

# Service design logic

An approach based on the different service categories<sup>1</sup>

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**Abstract:** The emergence of Service Dominant Logic (SDL) paradigm in the context of managerial sciences as the most complete services interpretative theory does influence the reflections under elaboration in the area of service design especially for what concerns the relationship between services design and services innovation models. The authors starting from the SDL foundation principles, present a service classification associated with different service innovation logics and the corresponding design logics.

**Key words:** *Services, Services Design, Service Innovation*

## 1. Introduction

One of the branches that has shown the deepest liveliness and novelty in dealing with the evolution of service systems and of tools aimed at studying them is the one of managerial sciences. As a matter of fact, during the last five years this branch has seen a concentration of contributions on new approach in the study of service systems: the Service-Dominant Logic (SDL).

Until five years ago services were analyzed as a distinctive and residual offer in comparison with tangible offer systems. The most important texts about service management and marketing [4, 21, 22, 23, 26, 27] always define in their first chapters the main characteristics distinguishing services from goods; and after this division they analyze the consequences and influences that these characteristics imply in the managing of a service company.

Service Design – a subject quickly developing both as a distinct research field and as a content in the curricular and professional training should reflect on its role and connections with the affirmation of this new paradigm of *service research*. Service Design concerns with systematically applying design methodology and principles to the design of services [16, 19, 17 25]. As a discipline, service design should not be viewed in isolation, but in the context of service development, management, operations and

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<sup>1</sup>This paper represents a joint effort from the three authors. However for the purpose of individualising the authors' analytical contribution to it please consider that: Cabirio Cautela directly edited sessions 2 and 3, Francesca Rizzo sessions 4 and 5, Francesco Zurlo session 1.

marketing; they form together the provisions for good service performance [15, 16, 31]. User orientation, contextualization and other service development challenges are at the core component of service design [14, 15, 17, 24] - whose aim is *“to address services from the perspective of clients. It aims to ensure that services interfaces are useful, usable and desirable from the client’s point of view and effective efficient and distinctive from the supplier’s point of view [....] Service designers take deep dive into the ecologies of services, into the world of needs and experiences of users and providers. They visualize, formulate and choreograph solutions to problems that do not necessarily exist today...”* [25].

As for the diffusion and the affirmation of the principles of SDL, this paper aims at singling out possible variations and evolutions that can affect Service Design precepts and tools.

The paper structure is made up of four parts. The first part introduces the paper. The second is oriented to analyze the literature concerning Service Dominant Logic developed in managerial sciences and in service design. In particular, this investigation intends to: (i) analyze if and how much the new principles and dictates that are the basis of SDL are consistent/inconsistent with the principles affirmed by the main existing contributions about service design; (ii) singling out the most significant categories/dimensions of the SDL approach that are able to provide a useful clustering of services for service design. In fact, the third part proposes a model of interpretation and diversification of various categories of services that is developed starting from relevant dimensions expressed by the SDL approach. The service clustering is used:

- as a tool to identify model categories of services characterized by different *service logic* and *structure*;
- as a tool to define the innovative models subjected to the different service categories and the possible roles of service design connected to them.

## **2. The Service-Dominant logic as a framework for service design**

One of the typical traits of service literature has been the definition of distinctive characteristics of services that are able to emphasize their specificity and diversification if compared to tangible goods. While defining the constituent characteristics of a service the dominant literature has been mainly based on traits of differentiation from goods.

“The IHIP model” – *intangibility, heterogeneity, inseparability, perishability* – is predominantly focused on the expression of those characteristics that most often recur in services (principle of recurrence) and that differentiate them from tangible goods (principle of differentiation). This attitude that is mainly aimed at marking the autonomy and the importance of service sciences has been characterized by “residue” and “reject” criteria compared with the consolidated managerial and design sciences based on products. Moreover, the old IHIP model left many unsolved issues:

- the principles of *intangibility*, *heterogeneity*, *inseparability*, *perishability* have never been recognized as universal principles that can be fit to all the different categories of services [22, 23];
- the services subjects have always explicitly dealt with services as “exchange object”, omitting those services that in case are combined with tangible offers can increase and/or supplement the overall value of the offer system.

These factors together with the evolutions of productive systems and their offer system have produced the incapability of the method and content structure based on the IHIP model to explain the birth of new formula and the innovative trajectories that have invaded the field of services and products. The rigidity and at the same time the non-generalization of the IHIP have placed the basis to start a deep reflection about the way to analyze, study and understand the service sciences and the evolutions of service systems.

In particular, two articles by [5, 6] followed by many authoritative contributions placed the basis to think anew the methodological structure and the setting in which service sciences will be studied. The Service Dominant logic – so named by the authors – presents itself as a renewed interpretative outline in which it is possible to study not only services but the rules that generally run processes of value creation. The SDL starts by reconsidering the principles that run the economic exchanges by specifying the ways in which resources increase their value. The basic reflections – from which the *paradigm shift* proposed by the authors develops – were that the manufacturing economy was based on a concept of operand resource.

Constantin and Lush [21] define operand resources “*as resources on which an operation or act is percome to produce an effect, and they compare operand resources with operant resources, which are employed to act on operand resources (...). A firm had factors of production (largely operand resources) and a technology (an operant resource), which had value to the extent that the firm could convert its operand resources into outputs (...).*” The authors go on with: “*operant resources are resources that produce effects (...); the relative role of operant resource began to shift in the late twentieth century as human began to realize that skills and knowledge were the most important types of resources*”.

According to Vargo and Lush the manufacturing economy based on “*goods-centered model Exchange*” has the *operand resources* as exchange-object that is resources in which companies apply their technologies, their transformation processes, their knowledge. The resources belonging to this branch assume a statistic value tied to the tangible; the exchange processes of these resources are represented by fair transactions. Therefore inside the SDL the shift is due to the fact that the exchange object is no longer made of operand resource but of *operant resource*: a set of knowledge and skills (that in some cases are exchanged in a direct way and in some others in an indirect way) that are used to fulfil different types of needs. In the shift the exchange unit and its conceiving ways have changed: they are no longer goods and products but they are what they sub tend to, that is sets of knowledge and skills to be finalized to the satisfaction of one or more needs.

A part of the literature had already conceived that “people want goods because they provide services” [3]; and Hamel and Prahalad [2], referring to products interpret them as “*physical embodiments of one or more*

*competencies*". According to this point of view, the service represents "*the application of competences, knowledge and skills by one entity for the benefit of another*" [5, 6]. This reference setting is declined by many authors in a series of "foundational principles" that are useful to completely understand the new directions that the debate about service sciences and service design itself are assuming [23]:

- products and services represent two "mechanisms", the first one is indirect ("goods are service-delivery vehicles"), the second one is direct to transfer knowledge and skills applications to the consumer;
- companies offer "*value proposition*" that can be characterized by different levels of tangibility-intangibility;
- the old centrality of the "Exchange value", leave its place to the "value in use" or to "value in context"; the resources (*operant resources*) become valuable only if they are introduced in a use process;
- the price centrality (exchange value) as a scale to determine value is substituted by the adaptability and compatibility of the solution with the "welcome system"<sup>2</sup> of the beneficiary<sup>2</sup>;
- the consumer-beneficiary is always a co-creator of value because it participates in the process of "value-granting" of the value proposition from the physical, cognitive and emotional point of view;
- the reference viewpoint is no longer the one of the company-distributor but the one of the consumer-beneficiary (co-creator) of the service.

The analysis of these passages clearly shows that the SDL does not attempt to reconsider the nature and/or the principles by which services can be interpreted. The SDL presents a new model of value generation, in which services are used as main point of *reference*.

This perspective provides the basis to bring different subject branches together- service design, service management, service marketing – in a single cognitive domain<sup>3</sup>: the service science. In line with these considerations, the present paper introduces an interpretative model that could be used by different disciplines as it deals with both the management and design of services. By running through the SDL evolution and the last terms contributions on Service Design the authors aim to:

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<sup>2</sup> In this branch the "welcome system" is the complex of physical, cognitive and relational details of know-how characterizing the beneficiary of the offer system. Even if a car generally fulfils a need for mobility (in an indirect way if considered as a vehicle providing a service), if it is given to a subject that has no capability or skills (and the connected license) to drive it has no value.

<sup>3</sup> The term cognitive domain is used as a scientifically prominent field of research that appears as a "crossroad" of different disciplines. As [30] groups together within the "life science" the biology, the physics, the chemistry and some social disciplines so the "service science" appear as a cognitive domain that merges different disciplines: cognitive psychology, design, marketing, operation management, etc.. While the discipline put the main attention on their perspectives, methodologies and tools, the cognitive domains concentrate on the unit of analysis (human kind for the life science, service for service science) pulling down the discipline borders.

- identify some dimensions that best represent and explain the new way to read and analyze the value-proposition;
- define an interpretative model that can explain the differences among subtending innovation models and the possible design roles.

### 3. Clustering value propositions to assess service innovations and migrations

A contribution that presents itself as a reference source from which dimensions describing the nature and differences among spread offer-systems is the article by Gummesson (for the interest of dealt themes, expository clarity, and tangency with many recent contribution that emerged in service design) [22]<sup>4</sup>. In the last part of this contribution three stimuli that are able to characterize the catalogue of new offer systems are pointed out: (i) the *interaction*; (ii) the *relationship*; (iii) the *networking*.

Apart the domains of origin, these structures describe different concepts even if in some cases they are used in interchangeable ways and as synonyms. In particular, the *interaction* is defined as an unique transaction- meant as exchange of information, knowledge, activities, resources – in a definite interval (generally rather short) between an actor and an interface (that in its turn can be represented by another actor and/or by another system); the *relationship* is represented as a set of interactions developed in time that tend to build a *strong tie* based on trust among actors-interfaces involved in the exchange; the *networking*<sup>5</sup> is identified as an activity that involves a multi-actor-interface exchange process. As a matter of fact, the three terms subtend two common denominators:

- the *actors*: intended as subjects-interfaces that are interested and involved in the exchange process. The options of this variable can be *unique actor* vs *multiple actors*;
- the *exchange*: intended as an activity of transfer and issuing of many types of resources. The options of this variable can be *unique exchange* (if the transaction is reasonable and isolated) vs *multiple exchange* (in case the transactions are multiple, reasonable or continuous).

According to these main variables in the users perspective it is possible to frame three different services clusters<sup>6</sup>:

- *interaction based services*, in which services<sup>7</sup> admitting a sole transaction with only one actor-interface fall;

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<sup>4</sup>This contribution has been taken as a reference only because it represents in a concise way many aspects and dimensions of offer systems detached from other contributions more tied to service design (even in a more vertical and specialized way. As for this [19, 23, 14, 11] should be taken into consideration.

<sup>5</sup> It is appropriate not to mix up the *networking* activity with the network meant as a “place” in which the first activity takes place.

<sup>6</sup> This classification has not to be considered in a rigid way. The taxonomic logic, assuming that each service can be characterised by all the three dimensions, is driven by the main weight that the dimension assumes within the value creation process.

- *relationship focused services*, in which services that admit multiple repeated transactions with the same actor-interface are counted;
- *network centred services*, in which services characterized by different transactions done by different actors can be identified.

Some examples will help to completely understand the difference among service classes and the value of the subtended clustering logic. The check-in represents a typical *interaction based service*. It is an exchange – of information, documents, travel vouchers – that takes place in a very limited gap of time.

Even a dinner in a *fast food* or in a luxury restaurant, the purchase of a flight ticket on a website or in travel agency, the withdrawal of money from a cash dispenser. These transactions are usually homogeneous inside themselves: that means that they usually admit activity systems of homogeneous nature (the dealing of alpha-numerical codes in case of money withdrawal; the tasting of some food in case of a dinner in a fast food or in a luxury restaurant; the transfer of information about a travel in case of a ticket purchase in a travel agency or on a website).

The issue that is common to all of these services is the fact of being made of a single transaction with a sole actor-interface (it may be the *cash withdrawal*, the restaurant waiter or the internet website of the flight ticket).

As for the *relationship focused services*, a clear example of this class of services can be represented by a bank account, by the legal assistance and advice provided during a legal action, by the planned and continuous maintenance offered by car companies, by the services provided by a phone or mobile operators. These services admit the establishment and the development of relational continuity made of a certain number of transactions that can admit non-homogeneous activity systems inside them (for example a service of bank account can foresee many functions-activities: the liquidity management, the shares and securities management, the domiciliation of services and utilities bills, the crediting of salaries, etc.). In the end, in the category of *network centred services* the tourist packages offered by travel agencies (consisting of more than a flight), the social networks, the degree courses offered by universities, the services offered by agencies for temporary jobs can be counted. In these branches the user sets an exchange relation that can have a long or short duration and in which the transactions take place with different actors-interfaces.

As it was highlighted in advance, the attempt to provide an interpretative model doesn't only end in the clustering in services classes; on the other side, it aims at presenting as a model to explain both some innovative dynamics existing in many service clusters and to single out some "migration phenomena" of whole *service sectors* that pass from a quarter to another by intervening on the deep mutation in the service logic.

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<sup>7</sup> The term "service" is used to refer to tangible and/or intangible applications (in a coherent way with the terms used by SDL), to knowledge, skills and know-how forms that can be provided directly (by services) or indirectly (by their "freezing" in tangible products and goods).

#### **4. New roles for Service Design within SDL paradigm**

The classification framework described above that distinguish among - *interaction based, relationship focused, network centred*, - is also useful as a tool to understand which role Service Design could play within each of the three clusters.

For interaction based services design applies for a role in the design of the interfaces. In this context the service interface can be the “gate” to access a complementary service needed to reach the core service (the check-in at the airport) or it can be the service itself (as an example considering the servicescape for a restaurant). Service Design here is called to think and design codes, signs, symbols, languages the users interact with in order to access, manage and use the service. Here Service Design aims to conceive the “service semiotics” that means that being able to understand and interpret people cognitive models and to design a correspondent system of signs coherent with the service structure and familiar with people previous knowledge, skill and competences referred to the specific service under conception. Innovation models in the context of the interaction based services cluster often appears as the “translation” of a specific interactive paradigm into another as a change that refers only to the service interface in order to make it intelligible to end-users without making much effort in terms of learning. Often this kind of innovation, driven by the technological evolution, coincides with the replacement of a previous interface (most of the time a human operator) with a mechanical or digital one. In these cases the intervention of Service Design is mainly devoted to translate, in the most effective, efficient and satisfactory way, the user-employee interaction with the user-machine one by operating on the communication code translation as well as on the optimisation of the flow of interactions. Is this the case of check-in services in airport that offer a human interface or a digital totem; or to list some other examples consider the hotel booking services, the transaction services for different kind of payment and many others. For these forms of innovation service project consists in the digitalisation of a series of procedures and rules with the help of a new interface without modify the underlined service logic.

In the relationship focused Services Design is called to operate on: services channels, rules and culture. In the context of this cluster the service project aims to define the form, the intensity, the frequency of the service relationship as well as its places.

For relationship focused services Service Design can concentrate its attention on the amplification and diversification of the service channels-devices as it is appending for banks that are investing on different forms flat banks: from home banking, to mobile-banking, to internet-banking; or Service Design can acts in the conception of new set of rules and new structures to support the relational model the service underlines. This is the case of different kinds of health services that are moving from the idea of disease caring to the idea of disease prevention.

For this case the importance of the role of Service Design is in its capability to support learning both in terms of knowledge transfer as well as knowledge acquisition (the term knowledge has to be intended as

both the competences needed by users to interact with new channels as well as the new cultural norms to use the service).

For networking focused services Service Design is called to think, imagine and conceive the entire new service system. This means the ability to design the new chain of actors that intervene to perform service operations, the communication and exchange modalities among actors the roles and tasks associated to each of the system component.

The Service Design for this service typology has to concentrate its attention on the system architecture, on the nodes of the nets, on the relations among nodes, on the exchange mechanisms and transactions among nodes. Here innovation can consist in: (i) a change in the actor network (actors replacement, exclusion, inclusion); (ii) a change in the relationships architecture and/or in the actors roles; (iii) a change on the actors exchange and communication system.

As an example of this kind of networking centred design logic consider the case of distribution services (railway, motorway, air-way...) where it is possible to assist to a re-configuration of the actors roles, network structure and actors roles in a new complex and composed service. Another terrific example can be considered, in the area of health care, the reconfiguration of the monitoring services for chronic disease where, for example in Italy, current systems are including pharmacies (but also other private and public actors) in the service system network.

## **5. Further considerations and conclusions**

We used the three services cluster introduced in section three to explore, in session four, the different roles that Service Design can play in relation to them; but what we want to suggest is that the same dimensions can be also applied as a tentative guide to analyse distinctive levels of service innovation. In other words, with different weights and degrees, all services can show the interaction, relationship and networking dimensions. As a consequence all services can be innovated by intervening on each of these three dimensions.

Innovation on the interaction dimension seems to operate by adding a new service interface to an old one, in a complementary way: as an example consider the case of the on-line check in that is offered together with the face-to-face (user-operator) service in the airport. In these cases the consequences on the users behaviours as well as on the services operations are negligible. In other terms the new interactive modality make possible for the user what was allowed before simply by making available the service on a new device.

In the other two cases innovation shows different characteristics. When innovation acts on the relationship dimension what changes is the structure and the form of the relationship. From this point of view innovation seems to occur "*per jumps*" since the changes at the level of service norms, rules and frequency produce a change in the logic of the service, in the way in which it is perceived by end users as well as in



the way it is designed and implemented from an organisation. Here “*jump*” signifies a typological shift from the end-user point of view and an organisational shift from the organisation point of view.

In the last case innovation show a strong strategic component and it appears as a business innovation. Here Service Design partially coincides – for the roles that can play – with Strategic Design and the design activity is devoted to the entire business system (actors, relations, rules, roles).

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