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On value and value co-creation: A service systems and service logic perspective

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KEYWORDS

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Summary The creation of value is the core purpose and central process of economic exchange. Traditional models of value creation focus on the firm's output and price. We present an alternative perspective, one representing the intersection of two growing streams of thought, service science and service-dominant (S-D) logic. We take the view that (1) *service*, the application of competences (such as knowledge and skills) by one party for the benefit of another, is the underlying basis of exchange; (2) the proper unit of analysis for service-for-service exchange is the *service system*, which is a configuration of resources (including people, information, and technology) connected to other systems by value propositions; and (3) *service science* is the study of service systems and of the co-creation of value within complex configurations of resources. We argue that value is fundamentally derived and determined in *use* – the integration and application of resources in a specific context – rather than in *exchange* – embedded in firm output and captured by price. Service systems interact through mutual service exchange relationships, improving the adaptability and survivability of all service systems engaged in exchange, by allowing integration of resources that are mutually beneficial. This argument has implications for advancing service science by identifying research questions regarding configurations and processes of value co-creation and measurements of value-in-use, and by developing its ties with economics and other service-oriented disciplines.

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Introduction

Service is the application of competences (knowledge and skills) by one entity for the benefit of another (Vargo and Lusch, 2004, 2006). This definition provides a fresh perspec-

tive for understanding economic phenomena, by implying that value is created collaboratively in interactive configurations of mutual exchange. We call these value-creation configurations *service systems*. *Service science* is the study of service systems and of the co-creation of value within complex constellations of integrated resources (Spohrer et al., 2007, 2008). It centers on the participants, processes, and

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resources that interact to create value in service systems. So *value* and *value creation* are at the heart of service and are critical to understanding the dynamics of service systems and to furthering service science. But value is an elusive term.

The nature of value has been discussed and debated since Aristotle. Part of its elusiveness stems from the oblique – if not orthogonal – meanings of value that have been embedded in the foundations of economics and the study of market exchange. Specifically, two general meanings of value, “value-in-exchange” and “value-in-use”, reflect different ways of thinking about value and value creation.

The traditional view is referred to as *goods-dominant (G-D) logic* and is based on the value-in-exchange meaning of value (see Vargo and Lusch, 2004; Vargo and Morgan, 2005). In G-D logic, value is created (manufactured) by the firm and distributed in the market, usually through exchange of goods and money. From this perspective the roles of “producers” and “consumers” are distinct, and value creation is often thought of as a series of activities performed by the firm.

Consider an automobile. A manufacturing firm constructs an automobile out of metal, plastic, rubber, and other parts, arranges them precisely, and packages them together. In their raw form, the metal and other components cannot be used as transportation. According to G-D logic, the firm’s production process creates value for customers through the manufacturing and delivery of an automobile. That is, the automobile manufacturing firm embeds value in the automobile by transforming raw materials into something that customers want. In this sense, value is created by the firm in the form of a good, and this valuable good is exchanged in the marketplace for money (or possibly other goods). Value is measured by this exchange transaction.

The alternative view, *service-dominant (S-D) logic*, is tied to the value-in-use meaning of value (Vargo and Lusch, 2008a). In S-D logic, the roles of producers and consumers are not distinct, meaning that value is always co-created, jointly and reciprocally, in interactions among providers and beneficiaries through the integration of resources and application of competences.

Consider the automobile again. As before, a manufacturing firm applies its knowledge, skills, and capabilities to transform raw materials into an automobile. But according to S-D logic, the automobile is only an input into the value creation that occurs as a customer uses it (in transportation, self-identity, etc.) and integrates it with other resources. If no one knew how to drive, had access to fuel and maintenance, and functioned in social networks for which particular automobiles had particular meanings, etc., the car would have no value. It is only when the customer makes use of the automobile – in the context of his or her own life – that it has value. In this case, customers and manufacturers co-create value: manufacturers applying their knowledge and skills in the production and branding of the good, and customers applying their knowledge and skills in the use of it in the context of their own lives. At the same time, customers integrate and apply their own resources to provide service (often exchanged in the form of service rights – money – that the firm can use for its own value-creating activities). Value is co-created by this reciprocal and mutually beneficial relationship.

S-D logic is foundational to service science and to the study of value-creation in service systems (Maglio and Spohrer, 2008; Spohrer et al., 2008). The study of service systems emphasizes collaboration and adaptation in value co-creation, and establishes a balanced and interdependent framework for systems of reciprocal service provision. These systems can be individuals or groups of individuals (e.g., families, firms, nations, etc.) that survive, adapt, and evolve through exchange and application of resources – particularly knowledge and skills – with other systems. Simply put, service systems engage in exchange with other service systems to enhance adaptability and survivability – thus, co-creating value – for themselves and others.

In this paper, we explore alternative views of value in economic exchange and establish a service science conceptualization of value co-creation, providing a framework for rethinking value and how it is created in service systems. First, we review alternative logics of economic exchange and their associated meanings of value in some detail. Second, we discuss the meaning of value and how it is derived and determined in service systems. Third, we describe the process of value co-creation through interaction and integration of resources within and among service systems. Finally, we connect our exploration and elaboration of value and value co-creation in service systems to the development of service science and more broadly, to research opportunities in understanding the process and assessment of value creation in service systems.

Alternative views on value

Contention over the definition of value is ancient, dating back at least to Aristotle, who first distinguished between two meanings: “use-value” and “exchange value” (Aristotle 4th century B.C.). This division came about through Aristotle’s efforts to address the differences between things (e.g., automobile) and their attributes, which included the qualities (e.g., red, fast, sporty), quantities (e.g., one car), and relations (e.g., lease, ownership) of such things (Fleetwood, 1997). Use-value was recognized as a collection of substances or things and the qualities associated with these collections. For example, an automobile is a collection of *qualities*, both specific (e.g., red and fast) and overarching (e.g., transportation and status).

The qualities related to use-value mean different things to different people and thus, are inherently differentiated and heterogeneous. Alternatively, exchange-value was considered as the *quantity* of a substance that could be commensurable value of all things. Whereas Aristotle was able to explain use-value, he had difficulty specifically identifying exchange-value.

Exchange-values are more complex. When one writes 1 hamster = 20 pencils it is not obvious what the commensurable dimension is. Such an equation is meaningless until one knows by which property they can be rendered Commensurable... There is only one common substance that renders incommensurable commodities commensurable – although Aristotle does not know what it is. Whatever it turns out to be, one refers to this substance as value. The measure of this substance is exchange value (Fleetwood, 1997, pp. 732–733).

In his attempt to understand exchange value, Aristotle deliberated over two things he believed could be considered commensurable in exchange, money and need, and eventually rejected both. He decided that money could not be a measure of value because for money to measure a substance, the substance itself must already be commensurable. In addition, Aristotle believed that “need” was what held the process of exchange together, but a person’s need lacked a unit of measurement. When he attempted to reconcile the two, using money as the measurement of need, Aristotle deduced that although something holds parties of exchange together, it does not hold the same value as the substance exchanged. In the end, Aristotle was never able to clearly identify a commensurable measure for exchange-value (Fleetwood, 1997).

Although Aristotle was first to distinguish between use-value and exchange-value (Fleetwood, 1997), the Medieval Schoolmen are recognized for emphasizing use-value in economic exchange and arguing that the basis of exchange was found in the needs of consumers (Dixon, 1990). Prior to the formal development of economics, use-value was regularly acknowledged by those who recognized the role of satisfaction and fulfillment in value. Galiani (1751, p. 304) noted, “it is certain that nothing has a price among men except pleasure, and that only satisfactions are purchased” (see Dixon, 1990, for history of use-value). The definition of use-value was widely accepted among early schoolmen and philosophers, and there was little debate about it at the time. However, the controversy over a commensurable metric of exchange value remained it was embedded in the development of economic thought, largely by Smith’s (1776) early distinction of real value, labor, and nominal value, money.

Foundations of goods-dominant logic

Adam Smith (1776) brought the discussion of value and value creation into the development of economics and the study of market exchange. According to Smith (1776/2000, p. 31, emphasis in original), “the word VALUE, it is to be observed has two different meanings, and sometimes expresses the utility of some particular object, and sometimes the power of purchasing other goods which the possession of that object conveys.” Smith called them “value-in-use” and “value-in-exchange” respectively, and explained that “the things which have the greatest value in use have frequently little or no value in exchange; and on the contrary, those which have the greatest value in exchange have frequently little or no value in use” (Smith, 1776/2000, p. 31).

Smith (1776) based his views on the efficiency of the division of labor – actually, the application of specialized skills and knowledge – and exchange. He explained that “real value” was found in the effort or labor required to afford the necessities and pleasures of life, thus tying it to value-in-use like the earlier schoolmen, and that “nominal value” was the price paid in market exchange. But after recognizing labor as the real basis for value, Smith noted the challenges with measuring labor and, for reasons discussed below, directed his work toward value embedded in commodities (tangible exchange) and their monetary or nominal value.

Smith’s focus on nominal value and tangible exchange represented a departure from the previously accepted focus on use-value and has had critical implications for the development of economics and understanding of market exchange (Vargo and Lusch, 2004).

Although Smith is often recognized as the father of economics, it was not his intention to develop a science of economics. In fact, Smith was not really concerned with all processes or purposes of exchange, only those that contributed to the wealth of England at the time (Vargo and Morgan, 2005). Because of limitations on international travel and lack of communication technologies, the primary source of national wealth was through production and exportation of surplus tangible goods. Smith also felt that exchange value, value-in-exchange, was easier to understand.

Given these perspectives, Smith’s shifted his emphasis to value-in-exchange and focused on what he deemed “productive” activities, those that contributed to exchange value through the manufacturing and distribution of tangible goods. Although he recognized the essential nature of some labor not connected with the production of surplus goods (e.g., doctors and lawyers), he called this labor “unproductive” because it did not result in units of output that were tangible and exportable.

The economic scholars (e.g., Say, 1821; Mill, 1929) who followed Smith (1776) generally disagreed with his classifications of productive and unproductive labor, and recognized that all activities that contributed to well-being were productive (had value-in-use). But Smith’s model of value embedded and distributed in tangible goods fit well with the increasing desire to turn economic philosophy into an economic science. At that time, the model of “science” was Newtonian Mechanics, the study of matter embedded with properties, and so most scholars ultimately accepted Smith’s view of productive activities, which was focused on the output of tangible resources. The “product” (good) embedded with “utilities” (exchange-value) became the focus of neoclassical economics grounded in marginal utility theory (Marshall, 1927; Walras, 1954). And so, economic science became grounded on a foundation of goods-dominant logic and nominal exchange value.

Rethinking value and value creation: service-dominant logic

The S-D logic view of exchange fundamentally challenges the foundation of economics (see Vargo and Lusch, 2004), though in a real sense, it recaptures Smith’s (1776) original notions of applied, specialized knowledge and skills (service) and value-in-use (real value) as primary. As noted, in the G-D logic view, the purpose of economic exchange is to make and distribute things to be sold. A firm’s production process, which may include resources from other firms, embeds value or utility into a good, and the value of the good is represented by the market price or what the consumer is willing to pay. From this perspective, maximum efficiency – and maximum profit – is achieved by standardization and economies of scale.

The S-D logic view is that all exchange is based on service, and that “when goods are involved, they are tools for the delivery and application of resources” (Vargo

et al., 2006, p. 40). That is, goods are service-delivery vehicles. In S-D logic, knowledge and skills are key resources for competitive advantage (see also Johnson et al., 2005). The crux of the contrast between service-dominant and goods-dominant logic lies in the basis of exchange. S-D logic focuses on the action of *operant resources* (those that act upon other resources), such as knowledge and skills, whereas G-D logic focuses on the exchange of *operand resources* (those that an act or operation is performed on, such as goods) (Constantin and Lusch, 1994; Vargo and Lusch, 2004).

For S-D logic, value results from the beneficial application of operant resources, which are sometimes transmitted through operand resources or goods (Vargo and Lusch, 2004). Thus, from this view, value is co-created through the combined efforts of firms, employees, customers, stockholders, government agencies, and other entities related to any given exchange, but is always determined by the beneficiary (e.g., customer). Table 1 provides an overview of the major differences between G-D logic and S-D logic related to value and value creation. Table 2 provides the ten foundational premises of S-D logic (as revised in Vargo and Lusch, 2008a).

The S-D logic notion of value co-creation suggests that “there is no value until an offering is used – experience and perception are essential to value determination” (Vargo and Lusch, 2006, p. 44). That is, offerings must be integrated with other market-facing (i.e., from other firms) and non-market-facing (e.g., personal/private and public) resources for value to be created – as in the example of a car gaining its value only through the combination of the manufacturer’s production processes (including its supply chain and other market-facing elements) and the customer’s private (e.g., driving skills) and public (e.g., roadways) resources.

The firm’s roles in value creation, the proposition of value and provision of service, are intermediary to the value

Table 2 Foundational premises of S-D logic

Premise number	Foundational premise
FP1	Service is the fundamental basis of exchange.
FP2	Indirect exchange masks the fundamental basis of exchange.
FP3	Goods are a distribution mechanism for service provision.
FP4	Operant resources are the fundamental source of competitive advantage.
FP5	All economies are service economies.
FP6	The customer is always a co-creator of value.
FP7	The enterprise can not deliver value, but only offer value propositions.
FP8	A service-centered view is inherently customer oriented and relational.
FP9	All social and economic actors are resource integrators.
FP10	Value is always uniquely and phenomenologically determined by the beneficiary.

co-creation process. Value propositions establish connections and relationships among service systems. In value co-creation, value is ultimately derived with the participation of, and determined by, the beneficiary (often, the customer) through use (often called “consumption”) in the process of acquisition, usage, and disposal (Holbrook, 1987).

Normann (2001) provides additional insight on the conceptualization and process of consumption with two contrasting dictionary definitions: “consume” means “destroy” or “use up” or “waste”, and “consummate” means “complete” or “perfect”. Though G-D logic seems to rely on the first definition of consume, S-D logic relies

Table 1 G-D logic vs. S-D logic on value creation

	G-D logic	S-D logic
Value driver	Value-in-exchange	Value-in-use or value-in-context
Creator of value	Firm, often with input from firms in a supply chain	Firm, network partners, and customers
Process of value creation	Firms embed value in “goods” or “services”, value is ‘added’ by enhancing or increasing attributes	Firms propose value through market offerings, customers continue value-creation process through use
Purpose of value	Increase wealth for the firm	Increase adaptability, survivability, and system wellbeing through service (applied knowledge and skills) of others
Measurement of value	The amount of nominal value, price received in exchange	The adaptability and survivability of the beneficiary system
Resources used	Primarily operand resources	Primarily operant resources, sometimes transferred by embedding them in operand resources-goods
Role of firm	Produce and distribute value	Propose and co-create value, provide service
Role of goods	Units of output, operand resources that are embedded with value	Vehicle for operant resources, enables access to benefits of firm competences
Role of customers	To ‘use up’ or ‘destroy’ value created by the firm	Co-create value through the integration of firm-provided resources with other private and public resources

on the second conceptualization (though generally avoids using the term). Like S-D logic, the latter definition considers the role of the service beneficiary as a value creator rather than as a value destroyer. Of course, value creation usually requires resources beyond a two-party system, often involving a firm, its customers, suppliers, employees, stockholders, and other network partners (Lusch and Vargo, 2006; Normann and Ramirez, 1993).

With value-in-use at center stage of a complex value-creation process, the service-centered view of exchange suggests that knowledge (and skills) is ubiquitous in the market and is generated by all participants. When value creation is seen from a service systems perspective, the producer–consumer distinction disappears and all participants contribute to the creation of value for themselves and for others. S-D logic captures this equivalence of participants and their roles in FP9: all economic and social actors are resource integrators (Vargo and Lusch, 2008a). Likewise, the concept of value-in-use is potentially extended to a more descriptive “value-in-context” (Vargo et al., in press) by the combination of FP9 and FP10: value is uniquely and phenomenologically determined by the beneficiary.

Value and value creation in service systems

Moving the locus of value creation from exchange to use, or context, means transforming our understanding of value from one based on *units* of firm output to one based on *processes* that integrate resources. We think this move is fundamental for the development of service science, which aims to focus scientific attention on problems associated with innovating service and enhancing service provision (Chesbrough and Spohrer, 2006; Spohrer et al., 2006). And we think the service system is a useful abstraction for understanding value and value co-creation in this way (see also Maglio and Spohrer, 2008 and Spohrer et al., 2008). Specifically, for service systems, we define value simply in terms of an improvement in *system well-being* and we can measure value in terms of *a system’s adaptiveness* or ability to fit in its environment.

In the following section, we consider how these notions of improvement and environmental fit can help us understand and measure value-in-use, and what this means for service science.

Deriving and determining value

A service system is an arrangement of resources (including people, technology, information, etc.) connected to other systems by value propositions (Spohrer et al., 2007; Spohrer et al., 2008). A service system’s function is to make use of its own resources and the resources of others to improve its circumstance and that of others. One way to acquire resources is through the exchange of a system’s applied operant resources (service) with those of other service systems. We can consider individuals, groups, organizations, firms, and governments to be service systems if they can take action, apply resources, and work with others in mutually beneficial ways.

A barber is an individual who applies skill and experience using scissors, shampoo, and other resources to style a customer’s hair. A firm may provide IT outsourcing service(s) by applying knowledge and skills of its employees along with processes and technologies it has in-house to set up and run the IT of another firm. In both cases, systems (the barber and tools, or the outsourcing firm and technologies) deploy their capabilities in conjunction with other systems (an individual with hair and preferences, or client firm with existing IT systems and applications to be supported). And in both cases, systems work together in mutually beneficial ways.

Service systems co-create value, effectively depending on the resources of others to survive. This interdependence drives service-for-service exchange and resource integration. We see service-for-service as the basis of economic exchange, and we think this view can reframe the relationship among value-in-exchange, value-in-use and value co-creation (see Figure 1).

Service systems are connected through the proposition, acceptance, and evaluation of value (Spohrer et al., 2008). Service providers propose value in the market based on their competences and capabilities (skills and knowledge). The value proposition is accepted, rejected, or unnoticed by other service systems in need of resources. The service proposed can be provided directly (e.g., tax preparation service) or indirectly through a good (e.g., tax software). Once the value is proposed and the service made available in the market, it is up to other service systems – potential customers – in need of such resources to decide

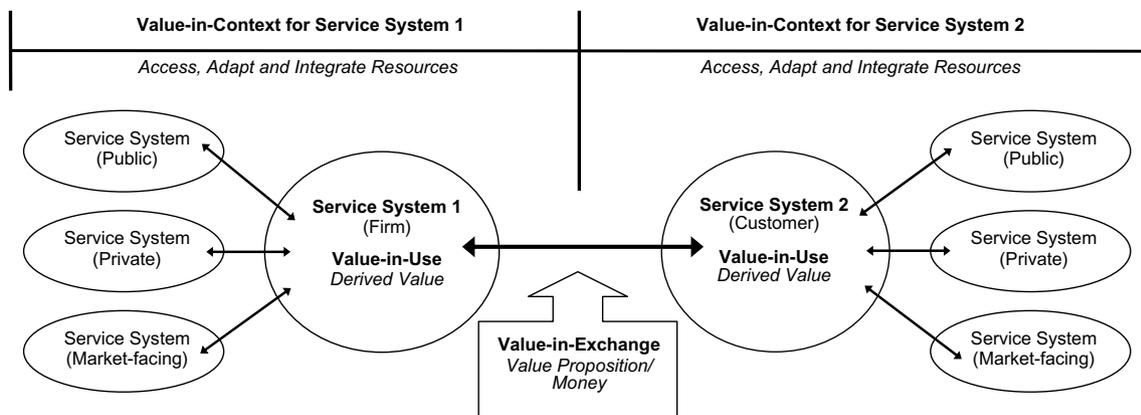


Figure 1 Value co-creation among service systems.

whether to accept the value proposition. For example, if tax preparation services are being offered, some service systems (e.g., customers) will accept the proposition of value and make a decision to exchange money for the knowledge, skills, and time of a person specialized in tax preparation. In other cases, customers may reject the direct service and opt for a more indirect service – using tax software. In either case, the applied resources (service) of the provider must be integrated with the competences and resources of the beneficiary before value is realized.

In the direct case, the tax preparation documents must be signed, submitted, and held for statutory periods and used as input to future tax filings. They also serve as input into future tax-related decisions and other activities, such as mortgage application processes. In the indirect case, the customer must still integrate the embedded knowledge and skills of the service provider (i.e., firm) – the competence and capabilities built into the software – with his or her own related skills, time and other resources (such as a computer), as well as the resources used in the case of direct service provision. In each case, the resource- and use-contexts result in uniquely determined value – value-in-use or value-in-context (see Vargo and Lusch, 2008a).

So the goal of exchange is to use the applied knowledge of others (service) as resources to better one's circumstances. In exchange among service systems, value is determined through use or integration and application of operant (and sometimes operand) resources (Lusch and Vargo, 2006). As with the tax preparation example, value is not created until the beneficiary of the value proposition (in this case, the person who needs his or her taxes prepared) has actually had his or her taxes prepared *and* has somehow integrated this new resource into his or her life (e.g., felt relieved because of effort saved, mailed the return, received a refund, etc.). That is, the customer's (service system's) well-being has somehow been improved.

As mentioned, value co-creation is not limited to the activities of any one exchange or a dyad of service systems. It occurs through the integration of existing resources with those available from a variety of service systems that can contribute to system well-being as determined by the system's environmental context. Each service system accesses resources from other service systems through exchange. These systems include internal (e.g., own, employees), private (e.g., friends, stockholders), and market-facing (suppliers, other economic exchanges) systems and resources. Value-in-exchange is the negotiated measurement offered and received (e.g., money and value proposition) among exchange partners. The resources of the service provider are adapted and integrated with a service system's existing resources, and value is derived and determined in context – as with the tax and automobile examples above. The process continues as new knowledge is generated and exchange occurs within and among surrounding systems.

Systems of value co-creation

As suggested, the context of value creation is as important to the creation of value as the competences of the participating parties. Although social, ecological, and governmental surroundings are often considered uncontrollable and exog-

enous to the process of value creation, the contextual nature of co-created value suggests otherwise. It is not possible to control all aspects of the environment, but this does not mean that environmental resources are not integrated to create value (Lusch and Vargo, 2006). Resources such as time, weather, and laws, which are often considered uncontrollable by the individuals and organizations, are integrated – if not relied on – in the value creation process by all service systems (e.g., customers, firms, families, countries).

Although S-D logic and service systems focus on value derived and determined through use or context, value determined by exchange remains an important component in the co-creation of value. It is possible for value-in-use to exist without value-in-exchange (Vargo and Lusch, 2006), but when the need to access resources from others arises, so does the need for value-in-exchange. In other words, value-in-exchange is required for value creation once the resources needed cannot be attained naturally, such as breathing fresh air versus needing an oxygen tank. Co-creation of value inherently requires participation of more than one service system, and it is through integration and application of resources made available through exchange that value is created. The process of co-creating value is driven by value-in-use, but mediated and monitored by value-in-exchange.

Value-in-exchange, therefore, provides a way of measuring relative value within a context of surrounding systems. But at its core, value depends on the capabilities a system has to survive and accomplish other goals in its environment. Taking advantage of the service another system offers means incorporating improved capabilities. That is, value-in-use can be defined as system improvement within a particular environment (cf. Beinhocker, 2006). If one has no income or lives in a place with no income taxes, there is no need to enhance one's capabilities with tax services or tax software. But if one lives in place with income taxes, having tax preparation capabilities are important to survival (so as not to go to court, not to go to jail, and so on). Conventionally, we judge the value of things, such as tax preparation capabilities, by exchanging money for actions or goods. Our experience and knowledge, and the experience and knowledge of others in the marketplace, provide hints as to what is reasonable to exchange for some new capability. But measuring exchange value in this way – through human judgment and operationalized in the market – is not necessary for a service system to provide value to another system.

All ways that systems work together to improve or enhance one another's capabilities – whether measured or judged or not – can be seen as being value creating. Some organisms may have symbiotic relationships with others, completely dependent on one another for food, each dependent on capabilities the other provides. Neither may be measuring or judging explicitly what is exchanged, but each provides service for, and creates value with, the other nonetheless.

Implications for service science and service research

Service science is the interdisciplinary study of service systems, particularly the study of how complex configurations

of resources create value within firms and across firms (Spohrer et al., 2008). The idea of creating a science of service arose several years ago, as business and academia began to discover that most economic activity was driven by what is conventionally known as “services” (i.e., intangible, heterogeneous, inseparable, and perishable offerings; Zeithaml et al., 1985) – both within individual firms and across economies – but that service innovation did not have the same scientific and engineering bases as manufacturing or goods innovation (Chesbrough, 2005; IBM Research, 2004; Horn, 2005; Spohrer et al., 2006).

Now, there is tremendous need for service innovations or new ways of creating value with intangible and dynamic resources, to fuel economic growth and to raise the quality and effectiveness of service(s), especially for knowledge-intensive industries (Spohrer and Maglio, 2008). But it seems creating systematic service innovation depends on interdisciplinary knowledge and skills, integrating across technology, business, social, and demand innovations (Maglio et al., 2006). Some have already begun to create interdisciplinary service science education aimed at improving service innovation (see for instance, Davis and Berdrow, 2008; Glushko, 2008; Larson, 2008). And others have focused on deep research problems in service by combining theories and methods from several fields (see for instance, Oliva and Sterman, 2001; Clarke and Nilsson, 2008; Pitkänen et al., 2008).

Many service science and service research problems remain, particularly in the context of value co-creation through resource integration across service systems. The service-science, S-D logic framework for value co-creation presented here fundamentally shifts the underlying focus of value creation away from the firm’s output and value-in-exchange. It focuses on value-in-use and in-context and suggests that service systems simultaneously access, adapt and integrate resources to create value for themselves and others, and that knowledge is the core source of all exchange.

This exploration of value co-creation raises as many questions as it answers. For example: What exactly are the processes involved in value co-creation? How can we measure co-created value and value-in-use? How does information technology influence the ways in which value can be created effectively? What approaches do we need to understand the sociotechnical context of value creation? What are the research methods appropriate for understanding value as an emergent quality? Answering questions such as these will help establish better bases on which to build managerial decision rules. That is, we need to establish the fundamentals of service science and a framework for understanding *how* service systems operate and interact before we can develop a normative service science for what decision makers of service systems *should* do (see also Vargo and Lusch, 2008b).

Previously, we argued that service science depends on S-D logic and the abstraction of the service system (Spohrer and Maglio, 2008; Spohrer et al., 2008). Here, we have argued that development of service science means reconceptualizing value and value creation. Though this service science approach to value and value creation does not ignore traditional understandings and measurements of value and value creation, it “forces us to shift our attention

from *production to utilization*, from *product to process*, from *transaction to relationship*. It enhances our sensitivity to the complexity of roles and actor systems. In this sense service logic clearly *frames* a manufacturing logic rather than replaces it” (Normann, 2001, p. 87, emphasis in original).

There is much to discover about value co-creation and the potentially endless process of resource integration and service-for-service exchange. With the advancement of service science, it is increasingly evident that the producer–consumer distinction is inappropriate and that value is created through the active participation of all service systems engaged in exchange (see Vargo and Lusch, 2008b). It is likely that the collaboration and integration of both similar and competing ideas, from various social and economic disciplines, will be required to advance the understanding of value and value creation.

In much the same way that the process of value co-creation drives innovation and evolution within the market, it also propels the generation of new knowledge in business, academia, and practice. Thus, the interdisciplinary exchange of ideas and effort to increase understanding of value co-creation will not only benefit the development of service science, but will potentially aid the advancement of all other social and economic disciplines involved.

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