

Alternative Ontological Foundations for Service System Conceptualization

ABSTRACT

Purpose: Markets are dynamic arenas for value creation. Value is co-created with, rather than for customers and takes place within service systems. Therefore, service system is an important basis for understanding value co-creation and thus many marketing issues. The aim of this paper is to extend the understanding of service systems by utilizing an ontological framework consisting of three relatively distinct ontological perspectives.

Design/methodology/approach: This is a conceptual paper, based on a literature review. The paper portrays three ontological perspectives -- a priori, emergent and dualistic perspective – that differentiate the conceptualizations of service systems.

Findings: The ontological foundations of a service system have not been well articulated in marketing and service literature. The study shows that the choice of perspective has a major impact on how a service system is understood.

Originality/value: The finding of this paper is significant because the choice of a ontological perspective has a profound influence on how service systems are perceived, which characteristics are highlighted, and how value co-creation and resource integration are subsequently understood. The paper also contributes a new definition of the service system.

Type of paper: Conceptual

Keywords; Service system, ontology, epistemology, value co-creation, resource integration, service-dominant logic

INTRODUCTION

Recent advances in service and marketing research have demonstrated that the concepts of ‘value co-creation’ through mutual service provision is a cornerstone of economic and social life; moreover, several authors have contended that this fundamental concept cannot be understood in isolation from the *service systems* in which it is embedded (Vargo et al. 2008). Despite the acknowledged importance of such service systems, the theoretical and ontological foundations of the concept of a service system have not been well articulated in the literature. That is, basic questions about the definition, properties, and functions of a service system are rarely (if at all) explicitly addressed.

As with research into all social phenomena, the description and analysis of service systems proceeds on the basis of certain (usually implicit) ontological and epistemological assumptions held by the researcher. These assumptions influence the objective, the methodology, and the interpretation of the research outcome. In a similar way, a researcher’s perception (and subsequent portrayal) of the various elements that constitute a service system is dependent on the ontological perspective that is adopted at the beginning of the enquiry. For example, a service system might be portrayed as: (i) a pre-determined and objective construct independent of the actors (that is, an *a priori* ontological perspective); (ii) an undefined system that is entirely dependent on the interactions of the involved actors for its evolving existence (that is, an *emergent* ontological perspective); or (iii) a social construct that is created by the intersection of particular actors and particular social structures and thus creates the context (referred to here as a *dualistic* ontological perspective). Of these, the two most common ontological perspectives in the marketing and service literature have traditionally been the *a priori* perspective and the emergent perspective. However, as Giddens and Dallmayr (1982p. 29) have observed, the *a priori* perspective is “strong on institutions, weak on action”, whereas the emergent perspective is “strong on action, weak on institutions”.

In the present study, a third perspective—that we here will label the dualistic perspective—is included to reflect the reality that service exchanges and value co-creation are always embedded in a certain social context. The dualistic perspective, which is based on the dualism between actors and social structures are grounded in structuralism (e.g. Bourdieu 1977; Bourdieu and Nice 1990; Giddens 1976, 1984; Reckwitz 2002; Sewell 1992), recognizes that societal norms and values invariably shape the thinking and behavior of the involved actors in any service system (Giddens 1984), and that this subsequently determines how they come to perceive the value that is co-created in the service exchange.

The aim of this conceptual study is to extend the understanding of service systems by utilizing a framework consisting of the ontological perspectives described above. The study shows that the choice of ontological perspective has a major impact on how a service system is understood in terms of definition, content, scope, and function. This is significant because the choice of an ontological perspective has a profound influence on how service systems are perceived, which characteristics are highlighted, and how service exchange and value co-creation are subsequently explained. The paper also contributes with a new definition of the service system.

THE CONCEPT SERVICE SYSTEM

Value co-creation takes place in through service systems, as a result of resource integration and (service) exchange (Vargo and Lusch 2004, 2008b). Although, depending on the perspective selected, we make various assumptions about and emphasize different components in the value co-creation process when describing the service system. However, before attempting a detailed analysis of how this ontological framework can be used to illuminate these implicit assumptions, it is first necessary to undertake a review of the relevant literature to ascertain how the concept of a ‘service system’ has been defined and dealt with in the extant literature.

Although the term ‘service system’ and related terms (such as ‘service-delivery system’, ‘service blue-printing’, ‘networks’, etc.) have been used in the literature for many years, interest in the notion of a ‘service system’ has particularly flourished since the emergence of service-dominant (S-D) logic and ‘service science’ in the past decade or so. In more recent times there has been broad acceptance of the definition of a ‘service system’ suggested by Spohrer et al. (2007p. 72), who described service systems as:

... value co-creation configurations of people, technology, value propositions connecting internal and external service systems, and shared information (language, laws, measures, and methods).

Several additional definitions have been suggested recently. Table 1 provides a representative selection of those offered since 2004, the approximate date of the emergence of S-D logic and service science.

Table 1: Definitions of the concept ‘service system’ since 2004

Reference	Paraphrased definition
Maglio et al. (2006p. 81)	Value-creation networks composed of people, technology, and organizations.
Spohrer et al. (2007p. 72)	Value-co-creation configurations of people, technology, value propositions connecting internal and external service systems, and shared information (e.g., language, laws, measures, and methods).
Maglio and Spohrer (2008p. 18)	Value co-creation configurations of people, technologies, and other resources that interact with other service systems to create mutual value.
Maglio et al. (2009p. 395)	A configuration of people, technologies, and other resources that interact with other service systems to create mutual value.
Lusch et al. (2010p. 20)	A spontaneously sensing and responding spatial and temporal structure of largely loosely coupled value-proposing social and economic actors interacting through institutions and technology to: (i) co-produce service offerings; (ii) exchange service offerings; and (iii) co-create value [describing a ‘service eco-system’].
Stanicek and Winkler (2010p. 113)	A composite of agents, technology, environment, and/or organizational units ... and/or technology, functioning in space-time and cyberspace for a given period of time.
Patricio et al. (2011)[forthcoming]	A system of interrelated customer value constellations functioning together through value co-creating interactions.

It is apparent that most of the definitions of service systems shown in Table 1 include reference to *resources* as configurations of people, technology, organizations and shared

information. Vargo, Lusch and colleges (Lusch et al. 2010; Vargo and Lusch 2010) have emphasized the *dynamic* aspect of the concept by introducing the notion of a ‘service ecosystem’. This idea was intimated by Merz et al. (2009p. 38) when they spoke of “... resource integrators that collectively function as an interdependent ecosystem to mutually create value, as perceived phenomenologically (i.e., in context)”.

The essential content of a service system, according to virtually all of the definitions listed in Table 1, are the *resources* that are utilized in the system. The dynamic nature of these resources has long been recognized in the literature (Penrose 1959). For example, Zimmermann (1951) pointed out sixty years ago that resources *are not*; rather, they *become*. More recently, Pels et al. (2009) have characterized marketing as “... a social and economic process, and resources as ‘becoming’, not ‘being’”. According to S-D logic, service systems are dynamic configurations of resources in which value is co-created and evaluated as ‘value-in-context’ (Vargo et al. 2008).

Giddens (1984) did not view resources as given and isolated entities; rather, they were posited as part of a wider ‘social structure’, which includes culture, norms, interpretations, rules, and language. These (usually tacit) rules and resources are used by individuals during interactions, thereby reproducing the conditions that make the interactions possible in the first place. Giddens (1984) argued that resources are part of the social reality and are embedded in social structures, which subsequently influence service systems.

There is thus a clear difference between the conceptualization of resources as suggested by Spohrer, Maglio, and their colleagues (Maglio et al. 2009; Spohrer et al. 2007); and (ii) the conceptualization promoted by Giddens (1984). The main difference is that the former tends to view resources as given and independent of the social context, whereas the latter clearly places resources and resource integration within the social reality. Edvardsson et al. (2011) argued that the social context has a major impact on the scope of a service system. Because the actors know and understand the social reality of a given social system, the scope of the system is determined by the meanings that actors give to its various resources, activities, and phenomena. In a similar vein, Giddens (1984) argued that human actors are knowledgeable agents who know the contexts and consequences of what they do in their everyday lives; moreover, they have an inherent capacity to change the social circumstances (and hence the scope) of the service systems in which they function.

A common view on service system seems to be that the actors’ resources are mainly focused on relevant knowledge and skills (competence) for value co-creation; however the social context and forces are not emphasized. We need to broaden the scope and include other kind of resources such as the actors’ status, roles, meaning, communication and social forces. Consequently we will also pay attention to other factors compared to the common view shaping value co-creation. Consequently, the choice of ontological perspective when analyzing the service system will influence which factors and forces will be included and which will not. In summary, almost all contemporary definitions of the term ‘service system’ include and emphasis reference (either implicit or explicit) to the dynamic role played by resources in value co-creation (or mutual value creation).

ONTOLOGICAL PERSPECTIVES

Understanding the nature of service systems requires a fundamental insight into ontological and epistemological assumptions and underpinnings. Ontology refers to the nature of reality; that is, whether an objective reality exists (Burrell and Morgan 1985) or whether reality is merely “the product of one’s mind” (Burrell and Morgan 1979p. 1). Whereas epistemology refers to the nature of knowledge; that is, as Hughes and Sharrock (1997p. 5) put it: “How is it possible, if it is, ... to gain knowledge of the world?”. Epistemology provides the researcher with a lens to formulate appropriate research questions based on his/her ontological position. Moreover, epistemology is connected with the structure, origin, limitations and criteria of knowledge.

An ontological perspective is a mental view based on some criteria that are created through a set of beliefs that determine the worldview. It is through this lens that we define how we see and relate to reality and how we capture meaning through knowledge. Differences in these assumptions have consequences in terms of the ontological perspective that is adopted—which means, as Kuhn (1970p. 150) has observed, that “... [different] scientists see different things when they look at the same point and in the same direction”. In terms of research into service systems, this means that researchers with different perspectives (such as the a priori, emergent, and dualistic perspectives) will look upon the same service system, but perceive (and emphasize) different aspects of the system as being significant. Various perspectives (or ‘schools’) on the nature of science have arisen as a consequence of the position that is adopted on the continuum of the assumptions of ontological and epistemological noted above.

The a priori perspective, which originally was developed within the natural sciences and has subsequently been adapted to investigate social science phenomena, emphasizes objective reality and identifiable knowledge. This perspective has certain similarities to research ‘schools’ such as positivism, objectivism, and functionalism (see e.g. Hunt 1991; Lightwood 1883; Mises 1968; Peikoff 1991; Sewell 1966). The a priori perspective claims a deterministic method is the best approach to detect the processes by which natural and human events occur. The goal is to identify (and predict) the causal regularities that are believed to exist in reality. These causal regularities are assumed to be characterized by a deductive-nomological model (Hempel and Oppenheim 1948); that is, it is assumed that any object (for example, a service system) that meets a set of specified conditions will have a certain property that can be explained as a logical outcome. A researcher with an a priori view therefore perceives a service system as a given, nearly pre-defined structure.

The emergent perspective, which shifts the emphasis to the role of human beings, can be found in such research ‘schools’ as interpretivism, subjectivism, phenomenology, and hermeneutics (see e.g. Bernstein 1983; Geertz 1979; Outhwaite 1975; Schütz 1967). The emergent perspective seeks to obtain insights into phenomena without any assumption of predefined regularities or objective structures; rather, the emphasis is on the activities and interactions of human beings. These phenomenological insights are characterized by an inductive-nomological model (Hempel and Oppenheim 1948). In the emergent perspective, if any theoretical concepts are used, they are only guides to getting started. Such research is driven by narratives and, depending on the story, the research is emergent, specific, and continuously opens to change and new meanings. As a consequence, the realities that are described are multiple, constructed, and holistic.

The dualistic perspective, has also been developed to emphasize the interaction between structures and agents; this perspective can be found in so-called ‘structuralism’ (see e.g. Archer 1982; Giddens 1979, 1984; Pettigrew 1987; Sewell 1992). The dualistic perspective is based on structuration theory (Bourdieu 1977; Giddens 1984; Reckwitz 2002; Sewell 1992), tries to overcome the limitations of both the a priori perspective and the emergent perspective (Wamsley and Wolf 1996). The dualistic perspective thus attempts to resolve the dilemma faced by the social sciences in choosing between the deterministic a priori perspective and the phenomenological emergent perspective in seeking to explain human action. Indeed, Giddens (1984) formulated ‘structuration’ as a fundamental *ontology of social life*; in other words, it is fallacious to attempt to separate social structures from actors because they fundamentally exist in relation to each other. The implication of this ontology is that neither social structures nor individual actors can function without the other (Giddens 1984). The dualistic perspective explicitly includes the role of interactions between actors and other resources, and between actors and social structures in value co-creation and thus provides another understanding of service systems. The perspective recognizes that actors in service systems draw on social structures in their actions, while simultaneously recognizing that these actions serve to produce and reproduce social structures. This duality persists over time and space, thus providing guiding principles for action (Giddens 1984).

Summary and potential of ontological framework

Table 2 summarizes the key features of the three perspectives described above, each of which is based on particular ontological assumptions.

Table 2: Key features of the three perspectives, based on ontological assumptions

Perspective	<i>A priori</i>	Emergent	Dualistic
Research directions	Positivism Functionalism Objectivism	Interpretivism Phenomenology Subjectivism	Structuralism
Analytical framework	Pre-defined and universal Similarities and functions	Emergent and specific Sense-making	Evolving and complex Intention, reasons, and motivations
Key terms	Activities and resources are directed by objective, universal and known laws	Activities and interactions are directed by subjective, contextual, and interpreted laws	Activities and interactions determined by interdependencies between structure and actors
Analytical processes	Convergent (contracting and consecrating)	Divergent (expanding and enriching)	Two-fold (reproducible and dualistic)
Nature of reality	Single, tangible, and fragmented	Multiple, constructed, and holistic	Dualistic, reproducible, and intertwined
Portrayal of service systems	Pre-defined, determined, and explained by causal	No prior existence before being created by interactions among	Come into being and exist in the interaction between the social

It is the contention of the present study that the three perspectives described above constitute a useful ontological framework for exploring the implicit ontological assumptions that play a tacit (but crucial) role in every portrayal of service systems.

DISCUSSION

As a general observation, it would seem that service systems become more complex and dynamic as the perspective moves from the a priori conception through the emergent view to the dualistic understanding. The focus of the a priori perspective is to find the *ideal configurations of resources* to maximize their performance within the service system; according to this perspective, the structure of the system is perceived as being relatively rigid and the system of relations is predefined. In contrast, the focus of the emergent perspective is on the *interactions among the various resources*; this perspective sees the interactions among the interdependent resources as being somewhat less constrained, thus allowing for more flexibility and responsiveness. In the dualistic perspective, the focus is on the *interaction between actors and the structures* in which the resources are embedded; the interactions among the actors reproduces the structures, and the service system becomes more complex and adaptive. Thus, in all three perspectives, *resources* play an important role; however, the complexity and dynamics of the role assigned to resources varies—depending on how the service system is perceived and defined in each ontological perspective.

These ontological differences are also apparent in the definitions of service systems listed in Table 1. For example, the definitions suggested by Maglio et al. (2006), and Spohrer et al. (2007) might seem to belong to the a priori perspective because they tend to focus on the categories and configurations of resources. In these definitions, the resources are posited as predefined and governed by objective and known laws that explain a causal regularity in the service system. Most of the extant research on marketing and service management has been implicitly based on these assumptions; indeed, most research in this area has implicitly made assumptions that reality is objective and ‘out there’ waiting to be discovered (ontology), and that knowledge *can* be identified and communicated to others (epistemology). In contrast, the ‘service eco-system’ definition of Lusch et al. (2010) seems to be in transition to the dualistic perspective, which emphasizes the complex interactions among resources. Between these two extremes, the definition suggested by Patricio et al. (forthcoming), which emphasizes both resource constellation *and* interactions, would appear to have an intermediate philosophical basis.

The ontological framework, especially the dualistic perspective, is also needed in order to understand the role the social context play in service systems. S-D logic holds that co-created value is uniquely and phenomenologically determined by the actors as ‘value-in-use’ in a certain context (Vargo and Lusch 2008a). Edvardsson et al. (2011) have emphasized that all service systems are embedded in social systems and that ‘value-in-use’ should also be understood as ‘value-in-social context’. This ‘social context’ means that actors are influenced by social forces that have an impact on resource assessment, the perception of value, the process of value co-creation and the knowledge being used. “Structures, as both an outcome and a resource for action, are a dynamic property of social practices” (Peters et al. 2009p. 354). This understanding

is in general accordance with structuration theory, which holds that actors produce and reproduce the institutionalized social structures that provide guidelines for action. Giddens (1979, 1984) did not suggest that institutions guide activities and interactions in a deterministic manner; indeed, structuration theory holds that actors remain knowledgeable individuals who have the capacity to choose to act otherwise—thus either sustaining or modifying institutions through their actions. Putting all of this together, it is apparent that service systems can be understood only by taking into account both the personal interactions *and* the social structures through which meaning is established (Peñaloza and Venkatesh 2006) and in which all knowledge is developed, transmitted, and maintained (Berger and Luckmann 1967). The present study contends that the ontological perspective that best fits this understanding is the *dualistic* perspective, which recognizes that the actors in a service system are critical resource integrators for value co-creation in service systems that are operating within a particular social context.

We suggest a definition, based on the dualistic ontological perspective to be *enabling structures for value co-creation between involved actors*, that is, a re-creation and transition of structures with its resources and interactions to enhance value co-creation processes involving one or a constellation of actors within a given social context. This definition and understanding of a service system implies a broader view of resources that includes the actors' social behavior.

This paper has discussed the implications of the choice of ontological perspective on how service systems are described and defined. The objective has been to explore the contention that research accounts of value co-creation within the context of a service system are governed by the implicit ontological assumptions of the researcher. Utilizing a framework consisting of three ontological perspectives—the *a priori* perspective, the *emergent* perspective, and the *dualistic* perspective—the study has shown that the choice of perspective has a major impact on how a service system is understood. Service systems have most often been portrayed as if they were mechanistic machines while we have demonstrated that service systems are shaped and being shaped by social structures and forces. As a result of this dualistic perspective we have suggested a new definition of service system.

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