facilitating Value Creation

Steven Alter
University of San Francisco
alter@usfca.edu

ABSTRACT
A new operational perspective on fundamental concepts related to customers, service, and value differs from service-dominant logic in its approach to service systems, value creation, value co-creation, service interactions, value facilitation, and value constellations. This perspective leads to two new tools for supporting service system design: 1) A “value blueprint” uses a swimlane representation to identify where value creation occurs, recognizing that parts of value creation may occur long after service providers have produced their contributions to customer value. 2) A multidimensional design space for value facilitation identifies design dimensions that can be used for characterizing current or proposed approaches to value facilitation by service systems. This operational approach to service concepts shows a direction for developing new tools and methods based on facilitating value creation by customers. It also complements the way service-dominant logic emphasizes the nature of competition and economic exchange.

Keywords
Service system, value creation, co-creation of value, value facilitation, value constellation, service system design

CONTRIBUTING TO PRACTICE, NOT JUST THEORIZING ABOUT THE NATURE OF SERVICE
Many abstract concepts and perspectives have emerged from long-standing debates about the definition of service, the centrality of co-production or co-creation of value, the nature of service systems, and the operation of service systems within value constellations. While the importance of theorizing about service and service systems is obvious, it is also important to develop practical insights, methods, and tools. Ideally, concepts and perspectives should form the basis of practical tools that can be used for analyzing and designing service systems, i.e., for contributing to practice, rather than just theorizing about the nature of service and the nature of value.

This paper uses a concept map to summarize an operational perspective on basic concepts related to customers, service, and value, such as service systems, value creation, value co-creation, service interactions, value facilitation, and value constellations. This operational perspective complements the perspective of service-dominant logic (Vargo and Lusch, 2004a; 2008), whose coverage of the nature of competition and economic exchange is often cited as a fundamental to the worldview of service science. (e.g., Maglio and Spohrer, 2008).

Four typical service situations illustrate issues addressed by the new operational perspective. The examples are service from a nutritionist, service from a surgeon installing a hip replacement, service from a retailer, and service from a police force. Customers and service providers have responsibilities in all four cases, but the form of activities and value creation is quite different. Interactions between patients and the nutritionist and the surgeon are quite important, but much of the value is created after those interactions occur. With a nutritionist, value creation depends almost totally on the patient’s follow-up, and the same outcomes might occur even without any interaction with a nutritionist. With a hip replacement, the surgery is essential for a good outcome, but the patient’s appropriate follow-up and compliance with medical advice is also essential. Retail sales may involve extensive personal interaction, as when buying clothes with a salesperson’s active help, or may involve minimal personal interaction, as when buying canned goods in a supermarket or when buying through an e-commerce website. Police services often involve little personal interaction with most citizens. This minimal interaction is rooted in the hope that the presence and actions of the police force will minimize crime and that most police interactions will be with suspects and criminals, rather than with typical citizens who are being protected.

The nature of value creation is quite different in these situations. Value from the two medical situations depends partly on what happens during provider – patient interactions and partly on the patient’s follow-up, such as following medical advice, sometimes over extended periods. Some of the value related to purchasing from retailers derives from the experience that the retailer, but most of the value in most cases comes from subsequent use of whatever is purchased. The value of services
provided by the police force involves the actual and perceived results of protection from crime. Much of that protection is a long-term cumulative effect involving actions, policies, and cultural norms over many years.

In all four cases, the provider is part of a larger value constellation without which the customer would not receive the same value. Under those circumstances, performing modeling, analysis, and design related only to processes within the provider or supplier tends to ignore factors such as customer responsibilities for obtaining value, the provider or supplier's direct role in facilitation of value creation by the customer, and essential roles performed in other parts of the relevant value constellation.

**Goal and organization.** This paper provides two types of contributions to service science. First it provides a design-focused perspective on the relationship between service-related concepts including service system, value creation, value co-creation, co-production of services, value facilitation, and value constellation. As represented in Figure 1, that perspective is useful for describing relationships between concepts that link service systems and value for the customer. The details of Figure 1 diverge in useful ways from some of the foundational premises of service dominant logic (Vargo and Lusch, 2004; 2008) and from other parts of the service science literature. The second type of contribution is two service design tools based on the perspective represented in Figure 1. The first tool identifies and uses multiple dimensions of value co-creation to describe design choices related to fundamental characteristics of an existing or planned service system. The second tool, called a value blueprint, overlays the idea of customer value on the general organization of service blueprints (Shostak, 1984; Bitner et al., 2008). Its purpose is to clarify where and when value to the customer occurs for different groups of customers.

![Figure 1. Fundamental concepts related to customers, service, and value.](image)

The next section uses Figure 1 to explain a perspective on basic concepts that link service systems with value for the customer. The two subsequent sections explain the two new tools. The final section places this paper's ideas in a broader context and explains their implications.

**PERSPECTIVE ON IMPORTANT CONCEPTS RELATED TO SERVICE**

Figure 1 is a diagram that summarizes this paper's operational, design-focused perspective on concepts related to service. The main tenets of that perspective conform to some parts of the service science literature and diverge from other parts.

- Services that are produced systematically (i.e., are designed) are produced by service systems.
- Economic enterprises and value constellations consist of service systems.
• Value is determined and perceived by individual customers, often far removed from services performed by providers. Hence, value co-creation is optional and may not be directly related to co-production of services.
• Customers create value for themselves, without or without direct involvement and interaction with service providers.
• Service customers are customers of service systems.
• Internal and external customers should be treated symmetrically in regard to services. Internal customers receive and use services directed internally within an enterprise. External customers receive and use services directed at people or things that are outside of the enterprise.
• Inconsistency often occurs between value propositions, service system design, and value facilitation as it actually occurs in specific cases.

The above tenets are the basis of Figure 1. Specific concepts and relationships in Figure 1 will be explained, starting with the intersection of customer, service, and value. Other concepts from Figure 1 will be italicized when they are first introduced.

Customer, Service, and Value

The oval in Figure 1 highlights the relationship between service, value, and customer. It says that services are directed toward customers, that service facilitates value for customers, and that customers experience value. In other words, talking about service in any specific situation requires identification of the relevant customers and at least summarization of the types of value that customers receive. Although intertwined, the terms customer, service, and value require definitions.

Service. Figure 1 is based on a simple, dictionary-like definition: “Services are acts performed for others, including the provision of resources that others will use” A more general version that also covers totally automated services replaces the word others with other entities, whereby services are acts performed for other entities, including the provision of resources that other entities will use. By this definition, and consistent with service-dominant logic, almost any economic activity can be viewed as a service, regardless of whether it is directed at external customers or internal customers. (Alter, 2010). This definition bypasses limitations of many other definitions that emphasize things such as intangibility, customer-provider interactions, simultaneous production and consumption, perishability, customization, responsiveness to customer requests, co-production by providers and customers, and application of specialized competences. (Alter, 2012). Examples of such definitions include Kotler and Keller (2006, p. 402), Pine and Gilmore (1999, p. 8), Fitzsimmons and Fitzsimmons (2006, p. 4), RAI and Sambamurthy (2006, p. 328), Sampson and Froehle (2006, p. 331), and Vargo and Lusch (2004a, p. 2). Vargo and Lusch (2004b) use different terms in stating a similar criticism of many definitions of service. The proposed definition of service is most consistent with the way Grönroos (2011, p. 285) defines service as “value-creating support to another party’s practices. As suggested by Normann (2001), this support may either relieve customers from taking on some task or enable them to do something that otherwise would not be possible to accomplish or would be accomplished less efficiently or effectively.”

Customers. The literature of marketing, operations, and management mention different types of customers including:
• Direct customers who receive and benefit directly from whatever service is being provided
• Indirect customers who reap benefits that follow from the services received by direct customers (e.g., parents who have more time available because their children participate in after-school activities)
• Paying customers, who pay for services that may or may not be received by other customers (e.g., insurance companies that pay for medical services received by employees of firms that purchase insurance policies)
• Nonpaying customers, who receive services that are paid for by others and who, therefore, may feel less motivated to use those services efficiently
• Intermediate customers, who receive partially completed items, perform work to change their state, and then pass them to others who continue the work,
• Involuntary customers, who are obligated to receive goods and services that they may not want.

In the perspective represented in Figure 1, customers are direct recipients of services. They may be internal customers who receive services produced by an enterprise and directed at its own employees or agents. Alternatively, they may be external customers such as employees and agents of other enterprises.

Note also that the service science literature often uses the vague and nonspecific concept of “the customer.” That treatment is insufficient for many service situations involving multiple customer groups and other stakeholders with conflicting perceptions and priorities related to the need for and quality of the various products/services that a service system produces. Identifying different groups of customers is a step toward identifying conflicting perceptions, interests, and priorities of different customer groups, thereby penetrating the over-simplified concept of “the customer.”
Value. In relation Figure 1, value is a property of a service or thing summarizing its usefulness and importance to a particular person. This view is consistent with foundational premise #10 in a revised version of service dominant logic, "value is always uniquely and phenomenologically determined by the beneficiary." (Vargo and Lusch, 2008). Defining value in relation to value-in-use and importance implies that something with very low exchange value may have high personal value to the customer of a service.

Seeing value in relation to what individuals care about differs from many other approaches to value, such as economic and marketing definitions related to actual or estimated exchange value, and definitions from operations management related to "value added" and "value streams." Such distinctions are not new or unique. Vargo et al. (2008) note that Aristotle differentiated between value-in-use and value-in-exchange over 2000 years ago. Ramirez (1999) notes that "the value of offerings is established only partially in terms of the activity which the supplier has poured into these [offerings]." Value to the customer includes "labor saving value, whereby customers do not have to carry out the activities ‘crystallized’ in the acquisition,” and enabling value, which is related to “the enhanced ease, productivity, safety, elegance, and/or effectiveness” in the acquirer’s value-creating actions.

Service system and service design

A service system is a work system that produces services. A work system is a system in which people and/or machines use information, technology, and other resources to produce products/services for internal or external customers. Service providers are participants in service systems. In addition, customers often are participants in service systems because they often perform some of the work within the service system.

Both enterprises and value constellations (Normann and Ramírez, 1994) consist of multiple service systems. Some service systems are directed within an enterprise and others are directed to economic customers of an enterprise. A service system may be part of many different value constellations, which are sets of complementary service systems whose operation and interactions contribute to an identifiable product/service for an identifiable group of customers.

Service design is an idealized summary of a service system rather than a precise statement about exactly how it will always operate. Service design may or may not include service interactions, contrary to common beliefs that the essence of service occurs in service interactions. The actual operation of a service system and the value facilitation that it produces for specific customers may diverge from its design in various ways. The sources of divergence include behavioral discretion, incomplete specifications, unexpected exceptions, other contingencies, workarounds, adaptations, and other conditions or occurrences.

Value creation, value co-creation, value facilitation, and customer responsibilities

Figure 1 says that customer responsibilities include value creation (for the customers themselves) and cooperation and appropriate behavior in relation to the service situation. It also says that customer responsibilities may include co-production. That is contrary to Sampson and Froehle's (2006) view that co-production by providers and customers is a defining characteristic of services. Similarly, it is contrary to foundational premise (FP) #6 in service dominant logic (Vargo and Lusch, 2004), which says that "the customer is always a co-producer." (Vargo and Lusch, 2004). Figure 1 also says that value creation by the customer may include value co-creation, contrary to a revision of FP #6 as "the customer is always a co-creator of value." (Vargo and Lusch, 2008). This view of customer responsibilities implies that appropriate behavior by a passenger on commercial airliner is a matter of cooperation but does not necessarily create or co-produce value for that passenger.

The view of value creation, value co-creation, co-production, and value facilitation in Figure 1 is based on the way Grönroos (2011) dissects the concepts of value creation and value co-creation and concludes that FP #6 is misleading even though it is “repeated over and over again in the literature” (p. 292). Grönroos (2011, p. 293) proposes revising FP #6 as follows: “fundamentally, the customer is always a value creator.” Grönroos (2011, p. 293) also proposes revising both parts of the revised version of FP #7 from Vargo and Lusch (2008). FP #7a changes from "The firm cannot deliver value" to "fundamentally, the firm is a facilitator of value for the customer." Similarly, FP #7b changes from "The firm can only offer value propositions," to "the firm is not restricted to offering value propositions only, but has an opportunity to directly and actively influence its customers’ value creation as well." Based on those proposed revisions, co-creation of value is not required in the sense of FP #6, but rather, is optional, i.e., “provided that the firm can engage with its customers’ value-creating processes during direct interactions, it has opportunities to co-create value jointly with them as well.”

Thus, customers create value for themselves. Co-creation of value by customers and providers is optional, depending on the form and scope of service systems. In some cases, providers are present enough to co-create value. In other cases, providers are long out of the picture when the customer creates value. For example, consider a basketball that was purchased online and
sent to a relative in a different city as a gift. The value of the basketball is realized when the recipient uses it. Along the way, the manufacturer may have co-created value with the retailer through convenient business arrangements, and the retailer may have co-created value with the purchaser through a convenient e-commerce site and favorable pricing. Most of the value of the basketball will be determined by the recipient, not by the manufacturer or by the retailer.

Overall, the interesting point is not whether value is automatically co-created or whether value is facilitated and value co-creation is optional. For designing and evaluating services, the important question is finding cost-effective/profitable ways to facilitate value for the customer. Just saying that value is co-created doesn't help in analyzing or designing services.

**DESIGN TOOL #1: VALUE BLUEPRINT**

Service blueprinting (Bitner et al. 2008) links customer activities to visible activities of service providers, which in turn are linked to support activities that are invisible to customers. Service blueprints summarize customer actions, onstage contact employee actions, backstage contact employee actions, support processes, and physical evidence. Service blueprints reveal the line of interaction between customers and service providers, the line of visibility that bounds what customers see, and the line of internal interaction that bounds service provider's visibility of support processes.

A value blueprint is a value-centered variation on service blueprinting that links customer actions to specific things that customers value in relation to a specific service system or value constellation. A value blueprint incorporates ideas from the service value chain framework (Alter, 2008, 2010), which combines concepts such as customer and provider responsibilities, service instances, service interactions, and frontstage and backstage. According to the latter framework (Figure 2), value capture for both customers and providers can occur not only during negotiation, set-up, service request, fulfillment, and follow-up phases, but also can extend long beyond the time frame of a specific service instance.

Value blueprints provide useful information for service design because they encourage the service designer to focus both on how the service provider facilitates value creation and on how the customer creates value. The areas where the customer creates value without the direct help of value facilitation might be areas where it is possible to co-create additional value for customers. Some areas where the service provider facilitates value creation might be inefficient and might require changes.

A value blueprint takes the general form of a swimlane diagram with the top and bottom lanes reserved for identifying key aspects of value for customers and for providers (representing the value capture on both sides of Figure 2). Figure 3 summarizes aspects of customer value related to a luxury clothing retailer. All of the customer activities generate associated value, although it is possible for some customer activities to generate no particular emotion or value for most customers.

This value blueprint illustrates an important aspect of value creation. In many situations, much or most of the value is created by the customer long after any direct involvement with service providers has ended. For example, some value co-creation occurs during interactions in the store, but value from those interactions is usually much less important to customers than subsequent value derived from wearing the clothes. This value blueprint might encourage a service designer to develop ways to facilitate value for customers long after the sales have occurred. The designer might also be concerned about the comment in the lower right that fashion durability might reduce future sales. Value blueprints for the other three examples mentioned earlier (nutrition counseling, hip replacement surgery, and community police work) would emphasize different topics, but would also show value to the customer occurring separate from and long after interactions with service providers.

In addition to customer and retailer activities, the value blueprint identifies several activities performed by the manufacturer and other relevant components of the value constellation. It would be awkward to include separate swimlanes for activities and value considerations of all relevant suppliers. A designer interested in looking at the value-related contributions and value considerations of other suppliers in the value constellation would find it more effective to use overlays, keeping the two lanes for customer constant and separately considering the activities, contributions, and value considerations for each of the relevant providers in the value constellation. Thus, while it would be possible to include much more information about the supplier, manufacturer, and retailer, too much of that information would make the value blueprint unnecessarily complicated and might detract from emphasis on the retailer's view of customer activities and value to the customer. Similarly, different groups of customers may have very different patterns of value creation. It would be possible to add additional swimlanes to the value blueprint that represent different groups of customers. Adding different groups of customers and the types of value that they create for themselves might be useful in designing services that address differing needs related to similar products.
Figure 2. Service value chain framework, as revised in Alter (2010)
DESIGN TOOL #2: DESIGN SPACE FOR VALUE FACILITATION

The perspective in Figure 1 implies that the design of service systems attempts to facilitate value creation, but that service co-production, extensive service interactions, and value co-creation may or may not occur. Instead of just saying that value facilitation (or value co-creation or service coproduction) must occur, and leaving it at that, the second proposed design tool supports important design choices related to the extent and form of value facilitation. It does that by identifying a series of dimensions of value facilitation and positioning an existing or proposed service system in relation to each of those dimensions. The design choice for each dimension is whether the current positioning is most appropriate and whether changing that positioning would be beneficial.

Table 1 illustrates one form of this tool by positioning four service systems in relation to a series of dimensions of value facilitation. Those service systems include services of a nutritionist, hip replacement by a surgeon, retail sales services in a clothing store, and community police work. Those services are abbreviated in Table 1 as N (nutrition), S (surgery), R (retail), and P (police). A similar design-related table involving characteristics often associated with products vs. characteristics often associated with services is explained in Alter (2012).

As shown by Table 1, the positioning of all four of the services is different in relation to different dimensions of value facilitation. Probably more important, one might question the rationale for each assessment since each was made based on one person's opinion of the content of a particular service system. Within specific circumstances and intentions of specific service providers, these services might be more personal or less personal, more standardized or more customized, more co-located or less co-located, and so on.
A tool in the form of Table 1 encourages designers to think about whether an existing or proposed service system is positioned appropriately or should be positioned differently along various dimensions of value facilitation. Some dimensions resonate more than others for any particular dimension. For example, co-production of value might seem peripheral for a police force that does not interact much with many of the citizens it protects. On the other hand, that topic might lead to considering how groups of citizens might participate in ways that offload work that the police force does without ever involving them directly. It might raise questions about how and where the police interact with people whom they suspect for various reasons, and whether those people might help the police focus on those who genuinely deserve suspicion instead of law-abiding citizens in the same area. Similarly, the dimensions describing the relative importance of value facilitation through transactions or relationships might lead a retailer to reposition its interactions with customers, perhaps moving toward more personal interactions, and perhaps providing more information through transactional means such as websites.

<table>
<thead>
<tr>
<th>Design dimension</th>
<th>Less emphasis in facilitating value creation</th>
<th>Greater emphasis in facilitating value creation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer experience during production</td>
<td>Little emphasis on customer experience during production</td>
<td>Great emphasis on customer experiences or other ephemeral outcomes during production</td>
</tr>
<tr>
<td>Customization</td>
<td>Standardized, scripted artifacts and interactions (one size fits all)</td>
<td>Customized, non-scripted interactions and products</td>
</tr>
<tr>
<td>Co-production</td>
<td>Little or no co-production of value by customer</td>
<td>Customer plays extensive role in co-production of value</td>
</tr>
<tr>
<td>Tangibility</td>
<td>Value from intangible features of product/services</td>
<td>Value from tangible features of product/services</td>
</tr>
<tr>
<td>Simultaneity of production and consumption</td>
<td>Product/services not consumed during production</td>
<td>Product/services consumed during production</td>
</tr>
<tr>
<td>Transfer of ownership</td>
<td>Transfer of ownership</td>
<td>Non-transfer of ownership</td>
</tr>
<tr>
<td>Temporal collocation</td>
<td>Service provider and customer separated in time</td>
<td>Service provider and customer co-located in time</td>
</tr>
<tr>
<td>Spatial collocation</td>
<td>Service provider and customer separated in space</td>
<td>Service provider and customer co-located in space</td>
</tr>
<tr>
<td>Interaction through relationships</td>
<td>Transaction-based interactions</td>
<td>Relationship-based interactions</td>
</tr>
<tr>
<td>Focus on customer's psychological state</td>
<td>Interactions not concerned with psychological state of customer</td>
<td>Interactions respond to psychological state of customer</td>
</tr>
<tr>
<td>Centrality of customer's context of use</td>
<td>Facilitation through provider's context</td>
<td>Facilitation through customer's context of use</td>
</tr>
<tr>
<td>Primacy within value constellation</td>
<td>Value primarily related to a value constellation with many suppliers</td>
<td>Value primarily related to efforts of a single supplier</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Legend</th>
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<tbody>
<tr>
<td>N = nutrition advice from a nutritionist</td>
<td></td>
</tr>
<tr>
<td>S = surgery for hip replacement</td>
<td></td>
</tr>
<tr>
<td>R = retail sales services in a clothes store</td>
<td></td>
</tr>
<tr>
<td>P = police services in a community</td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Design space for facilitating value creation
The last dimension in Table 1 brings questions about which entities within value constellations are considered service providers in relation to a particular customer. For example, the retailer's transactional and personal services help its customers purchase clothes obtained from manufacturers who purchased cloth and other components from their suppliers. Most of the value creation by customers occurs when they wear the clothes, some occurs in transactions and relationships with the retailer, and some is related to the brand image of the manufacturer and contributions from other parts of the value constellation. Thus, treating almost any economic activity as a service (e.g., via FP #3 in service dominant logic, "goods are distribution mechanisms for service provision"), implies that it isn't clear how to divide credit for facilitating value for customers. Regarding the clothes, some value facilitation comes from the retailer, some comes from the manufacturer, and some comes from the manufacturer's advertising agency, which convinces customers that the manufacturer's products will bring happiness and success. Similar issues are relevant to this paper's other examples as well. For instance, the surgeon could not implant the hip replacement without the help of the hospital, the operating room staff, the manufacturer of the replacement hip, and other surgical supplies. All of those contributions must occur before the customer creates value by walking without pain.

The importance of value constellations in many situations leads to an alternate version of Table 1 that focuses on how different service providers within the same value constellation facilitate value directly or indirectly for end customers. A version of Table 1 used in that way might help participants in a value constellation think about whether their particular contribution should be expanded or repositioned in order to accrue greater economic benefits from providing a larger part or different part of the customer's value creation.

CONCLUSION

This paper presented a new perspective on concepts related to service. It used that perspective as the basis of two new service design tools. The paper's main point is that careful attention to the meaning of basic concepts such as value creation and value co-creation (Figure 1) leads to new service system design tools that highlight value creation by customers, thereby adding to previous tools that highlight customer and provider activities but are not explicit about value creation.

The two tools based on the perspective summarized in Figure 1 represent different ways to support systems analysis and design for service systems.

The discussion of value blueprints and the example in Figure 3 demonstrated the possibility of incorporating value creation by customers into a variation on service blueprints. Omission of value creation in many existing tools is unfortunate because service systems exist for the purpose of facilitating value creation by the customer. Since much of that value creation often occurs long after service interactions end, value blueprints provide an impetus for finding new ways to facilitate value creation in relation to the customer's context of use.

The second tool was a set of design dimensions of value facilitation (Table 1). Comparing four service systems in relation to those dimensions illustrated that they can provide insights about positioning service systems individually or in the context of the relevant value constellations.

Further development of both tools, along with their use in conjunction with other tools developed for work system analysis could help in developing better service systems.

REFERENCES


