

Chapter 8

Emerging Design Research Themes: A Research Review from Design, Service, and Management Studies



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Abstract The targets of design have moved from industrial goods to services against the backdrop of service economy, complicated system problems, and the development of information technology. In recent years, research on the relationship between design and management has drawn attention in service design. Elucidation of the influence of service design on organizational strategy and management, such as how service design is involved in organizational change and how to manage relationships with stakeholders is under way. Changes in design targets also affect design methods and evaluation indicators. However, as design studies are being done across many different fields, it is difficult to see the full picture. In this chapter, I review research focusing on design, service, and management research, and organize how research areas relate to design, with an eye toward future research topics.

Keywords Service design · Innovation management · Entrepreneurship · Service system

8.1 Introduction

The targets of design have changed from goods to services given the backdrop of the modern service economy, increasingly complex systems, and the development and use of information technology (Hobday et al. 2012; Löbner and Lusch 2014; Sawatani 2014). Design research has moved from interface design to interaction design, in which user interfaces and user experiences are considered together in a comprehensive design approach (Candi 2007). In addition, research on interactions in services now focuses not only on end-users but also on other stakeholders and

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includes organizational design (Hyvärinen et al. 2015). Furthermore, in the context of service science, research has expanded to include service systems and service life cycles as well (Ceschin and Gaziulusoy 2016).

Nowadays, design and consulting firms often provide service-design services, promoting service-design practices with companies, government, NPOs and other organizations. For example, in the UK, the Design Council has expanded to include service design; and the UK government's digital transformation (Gov.UK 2018) has been taken up as a precedent case of service design utilization. Service design can also be effective in improving healthcare and health and welfare services (Green et al. 2016). Research on the relationship between design and management has also drawn attention in service design (Amit and Zott 2001). Elucidation of the influence of service design on organizational strategy and management, such as how service design is involved in organizational change and how to manage relationships with stakeholders, is also underway (Hyvärinen et al. 2015).

Changes in design targets also affect design methods and evaluation metrics. For this reason, research on design now occurs in many fields, including design, service and management studies (Hyvärinen et al. 2015; Wry and York 2017; Baek et al. 2015; Yu and Sangiorgi 2018; Sawatani 2014). As the scope of design studies has increased across fields, it is becoming more difficult to see the overall picture of service design. It is time to weave the many threads together to get an overall view of the field. In this chapter, first I survey literature within design research, service research, and management research to discuss how these areas that impact service design have changed over time. Second, to grasp the overall picture of design research, I investigate the transition and relationships of the three fields. Finally, I discuss some future research topics.

8.2 Research Method

This chapter surveys literature on design research across several fields to begin to draw a picture of the state of service design and the influence of various design disciplines on service. Because design targets extend beyond industrial products to services, and organizational and social systems, papers were extracted from design studies and also from management and service studies. Thus, representative journals were selected from design, service, and management areas. In the design area, *Design Studies* which is the top journal in design area and *The Design Journal* which covers a wide range of design topics were selected. In the service area, *Journal of Service Research*, which is centered on service marketing research, and *Service Science*, which is a journal of service science research, were selected. In the management area, *Academy of Management Learning & Education* and *Strategic Management Journal*, which are thought to be developing relatively new fields, with the *Academy of Management Journal* and *Academy of Management Review*, which deal with a wide field, were selected. Design research in management study will be emerging, and not established yet, so four journals with various perspectives are selected.

Table 8.1 Potential articles identified from journals (2000–2017)

Journal	Articles with “Service Design” in Title, Abstract, or Keywords	Articles with “Service Innovation” in Title, Abstract, or Keywords	Articles with “Entrepreneurship” in Title, Abstract, or Keywords	Total
<i>Design Studies</i>	11	6	4	15
<i>The Design Journal</i>	10	7	1	10
<i>Journal of Service Research</i>	27	26	3	37
<i>Service Science</i>	10	16	2	26
<i>Academy of Management Journal</i>			24	24
<i>Academy of Management Review</i>			23	23
<i>Academy of Management Learning & Education</i>	1	1	32	32
<i>Strategic Management Journal</i>	1	2	18	21
Totals	60	58	107	188

All articles in these journals from 2000 to 2017 whose title, abstract, or keyword contained “service design”, “service innovation”, or “entrepreneurship” are searched. First two keywords, “service design” and “service innovation” are used for the initial research paper search. However, only a few management research papers are found. Entrepreneurship study in management study could include a study creating a new business and a service system, so the third keyword, “entrepreneurship” is added. A total of 188 articles were found (see Table 8.1). 13.3% of the articles with the search terms came from design journals. By using “service design” keyword, 61.7% articles come from service journals. Out of 188 articles, 37 articles, 19.7% include duplicated keywords.

Abstracts of all selected articles are investigated and grouped into key categories, such as design and methods, community, service system, social innovation, etc... Design and service journals share common categories, such as design and methods and communication. Recently the community study is emerging. On the other hand, articles from management journals are grouped to entrepreneurship and education and traditional research topics, such as company. After 2006, social innovation is growing. Interestingly service system and organizational research areas consist from design, service and management studies.

8.3 Research Review from Design, Service, and Management Perspectives

In design studies, various sorts of research on the significance and role of design and on evaluation of the design process and outcomes have been conducted (Candi 2007; Dong et al. 2016; Nelson and Stolterman 2012). Design targets extend from products to product service systems (PSS) and service innovation (Dewberry 2013; Ceschin and Gaziulusoy 2016). Service design methods, such as empathy and ethnography, are being developed (Wikinson and De Angeli 2014; Stacey and Tether 2015; Prendiville 2015).

In recent years, design targets have expanded even further, for instance, to the design of a community with no boundaries (Baek et al. 2015; Morelli 2015), including design of public services and sustainable systems. Design may play a role not only in design of new systems and redesign of technologies and existing systems from a human-centered viewpoint (Hyvärinen et al. 2015), but also in transforming systems and continuous social value creation (Ceschin and Gaziulusoy 2016). To realize such broad goals, current methods are not enough.

Regarding service studies in particular, *Service Science* and *Journal of Service Research* are investigated. The former is targeted at service systems, and research focused on use of information technology, such as big data and simulation (Migueis and Novoa 2017) and service innovation (Sawatani and Fujigaki 2014; Siltaloppi et al. 2016; Jonas et al. 2016), especially those affected by information technologies (Löbner and Lusch 2014). In addition, many articles discuss design issues from service system viewpoints, such as healthcare system and PSS. By contrast, the *Journal of Service Research* has service marketing as its main subject, and research on customer service interaction and the designer's role in service operation design, management strategy, utilization of information technologies (Bhappu and Schultze 2006) and service innovation (Yu and Sangiorgi 2018) were main points of discussion.

Research on new business creation and human resource development/education, including business startups has been done in business administration using network analysis (Vissa and Chacar 2009). In research on innovation, research on business models (Amit and Zott 2001) and social innovation (Wry and York 2017; Peredo and Chrisman 2006) is often done in collaboration with customers and employees.

With the development of information technology, firm boundaries may become ambiguous (Webb et al. 2009; Santos and Eisenhardt 2009; Argyres et al. 2015), and research expands from competition theory, focusing on enterprises, to ecosystems of value co-creation (Peredo and Chrisman 2006). In addition to considering economic value within an enterprise, the mechanism of value creation of an open social system (Calas et al. 2009) is also attracting attention.

8.4 Emerging Design Research Themes

To understand better this landscape of research on design, three categories are selected for the further investigation. The service system category is a foundation of design, service and management studies. The other two categories, such as community and social innovation, are emerging areas. Design and service studies focus on community design, for example, a public service. On the other hand, social innovation is studied in management research, as expanding the company's boundary and giving impacts to society. To clarify relationships among these studies, these three categories are organized into nine topics (see Table 8.2). Relatively established research categories such as service design methodology in design and service studies and entrepreneurship in management study (e.g., Candi 2007; Dewberry 2013; Prendiville 2015) were excluded for the further research.

In the area of service systems, management study treats a company as a service system, but service and design studies look at the dynamic structure of service innovation. The business model (Amit and Zott 2001) extends the business boundary (Webb et al. 2009; Santos and Eisenhardt 2009; Argyres et al. 2015) and urge managers to focus on an ecosystem around a company. Now a company is one of elements in a service system. Considering economic value is not enough, but also social values (Calas et al. 2009) around the company need to be considered as a key. In service and design research, technology adaptation, especially information technology, to the business (Bhappu and Schultze 2006; Löbner and Lusch 2014) are

Table 8.2 Key categories and topics for research on service design, service innovation, and entrepreneurship

Category	Topic	Discipline	Representative articles
Service System	Business Models	Management	Amit and Zott (2001)
	Business Boundaries		Webb et al. (2009), Santos and Eisenhardt (2009), Argyres et al. (2015)
	Business and Social value		Calas et al. (2009)
	Source of Service Innovation (Technologies)	Service	Bhappu and Schultze (2006), Löbner and Lusch (2014)
	Source of Service Innovation (People, Organization)	Design and Service	Sawatani and Fujigaki (2014), Siltaloppi et al. (2016), Jonas et al. (2016), Yu and Sangiorgi (2018)
Community	Community Design	Design	Baek et al. (2015), Morelli (2015)
	Organization Transformation		Smets et al. (2012), Hyvärinen et al. (2015), Baek et al. (2018)
	Community Transformation	Design, Service	Blocker and Barrios (2015), Ceschin and Gaziulusoy (2016)
Social Innovation	Social Enterprise	Management	Peredo and Chrisman (2006), Wry and York (2017)

important areas. Recently, not only considering technologies as source of service innovation, but various actors such as designers and organizational change, are argued (Sawatani and Fujigaki 2014; Siltaloppi et al. 2016; Jonas et al. 2016; Yu and Sangiorgi 2018).

The key contributors of service innovation are expanded from research and development (Sawatani and Fujigaki 2014), which has been a key player of product innovation, to designers (Yu and Sangiorgi 2018) and stakeholders belonging to multiple organizations (Jonas et al. 2016). These various actors including users are creating a new service system together. As an example of business transformation in manufacturing resulting from a focus on service, research and development personnel may be responsible not only for technology development but also for design in creating new service systems for value co-creation with customers (Sawatani and Fujigaki 2014). In this way, it may also be necessary to embed new knowledge in existing organizations and existing management systems through service innovation (Smets 2012; Hyvärinen et al. 2015; Baek et al. 2018).

Yu and Sangiorgi (2018) compared the service design process with New Service Development (NSD): In traditional service development, design, development and implementation phases are focused internally, whereas in NSD, especially when the design function is outsourced, a new service system may be developed, with focus on embedding the system in the customer's organization and on maintaining it.

Siltaloppi et al. (2016) discussed institutional design in the service ecosystem of actors, whereas previous studies discussed mainly relationships between enterprises and their outsourcers who are responsible for their design and innovation functions. Each organization that the actor belongs to has its own institutions. When creating a new service system with multiple actors, a new framework with institutional groups of those organizations as toolkits is created. These are deeply related to community design.

In community design, traditional service design methods have been applied to public services and the like (Baek et al. 2015, 2018; Morelli 2015; Hyvärinen et al. 2015; Blocker and Barrios 2015; Ceschin and Gaziulusoy 2016), though current methods have some limitations. Hyvärinen et al. (2015) and Baek et al. (2018) mentioned that when designing communities of multiple organizations, it is assumed that transformation of existing organizations will be required. Ceschin and Gaziulusoy (2016) discuss creation of transformative value through recombination of new resources in the community, with social value itself embedded in the community.

Studies of traditional companies that are closed systems and that emphasize economic value, and community practices aimed at maintaining social value by implementing community problem solving, have a common language in the term "service system" (or "service ecosystem", which emphasizes more dynamic aspects). Service design is the foundation for linking enterprise systems and community systems to each other, transforming the organization from one to another, and designing new service systems.

In this way, the research topics of design, service, management research have been expanded based on (a) service system or service ecosystem, (b) community

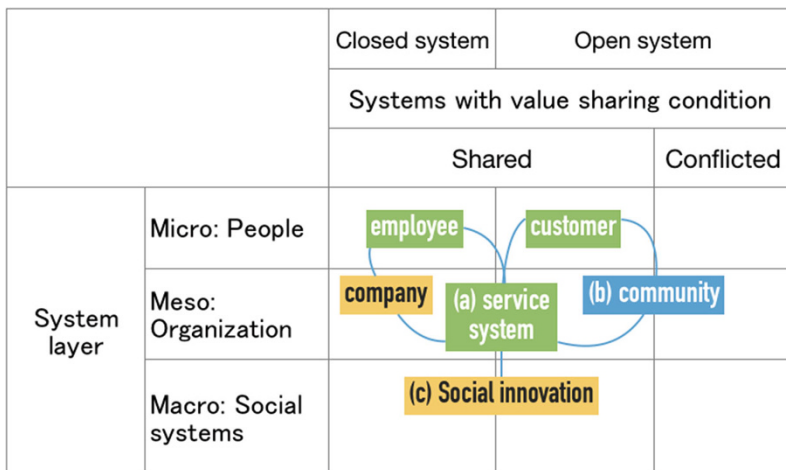


Fig. 8.1 Emerging design research themes mapped to service system types (Sawatani 2014)

design, and (c) social innovation and transformation, such as organizational transformation or institutional transformation. This is illustrated in Fig. 8.1.

8.5 Conclusion and Discussions

In this chapter, I have reviewed some threads of contemporary research focusing on design in service and management research, and I have attempted to organize how these research areas are related to design. Service systems, including service ecosystems, will continue to frame interesting research areas, especially community design, which as an open system, requires multiple stakeholders. In addition, social innovation, which comprises traditional innovation as a special case, and which focuses on economic value creation, will be an important area to study. In these research areas, service systems are dynamic and transformed continuously. To sustain a service system, transformation is necessary, as is the study of transformation. As discussed, further collaboration in research in design, service, management will only become more important in the future.

In management studies, research has expanded from closed systems that emphasize economic value for enterprises to service systems that include customers, partners, and various stakeholders. It is an inside-out viewpoint that analyzes the service system by looking out from the enterprise, considering economic value inside of it. By contrast, in design studies, subjects of design have expanded from product to service, community, and society based on design, and especially engineering in applying technology into systems through a human centered design approach. In other words, it is an outside-in viewpoint that focuses on social value

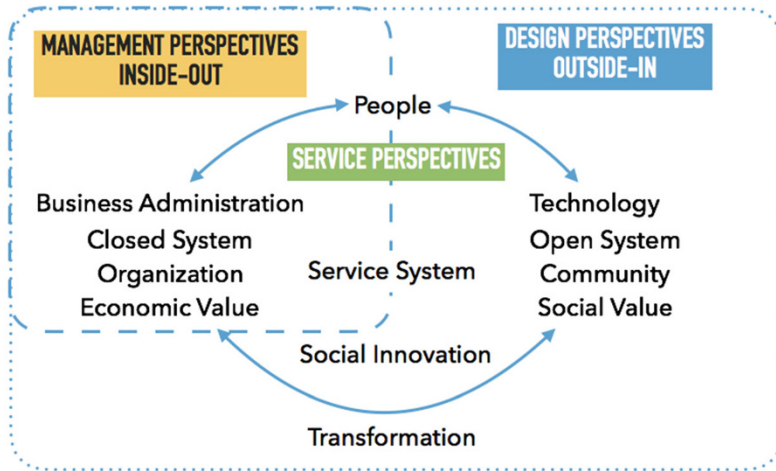


Fig. 8.2 Disciplinary perspectives and design research themes

in the newly created service system from human centered design perspective. Integration of these perspectives on service systems will be an interesting area of study in the future (see Fig. 8.2.).

Social enterprise research aims to create not only economic value but also social value (Peredo and Chrisman 2006; Wry and York 2017). Wry and York (2017) presented a framework for creating social innovation for social welfare by linking the identity of organizations (role) and individuals (personal). Social innovation projects and activities aimed at Creating Shared Value (CSV) are underway in many companies that use designers (e.g., NEC 2018). However, most of these projects are tested in isolation from the original businesses of the companies, and it is rare that results are directly incorporated into existing businesses. For the value created by the personal identity of designers embedded in existing organizations, further research on the organizational design of the company and the business model design are required.

By reconstructing the various management theories based on Service-Dominant Logic (Vargo and Lusch 2004) in service studies and by understanding service as a service system (as advocated by service science, Maglio et al. 2010) and further as a service ecosystem (Vargo and Lusch 2016), collaboration across design, service, and management studies is expected to contribute to the design of communities and the design of institutions.

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