

# Service Design as an approach to New Service Development: reflections and future studies

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## Abstract

This paper illustrates how, although Service Design has been described as evolving from a narrow description of a phase in New Service Development (NSD) to an approach to Service Innovation, the current Service Design research is still focused on the initial stages of NSD. Comparing existing Service Design research with foundational knowledge on NSD, the authors have proposed two complementary directions for future Service Design studies: 1) the expansion of ‘service design as a phase’ to investigate how Service Design processes and outcomes can be better linked with and integrated within the development and implementation stages of NSD; and 2) the application of ‘Service Design as an approach’ studying how current human-centred design methods could be extended and adapted for service system development and delivery, and how ‘designerly’ ways of innovating could inform the overall NSD process.

**KEYWORDS:** New service development, service design, service innovation

## Introduction

Alongside the growing role of the service economy in developed countries, studies into New Service Development (NSD) and its role for service innovation have increased (Zomerdijk & Voss, 2011). Associated with these studies, the term ‘service design’ has been introduced and described as “a form of architecture that involves processes rather than bricks and mortar” (Edvardsson, 1997, p. 31). While NSD describes the entire process of developing service offerings, service design is concerned with design activities using dedicated tools and techniques to specify or concretize the structure and infrastructure or concepts of a service (Goldstein et al., 2002; Johnson et al., 2000). Service design is considered as a critical stage for service development, as it works on the ‘prerequisites’ (service concept, service system and service process) for achieving service quality (Edvardsson, 1997).

As part of design inquiry, Service Design<sup>1</sup> has been rather introduced as a human-centred and creative approach to service innovation (Meroni & Sangiorgi, 2011). One of the early accounts of Service Design defines it as “planning and shaping useful, usable, desirable, effective and efficient service experiences” (Moriz, 2005, p. 40). However, due to the evolving nature of Service Design, it is now more understood at a higher level of abstraction rather than as a narrow description of certain design activities. In other words, Service Design is increasingly considered as ‘approach’ or ‘thinking’ that can be transferred to a wide variety of practices for service innovation (Stickdorn & Schneider, 2010).

But, Service Design, as an approach to service innovation has not yet been systemically explored in terms of its capabilities and competencies to contribute to service development, so its legitimacy remains uncertain (Stigliani & Tether, 2011). Designers recently have been critiqued for their weakness in terms of service implementation; their ideas stay “on the drawing board” due to the “lack of attention to economics—ensuring that ideas are cost effective—and lack of attention to organizational issues and cultures” (Mulgan, 2014, p. 4). Also, an ongoing AHRC funded networking project into Service Design Research in UK<sup>2</sup> has suggested the need to clarify the core of Service Design and to conduct research into how Service Design projects can be better implemented, embedded, measured or scaled up.

Given these considerations, this paper aims to create an initial conceptual framework to locate Service Design studies in NSD dimensions to identify where and how current Service Design research could fit into the foundational knowledge of NSD. This could help to better understand the contributions of Service Design research to service innovation. Besides, it could support discussions about the role of Service Design, and better dialogues with different fields of service research (Ostrom et al., 2010). After discussing the findings of the study, some reflections and future research directions are suggested.

## New Service Development: primary aspects of NSD

In this section, with the aim of overviewing the whole process of developing services, NSD studies are examined. With a growing attention to innovation in services, how organizations develop new services emerged as one of the critical avenues for research. Scholars focused on how the development process of services and products are different, and what general principles can be applied to developing services (Zomerdijk & Voss, 2011). Although services cannot be controlled like tangible products, scholars paid attention to the fact that the prerequisites for successful services can be created (Edvardsson & Olsson, 1996). This perspective encouraged further research to develop systematic approaches to NSD. As part of these studies, various dimensions of NSD such as key concepts, success factors, process models, tools and techniques, and performance measurement were studied. According to our goal to compare and position Service Design against the overall service development process, this study concentrates on three main aspects of NSD: 1) what are the phases of NSD; 2) what are the objects of design in these phases; and 3) what facilitates and supports the service development process. The following sections will discuss these topics in detail.

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<sup>1</sup> For clarity, this paper uses ‘Service Design’ in capital letters to indicate a design approach to NSD distinguished from ‘service design’ as a phase in NSD.

<sup>2</sup> [www.servicedesignresearch.com/uk](http://www.servicedesignresearch.com/uk)

### *Process*

As a systematic service development process is considered as one of the critical success factors (Edgett, 1994), various scholars have developed NSD process models that identify key activities within NSD (Cooper & Edgett, 1999; Johnson et al., 2000; Zeithaml & Bitner, 1996). These initial process models were grounded on knowledge coming from New Product Development, consisting of a linear sequence of steps from strategy development to commercialization (Booz et al., 1982). The later recognition that services have different characteristics from products led to the development of alternative models that better reflect the specific nature of services. Johnson et al. (2000) proposed an iterative, cyclic and nonlinear NSD process model consisting of four basic phases—design, analysis, development and launch—that embrace diverse sub-phases proposed by other models.

### *Objects*

Edvardsson & Olsson (1996) argue that services cannot be created but the prerequisites for services can be designed. Among the prerequisites, service concept and service delivery system are frequently discussed as elements for the strategic service alignment of NSD (Roth & Menor, 2003) and are thus discussed here as NSD design objects:

Edvardsson & Olsson (1996) define *service concept* as a prototype for a service. According to scholars, it may mean a firm's business proposition or components of service offerings, but Goldstein et al. (2002) contend service concept should be understood holistically as a whole picture from customers' perspective given the complexity of services. Clark et al. (2000) described the main components of the service concept as value, form and function, experience and outcomes. In other words, what values customers are paying for, how the service looks and operates, how customers experience the service, and what are the service outcomes constitute the whole service concept. These components need to be clearly defined and shared with stakeholders before the process proceeds to the operation phase because well-defined service concepts can help organizations translate abstract ideas to concrete operational information (Goldstein et al., 2002).

On the other hand, *service delivery system* involves how service concepts are realized (Roth & Menor, 2003). Service concepts are translated into service specifications, and building on the specifications service delivery system is configured. Therefore, aligning service concept with service delivery system design is vital for achieving successful service performances (Ponsignon et al., 2011). Some scholars examined what components make up the service delivery system (Ponsignon et al., 2011; Roth & Menor, 2003; Tax & Stuart, 1997). To name a few, employees, customers, organization/control and physical/technical environment (Edvardsson & Olsson, 1996), and processes, participants and physical facilities (Tax & Stuart, 1997) are often discussed. To synthesize, these system components can be grouped in structure (physical, technical and environmental resources), infrastructure (people), and processes (a set of activities that use the structural and infrastructural resources to deliver services) (Goldstein et al., 2002; Roth & Menor, 2003).

### *Facilitators*

Finally NSD literature identifies some key aspects that can work as enablers (Johnson et al., 2000) to lubricate the flow of the whole development process. They are teams, design tools, and organizational culture.

*Methods and tools* play an important role in the process of developing services. There are a wide variety of tools, which can be employed in the different phases of the development

from generating service ideas to service policy deployment and implementation. According to Edvardsson et al. (2000), those methods are mainly used to enhance an understanding of customers and reinforce internal communication within organizations. Successful services, which satisfy customers' needs, can be generated from a close dialogue and interaction with customers throughout the development process. In regard to collecting customers' needs, a focus group or in-depth interview can be employed, but considering customers' limited capabilities to express their latent needs and desires, more innovative methods are needed (Edvardsson et al., 2000; Zomerdijk & Voss, 2011).

*The involvement of customers and front-line staff* is also considered as a facilitator in the service development (Rubalcaba et al., 2012). Edvardsson et al. (2000) suggest service failure can be caused by technology-driven developments rather than customer-driven ones. Also with the emergence of Service-Dominant (S-D) logic (Lusch & Vargo, 2006), the role of service users has become more central. The S-D logic emphasizes how "value can only be created with and determined by" users through use, and how customers and other partners can participate "in the creation of the core offering" through shared creativeness (Lusch & Vargo, 2006, p. 284). Together with customers, employees can contribute to service innovation (Rubalcaba et al., 2012) as they know customers' needs through close contacts or interactions with the customers. Furthermore, employees' participation per se can reinforce their ownership of the services they offer (Zeithaml & Bitner, 1996).

Finally, the *organizational dimension* can affect service development. Edvardsson et al. (2000) discuss the impact of the organizational culture on service development strategies and business performance. Organizational culture is mirrored in the values that members in the organization hold and concretized in the norms through which the values are manifested on a daily basis. The organizational culture experienced and lived by employees can ultimately influence the organization service-customer culture (Zeithaml & Bitner, 1996). In addition, organizational structures and communication flows can influence the overall efficiency of NSD (Stevens & Dimitriadis, 2005).

## NSD research framework

For the scope of this paper we have integrated the three aspects of NSD—process, objects and facilitators—in a framework to be used as a reference to position Service Design studies (Table 1). Overall, the process consists of two macro stages, a planning phase and an execution phase (Johnson et al., 2000). We summarized these two main stages with the questions: 'How are services designed?' and 'How are services implemented?' The objects of design in these two stages differ in details and focus, while the facilitators work across the overall phases. Even if these two parts have different management needs, they must be carefully connected and coordinated (Ponsignon et al., 2011). In the next section, we will use this framework to locate Service Design research contributions in the NSD context.

	How are services designed?	↔	How are services implemented?
Process	Design    Analysis <i>Planning Phase</i>		Development    Launch <i>Execution Phase</i>
Objects	<b>Value / Form and Function / Experience / Outcomes</b> <i>Service Concepts</i>		<b>Structure / Infrastructure / Process</b> <i>Service Delivery System</i>
Facilitators	Methods and Tools Staff and Customer involvement Organizational Dimensions		

**Table 1. New Service Development research framework**

## Service Design perspectives in the context of NSD

As introduced earlier, Service Design has been discussed as a new design agenda over the past two decades. However, as Kimbell (2009) pointed out, service design practices rely more on tacit and informal knowledge, while academic studies are still limited and fragmented due to their different research backgrounds. In this section, existing Service Design literature is reviewed to consider how Service Design knowledge can be related with NSD studies along with the suggested dimensions: process, objects and facilitators.

### *Process*

Whereas NSD processes can be thought of as a formal and prescriptive model, Service Design processes are more flexible and dependent on the context of each project (Stickdorn & Schneider, 2010; Zomerdijk & Voss, 2011). Designers go forward and backward between each phase iteratively (Stickdorn & Schneider, 2010). In general, Service Design uses and adapts the Design Council double diamond model<sup>3</sup>, which identifies four main phases: discover, define, develop and deliver. The process involves exploring design opportunities with people, generating ideas and solutions, developing the concepts, and producing actionable outcomes for delivery (ibid.). Meroni & Sangiorgi (2011) similarly identify four activities: analyzing, generating, developing and prototyping. While most of the processes range from ideas generation to service delivery, little is known about service implementation.

### *Objects*

The object of Service Design has been discussed since designers entered the service field (Secomandi & Snelders, 2011). Early Service Design built its own identity relying on interaction design paradigm (Pacenti, 1998). Many designers focused on service interfaces and interactions aiming at touch-point innovation and enhanced service experiences (Clatworthy, 2011). These approaches can be seen to contribute to the development of service concept in that they focus on creating service forms, outcomes and experiences. Later, along with the attention to the contextual and complex nature of services, the object of design expanded to the considerations on service systems, stakeholders and organizations.

<sup>3</sup> <http://www.designcouncil.org.uk/about-design/how-designers-work/the-design-process/>

Studies on the nature and qualities of the object of Service Design are elaborated in the following sub-sections.

***Service interface, experience and relationships.*** Service Design considers as a main prerequisite for service quality the design for service interfaces, which are at the intersection between user and the service system (Secomandi & Snelders, 2011). Starting from an analogy with Interaction Design, designers orchestrate the service interface elements—people, products, information and places—to enable better experiences (Mager & Evenson, 2008; Meroni & Sangiorgi, 2011). Mager (2008) describes how touch-points need to be ‘useful, usable, and desirable’ from service users’ perspective. The overall interactions with these touch-points shape users’ opinions on the whole service experience (Clatworthy, 2011; Lo, 2011). The focus on the interaction between users and service system is also at the centre of Experience-Based Co-Design (Bate & Robert, 2007a). In this methodology, the focus of design is on patients’ cognitive and emotional pathway throughout the service to improve service experience. Along human-centred design traditions, designers work on service interface and experience developing an empathic understanding of how users feel about the service and what they desire for the future service (Lo, 2011; Stickdorn & Schneider, 2010). This understanding of users’ intangible experiences is translated into tangible visualizations to inform the service development process (Segelström & Holmlid, 2011).

On the other hand, when people use a service, they enter into a relationship with service providers and other service actors (Polaine et al., 2013). Thus, designing for good relational qualities has become a focus for Service Design. As interpersonal interactions in service encounters play an important role in the quality of the overall service experience, they should be carefully ‘meta-designed’ (Cipolla, 2007). Designing for good interpersonal relationships is also particularly relevant for the so called ‘collaborative services’ where ordinary people collaboratively engage in creating solutions to solve their own daily problems unmet by existing system (Manzini, 2005). In order to facilitate the emergence, growth and diffusion of such services, designers aim to design the right conditions (prerequisites) for enhanced interpersonal relationships (Cipolla, 2007). Similarly, in the design for public services, Boyle et al. (2010) call for ‘reciprocity’ and ‘mutuality’ among service actors to facilitate a co-production culture. Also, supporting the creation and growth of social networks is considered as a key prerequisite for successful collaborative service models (Boyle et al., 2010; Cottam & Leadbeater, 2004). Whereas a traditional managerial perspective regarded heterogeneity caused by human interactions as a threat to management of service qualities, Service Design considers this as an opportunity for unique and rich service experience (Cho, 2011).

***Service contexts and service system.*** As service interactions do not happen in a vacuum, Service Design research pays attention to the contextual and organizational factors that influence service interaction quality (Sangiorgi, 2009). Maffei & Sangiorgi (2006) suggests how services should be understood as “complex dynamics of situated interaction within a precise experiential context” (p. 3). Kimbell (2009) describes Service Design as the proposal for new value relations within socio-material configurations made up of people, artifacts and technologies. In order to better understand and design for service systems, Service Design research has looked into existing theories and conceptual models from the social science to help designers interpret services as complex social systems where individual service interactions happen. Morelli (2002) uses ‘Social Construction of Technology’ theory to describe services as socio-technical systems, deriving a set of criteria to analyze the technological frame of different service users. Maffei & Sangiorgi (2006) adapted ‘Activity Theory’ for a theoretical framework in order to understand and represent service interactions

within a wider system beyond user-service interface interaction. On the other hand, Service Design research has paid attention to mobilizing people for building successful service delivery system by utilizing a transformative effect of Service Design (Lin et al., 2011). Successful service implementation sometimes entails the need of the people's behavior change as their reluctance or resistance to changes can be an obstacle to achieving service innovation. Also, designers can help stakeholders to have capabilities to manage services by delivering Service Design knowledge with design skills and tools through the collaboration with them in the service development process (Han, 2010).

### ***Facilitators***

Research on Service Design focus and areas of applications is closely connected, and often coincides with research on what NSD defines as facilitators: methods and tools, staff and user engagement, and organizational dimensions.

***Design methods and tools.*** A significant part of Service Design literature is dedicated to case studies illustrating and evaluating the application of service design methods and tools. Some of these tools are often an adaptation of ethnography and user research methods as a way to capture rich users' experiences and translate them into design opportunities (Stickdorn & Schneider, 2010). When designing for service interactions and experiences, designers translate intangible experiences into a tangible and visible form: i.e. personas, customer journeys, service blueprints, storyboards, scenarios and experience prototypes (Segelström & Holmlid, 2011). In addition, design methods for analyzing and designing service system have been developed and adapted. For example, Service Design research has adopted service blueprint (Bitner et al., 2008) and developed it further to integrate different hierarchical levels (Patrício et al., 2011). The relations and interactions among service actors within service system have been also considered in some methods: i.e. service ecology map (Polaine et al., 2013), service system map (Maffei & Sangiorgi, 2006) or actors network map (Morelli & Tollestrup, 2007).

***Staff and customer involvement.*** Various stakeholders can play a significant role in Service Design processes. During the early phase of the process, users and stakeholders can contribute to collective creativity, and during the implementation phase, they play a critical role for successful service delivery. For the effective involvement of stakeholders, co-design (Sanders & Stappers, 2008) or participatory design principles and methods have been widely used (Macdonald & Teal, 2011; Steen et al., 2011). The participatory approaches are useful for building a shared understanding and eliciting diverse ideas from participants (Steen et al., 2011). Also, co-design can reduce people's resistance to service change in organizations (Lin et al., 2011). The co-design process can be more effective with a variety of design techniques to empower multi-disciplinary team and to facilitate their collaboration (Kaario et al., 2009; Macdonald & Teal, 2011).

***Organizational dimensions.*** Few Service Design research looks into organizational dimensions mainly, investigating what enables or inhibits organizational change. Junginger & Sangiorgi (2009) suggest how Service Design can consciously act as a potential driver for organizational change acting at different levels from the service interface to the organizational values and norms, challenging their fundamental assumptions. Similarly, Pinheiro et al. (2012) report how Service Design can play a transformational role to infuse an innovation culture in organizations when sharing Service Design knowledge and tools with decision makers. On the other hand, Bailey (2012) investigates how Service Design can be embedded within organizations, which leads to sustainable design and delivery of human-centred services.

## Findings

This paper has examined Service Design research contributions to NSD studies in the three identified areas: process, objects and facilitators. *On the process*, Service Design research has mainly focused on the design phase, while limited considerations have been made on how this phase can be linked with the development stage. *On the objects*, Service Design research has a strong emphasis on service interactions and other dimensions as prerequisites for improved service experiences. *On the facilitators*, Service Design research has given significant attention to methods and tools and modes of engagement while very limited studies look into the organizational dimensions as a facilitator for NSD.

*Linking service design with service development*: According to NSD studies, ‘how services are designed’ and ‘how services are implemented’ require coordination and alignment (Ponsignon et al., 2011). If the two parts are disconnected, this might result in the generation of service concepts that cannot be actualized in current service delivery system. It implies that current Service Design capabilities should be extended to or reinforced by service operation knowledge. Nonetheless, we have not yet found many studies on how the design phase can be coherently connected to service implementation. As some exceptions, Lin et al. (2011) examined how change management and human-centred principles can better inform and engage people in change processes. Also, Henze et al. (2013) applied human-centered approach to help the networked collaboration for developing Product Service System.

*Service interactions and experiences as key object of design*. Designers’ accumulated competences from other design domains like interaction and experience design provide specialty in deeply understanding people, exploring new design opportunities, and concretizing the solutions. Based on the understanding of users, they shape desirable service experiences to fit with the users’ latent needs and desires. On the contrary, despite the endeavour to conceptualize ‘service concept’, there is limited NSD work providing a methodology for developing it in practice. While NSD studies provide foundational theories associated with the service development process, they rarely discuss concrete instruments to be applied in the real world (Kaner & Karni, 2007). Service Design approaches could contribute to the operational level of the NSD service concept. Service Design entails applying the practical methods and techniques established in the field of Design to the development of services.

*Lack of studies and understanding of organizational dimensions*: Most of activities in the service design process are mediated and embodied by design tools or techniques. Besides, along with the increasingly emphasized role of service actors as co-creators of values, co-design approach in Service Design is vital. But, most of the design methods and tools are mainly used for the early phase of the whole service development process. Similarly, co-design activities predominantly happen in the design phase (fuzzy front end). According to some critiques pointing out the limitation of the co-design process (Botero & Hyysalo, 2013), after designers leave the project, people are left in the ground without appropriate knowledge or capabilities to manage the services. To overcome this limitation, more sustained and open design strategies to build users’ learning, ownership and capabilities are needed (ibid.).

## Conclusion

This paper investigated how Service Design studies can be understood relating to NSD knowledge to understand the contribution of Service Design to service innovation. For this, a conceptual research framework based on NSD studies was developed and Service Design



literature was examined in relation to the framework. This helped to clarify the current position of Service Design contributions and uncover what it lacks in the wider context of service research. It is revealed that although Service Design is considered to shift from a narrow description of certain activities (*service design as a phase in NSD*) to a way of service innovation (*Service Design as an approach*), the current Service Design research does not fully reflect this conceptual evolution covering only parts of NSD dimensions.

Given these considerations, the authors propose two possible directions for future Service Design studies: **1) the expansion of 'service design as a phase'**. Given the focus of Service Design processes on the relatively earlier stages of NSD, there is the need for research on how Service Design processes and outcomes can be better linked with and integrated within the development stages of services to enhance more effective implementation. This can require the acquisition of operational knowledge for service delivery to inform feasible service solutions. In practice, there is growing evidences that service designers are working for service implementation, developing new ventures or experimenting with the measurement of Service Design impact that could become object of future studies (Service Design Research UK, 2013); and **2) the application of 'Service Design as an approach'**. Given the interest to embed Service Design thinking within organizations, further research is needed into how current human-centred design methods could be extended and adapted for service system development and delivery, and on how 'designerly' ways of innovating could inform the overall NSD. For example, Bate & Robert (2007b) applied Experience-Based Co-Design (EBCD) approach to organization development (OD), asserting EBCD can offer useful lessons for OD by proposing new value orientations for users and external stakeholders by bringing them to the design process.

As the service research field continuously evolves, a multidisciplinary and collaborative effort to build service knowledge from diverse disciplines including service management, service engineering and Service Design is needed (Fisk & Grove, 2010; Ostrom et al., 2010). For this reason, developing a shared service language is important to connect the different areas of service research (Fisk & Grove, 2010). This paper made an initial step to link isolated silos of Service Design knowledge to the wider field of NSD knowledge and research.

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