Commitment-based Modeling of Service Systems in the light of the Service Dominant Logic

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1 Introduction

In an earlier paper [1], we presented some first ideas concerning the ontological analysis of the notion of service. As observed in [2], however, such work was mainly focusing on the IT literature, and omitted fundamental conceptual links to the theoretical foundations of service science, namely the Service Dominant Logic approach, originated by [3]. The most recent evolution of such early work [4] includes a discussion of the notions of service, service system and value co-creation, which are at the basis of the S-D logic. Here we focus mainly on such discussion, pointing to the full paper for the details concerning our own approach.

In [1], our first ontological claim was that the classic distinction between goods and services can be explained by observing that services are entities occurring in time, while goods are entities lasting in time. In other words, services are (complex) *events* (in the most general sense of this word, which includes in particular static events), while goods are (complex) *objects*. As acknowledged by [5], this is in line with the S-D logic, which adopts the 'service as process' view. Indeed, in [6], the authors clarify that a service is "a *process* of applying resources for the benefit of another".

In our view, it is exactly the temporal nature of services which explains why they are radically incompatible with goods: objects and processes (or events, in the most general sense of this term) are just two disjoint ontological categories. Objects *participate* to events, but are disjoint from them [7]. In our paper, we also discuss how this ontological analysis explains Hill's distinction [8] between goods and services, based on the fact that services are transactable but not transferable; we understand however that such discussion has little relevance in the S-D logic, since it is still based on the G-D view.

Despite this agreement on the basic ontological category to which services belong, and our positive attitude to the radical shift of perspective proposed by the S-D logic, the notions of service and service system as defined by the recent S-D literature still present relevant ontological and terminological problems. Indeed,

from the business point of view, we agree very much with the spirit of Alter's observations in [9], and we find his list of "common examples for services" (such as an Internet search engine, an ATM cash dispenser, an emergency service, or a garbage collection service) a very good rough test to verify what people mean when they use the word "service". Our ambition is to provide a formal definitional framework that, while grounded in rigorous ontological distinctions, yet reflects as much as possible the everyday business language, without imposing unnecessary radical changes in the way people talk (although possibly changing a bit the way they think). In the following, we shall first discuss some of the most crucial terms introduced in the S-D literature, sketching some comparisons with the choices adopted in our own model.

Tension between microscopic and mesoscopic level. A first difficulty we have in understanding the S-D literature is related to the apparent tension between the microscopic and the mesoscopic level of analysis (both considering the time dimension and the number of resources involved). It seems clear that the notion of service is defined at the microscopic level, i.e. at the level of a single value co-creation interaction, while the notion of service system, although also valid in the atomic case, is defined as a dynamic, possibly complex configuration of resources, which has "a beginning, a history, and an end", and "has a unique identity" [10]. But what is the glue that keeps these resources together, guaranteeing the identity of a service system through time? In the everyday speaking, people would say that, throughout its life, a service system produces *the same service*. But it is exactly this generalized, mesoscopic notion of service – as denoting a business activity and not a specific economic interaction – which appears to be lacking in the S-D approach. Our own position, as specified in previous works, is that the glue is a generic *commitment* to guarantee the execution of (value co-creation) actions of a certain kind, according to suitable conditions.

Service as application of competences. Independently of the considerations above, Vargo and Lusch's definition of service as "the application of specialized competences (knowledge and skills) through deeds, processes, and performances for the benefit of another entity", although making perfect sense, seems to be inadequate to capture some basic intuitions: according to the latin etymology of the term, enjoying a service presupposes having somebody (the *servus*) at your disposal, ready to do actions for your benefit; in this view, it is not so much the specific action which counts as a service, but rather the commitment to perform some kinds of actions. Consider for instance a telephone company, which provides – we say – *a* telephone service. Within a specific customer contract, we don't say it provides multiple services, but just *one* service, which is *active* even when no telephone calls occur. So in this case the service is not the application of a specific competence, but rather the commitment to perform some actions in a certain way (even independently from actually having the necessary competence).

Service as value co-creation A further, serious difficulty concerns what seems to be the most recent evolution of service definition adopted by the S-D logic community:

> Services are value co-creation phenomena that arise among interacting service system entities. [11]

We find this definition very confusing. In the marketing science literature, the notion of value co-creation seems to be mainly focusing on the *customer's* value [12], although the emergence of complex value constellations in modern service-based economy is also acknowledged, as shown for example in the IKEA case discussed in the seminal paper by Normann and Ramirez [13]:

> The work-sharing, co-productive arrangements the company offers to customers and suppliers alike force both to think about value in a new way – one in which customers are also suppliers (of time, labor, information, and transportation), suppliers are also customers (of IKEAs business and technical services), and IKEA itself is not so much a retailer as the central star in a constellation of services [...]. The result: IKEA has succeeded, arguably, in creating more value per person (customer, supplier, and employee) [...]

Now, what is value co-creation in this case? Does it focus on a single value experience (the customer's one), or does it also take into account the supplier's or employee's experience, including the whole value constellation? It seems that Vargo and Lusch have the latter view in mind, when they write:

> Although S-D logic is inherently customer-centric – that is, the beneficiary is considered the determiner of value – value co-creation does not focus solely on the beneficiary. This perspective would neglect to recognize the benefits the firm receives from an exchange. Value co-creation implies that value created through exchange is based on the mutually beneficial relationships among service systems and each system makes a decision for whether or not the result of the exchange is valuable, based on context and experience. [6]

This could also be the view Maglio, Kieliszewski and Spohrer have in mind, when they introduce service science as the study of value co-creation:

> The bank cannot exist without the funds customers store and the customer cannot have the convenience of access through various mechanisms (checking, automatic tellers, bank branches) without the capabilities the bank provides. Value is co-created by the interaction of the two. [14]

Clearly the question arising from the above statement is "who's value?" The bank's value of being able to invest the customers' funds seems to be clearly a result of the interaction process, as well as the customer's value of exploiting flexible payment means. So, it seems clear that a constellation of *values* (plural is crucial here) is (co-)created by the interactions described in the examples above. The point is how the notion of *service* is related to those of *value co-creation* and *interaction*.

Indeed, these interactions are *service exchange* interactions: at the origin of the S-D logic there is Bastiat's idea that people *exchange services for other*

services [15], so "Service is at the basis of all exchange" [6] (notice it is service, not value that is exchanged, because value is subjective). Now, each of the two services exchanged implies some value co-creation, but also the overall service exchange results in value co-creation, and such global value co-creation is not a service in itself! If we *define* service just as value co-creation, we have no way to understand *what* is exchanged on each side, and so, for example, we cannot describe how a certain service can be negotiated. So, clearly, a service *implies* a value co-creation process, but it is too simplistic to collapse the two notions, saying that service *is* value co-creation. In other words, the notion of service is necessarily asymmetric, since it focuses on a value proposition on the provider's side and a value experience which is inherently customer-centric, while the notion of value co-creation as emerging from interaction processes is clearly symmetric (unless we eliminate the ambiguity saying "*customer's* value co-creation").

Service system boundaries Finally, a further concern is the notion of service system. The simple question is: is the customer part of the service system? If the customer is involved in value co-creation, the obvious answer should be yes! Otherwise, if a service system is just one party of the service interaction, how does a service system differ from a system? Yet, according to the leader proponents of service science [10], service systems are just, as observed by Alter [9], "complementary components of economic exchange". We find this view in contradiction with the very basic assumptions of the S-D logic for the reasons above, and we share Alter's concerns regarding its understandability and practicality. In our opinion, Alter's notion of work system is much more useful to clarify what a service system is. In particular, we find the idea of considering a single person as an atomic service system very strange and unintuitive. In our view, a single individual can be *part* of multiple service systems, depending on responsibility patterns (commitments) which may appear or disappear at different times. For example, the same person could be involved in different service systems (as a worker and as a volunteer).

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