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IDENTIFYING AND SYSTEMATIZING MULTIDISCIPLINARY CONTRIBUTIONS TO SERVICE DESIGN

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Service Design has grown as a human-centered, iterative, holistic approach to Service Innovation (Mahr, Kalogeras and Odekerken-Schröder, 2013; Ostrom *et al.*, 2015; Sangiorgi *et al.*, 2015; Grenha Teixeira *et al.*, 2016). Service Design combines design thinking with a service perspective (Wetter-Edman *et al.*, 2014) and brings together multidisciplinary contributions such as from Marketing, Interaction Design, Operations Management and Information Systems (Patrício and Fisk 2013). These fields offer complementary perspectives to Service Design such as Marketing focus on the service concept offered to the customer (Edvardsson, Gustafsson et al. 2000), Interaction Design on service interfaces that embody service offerings (Secomandi and Snelders 2011), Operations Management on service operations (Hill, Collier et al. 2002) and Information Systems on supportive technologies that fuel Service Innovation (Kieliszewski, Maglio et al. 2012). However, these multidisciplinary contributions are dispersed across fields, resulting in different concepts and approaches to Service Design. This lack of a comprehensive understanding of multidisciplinary contributions to Service Design hampers its potential to enable Service Innovation, as well as hinders the advancement of this field in Service Research. (Ostrom *et al.*, 2015).

To address this challenge, this article presents the results of a two-stage qualitative study (Charmaz, 2014) that identifies and systematizes multidisciplinary contributions to Service Design. In the first stage, an initial round of literature review was undertaken by the multidisciplinary research team to analyze different multidisciplinary contributions to Service Design. This first stage resulted in the identification of six perspectives: Service Research, Design, Interaction design, Marketing, Operations Management and Information Systems. The second stage involved a second round of literature review, based on the recommendations of 13 world leading researchers on Service Design that covered the identified fields. These references were analyzed following two types of Grounded Theory approach to coding (Charmaz, 2014) – initial coding and focused coding – on Nvivo software, leading to the characterization of multidisciplinary perspectives to Service Design in terms of goals, objects, centeredness and approaches, and outcomes (intended and emergent changes).

Results show that, from a Design perspective, Service Design has a special focus on designing for enabling interactions (Sangiorgi, 2009) and improving societal well-being (Burns *et al.*, 2006; Manzini, 2015), developing projects with human-centered and participatory approaches to design (Sanders and Stappers, 2008), which result in transformation processes within organizations (Junginger and Sangiorgi, 2009; Junginger, 2015), new forms of value co-creation within communities (Jégou and Manzini, 2008), and new local production and consumption systems within cities (Baek, Meroni and Manzini, 2015).

Interaction Design also brings a focus on designing to enable service interactions and to support service, as through the use of technology (e.g. robots) (Lee *et al.*, 2010). This perspective brings user-centered and participatory approaches to design (Holmlid, 2009) and is connected to changes in the level of the Service Design process, as by engaging users in an empathic process to transform tacit knowledge in sources of innovation (Mattelmäki, Vaajakallio and Koskinen, 2014).

Marketing brings a great contribution to design for enhancing customer experience (Zomerdijk and Voss, 2010), highlighting the importance of customers in the service delivery system (Alam and Perry, 2002). This perspective is connected to changes, for example, in the service encounter level, as by planning and orchestrating new service clues and servicescape. (Bitner, 1992; Berry and Bendapudi, 2003).

Operations Management brings to the table of Service Design the focus on designing for supporting the service, mainly in terms of designing service delivery processes (Sampson, 2012). It brings customer and employee-centered approaches to systemically manage the flow of resources along the service delivery system (Zomerdijk and de Vries, 2007), enabling changes in terms of new service delivery processes (Shostack, 1984).

Information Systems contributes to designing for supporting service, mainly in terms of technology (Davis, Spohrer and Maglio, 2011), also bringing user-centered and systemic approaches to design (Blaha and Premerlani, William J. Rumbaugh, 1988). Service Design, from this perspective, enables changes in terms of new technological solutions (e.g. web service), new service delivery processes (e.g. people-to-machine; machine-machine) and new interfaces (e.g. virtual interfaces) (Glushko, 2010; Davis, Spohrer and Maglio, 2011).

Service Research contributes with fundamental concepts to Service Design. This is the case of the concept of service as the application of

competences of one entity to benefit another entity (Vargo and Lusch 2008); or the service concept (Edvardsson, Gustafsson et al. 2000) and value propositions (Frow, McColl-Kennedy et al. 2014), which set the opportunities for value co-creation. This area is connected to change, by understanding the influences new service clues have on enabling new forms of value co-creation (Zomerdijk and Voss, 2010), by envisioning new forms of resource integration along the service delivery processes (Bitter, Ostrom and Morgan, 2007) and by suggesting new approaches to insert technological innovation to enable service (Edvardsson and Olsson, 1996; Patrício, Fisk and e Cunha, 2008; Patrício *et al.*, 2011).

Service system is described as a useful abstraction to have an integrative view on the potential of Service Design to enable Service Innovation, as new integration of resources that enable novel forms of value co-creation (Lusch and Nambisan, 2015) across different service system levels: organizational (Lovelock and Wirtz, 2011; Patrício *et al.*, 2011), network (Akaka, Vargo and Lusch, 2012) and ecosystem (Vargo and Lusch, 2016). In this sense, Service Design multidisciplinary contributions support Service Innovation in the (a) **organizational level**, by enabling transformation processes within organizations (Junginger and Sangiorgi, 2009; Junginger, 2015) and creating new interfaces, new technology and new service delivery systems (Zimmerman *et al.*, 2011); (b) **network level**, by identifying, supporting and enabling social innovation cases within society as new service models (Jégou and Manzini, 2008) and envisioning new forms of resource integration within value networks (Akaka, Vargo and Lusch, 2012); and, finally, (c) **ecosystem level**, by facilitating institutional change based on new forms of service interactions between actors (Cipolla, Melo and Manzini, 2015; Vargo and Lusch, 2016).

All in all, this study contributes to advance Service Design as a multidisciplinary field, as it analyzes and systematizes these different contributions. By mapping how different concepts relate and complement each other, this paper contributes to bridge the collaboration between different areas. Finally, the identification of how Service Design is connected to Service Innovation empowers this approach to enable innovative solutions, because of the convergence of multiple lenses that allow researchers and practitioners to identify new forms of resource integration, as well as to recognize as resources things never considered before.

KEYWORDS: Service Design, Service Innovation, Multidisciplinary.

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