Chapter 1

Introduction

Abstract This chapter introduces the core theme of the book. It explains why we decided to write it and discusses the concept of capabilities in relation to expert professional knowledge. We also provide a first definition of the core capabilities of service designers along with an overview of the structure of the book.

1.1 Why Are We Writing This Book?

Over the course of a long maturation period, the discipline of service design has seen the development of a methodological toolbox based on the tools used in design projects carried out by private companies, public organisations and within educational and academic environments. The many scholars working on service design and the wide range of disciplines involved in service design activities have made it possible to elaborate and define these tools, which have been specifically developed for the aims and needs of designers working in various phases of the design process.

This work has proven particularly useful because service design is intrinsically multi-disciplinary. The earliest application of the concept of designing a service originates from marketing studies (Shostack 1982). Later, this was adopted by other design disciplines, such as industrial design and interaction design, which, in parallel, contributed to the construction of an organic body of techniques to deal with different aspects of services. These include time-related and interaction aspects, which have certain characteristics that categorise them as processes rather than permanently defined products (Morelli 2002; Moggridge 2007; Bitner et al. 2008; Kimbell 2009; Löwgren and Stolterman 2004). Other aspects related to the negotiation of values between service providers and customers opened the perspective of services as a socially constructed activity (Morelli and Loi 2001), which suggested an exploration of methodological approaches of social theories that could help designers understand and manage the social and cultural aspects of services. Many studies have also explored contributions from engineering and production systems (Hollins and Hollins 1993), management (Normann 1991, 2001; Normann and Ramirez 1993), or service design's original field of marketing (Gronroos 1990). In addition, the growing relevance of technology infrastructure, such as online platforms and services, has pushed

designers to explore data as a new material for service design, evidencing the need for a revision of the tools that designers use through a more data-driven inquiry (de Götzen et al. 2018; Kun et al. 2019).

This intense and multifaceted activity has resulted in many online and offline manuals, toolkits, and textbooks aimed at supporting the work of service designers. These available resources are certainly a good sign of the increased interest in this discipline but may also be a source of confusion for those who have little experience and navigation skills. This is one reason why we decided to write this book. This wide range of tools can give the impression that they are *the* solution for designers and that simply using such tools implies a successful design process. However, knowing about certain tools or having used them a few times does not necessarily mean that one is an experienced service designer. For example, one can use pliers, a hammer and a saw yet be unable to refer to themselves as a plumber, electrician or carpenter. A plumber is a plumber because the person has expert knowledge of how to understand and work on a plumbing problem and will know the purpose of each tool and how to use it within specific contexts and circumstances. This expert knowledge forms the core of professional activity, where expert knowledge is even more crucial than the professional tools.

Expert knowledge is what professional experts need to navigate the possibilities their tools offer to find the correct sequence of actions that will lead to a solution to the problem at hand. Such knowledge is not implicit in the tools themselves but rather relates to previous professional experience, the capability to analyse and understand the problem, and interactions with the people and technologies that are part of the problem. For a plumber, what seems routine is in fact the synthesis of such knowledge and the result of the plumber's professional capabilities that we recognise when we call a plumber or when we pay the honorary for their work. Along the same line, this book aims to explore the body of service design-related knowledge to define the capabilities of designers and what they can offer as professionals.

However, when talking about service design, matters can get even more complicated because, while a plumber's expertise is more or less confined to a number of problems that concern water, pipes and related devices (which are the material of their work), designers, particularly service designers, struggle to define the material they work with (Blomkvist et al. 2016). Many service designers refer to the industrial design tradition, and in that context, the solidity of the material to be handled provides certainty and concreteness to the design profession. However, the extension of the notion of design on different areas of intervention (Buchanan 2001) and on services in particular has expanded the domain of expertise to extend beyond the material, and today, designers offer professional support in different areas ranging from healthcare and prevention services to policy making. Accordingly, the capabilities needed to deal with those problems are much wider and often require service designers to complement their work with capabilities from other disciplines when not directly collaborating with other experts. As a result, the core capabilities of service designers are becoming much harder to identify, and therefore, a new definition is needed.

Today, this need for a new definition is more relevant than ever because service design is forming part, or may even be the core, of specific educational programmes, and service designers are becoming increasingly needed in various areas of our social and economic systems. It is becoming ever more critical to make the profile of a service designer clear, for example, to students in an academic course or for a new position in a professional environment (Ehn et al. 2020). Several different professional profiles are emerging as a consequence of the complexification of societies and economic systems, and this may cause an overlap of different capabilities or create redundancy or friction in the collaboration among different capabilities in professional teams.

In the definition of the core capabilities of service designers and their area of expertise, it is important to pin down exactly what service designers can bring to their professional teams: what can they do? How can they help private and public organisations in their innovation processes? What are the capabilities they will ‘sell’ to their professional partners? What capabilities can be defined as ‘the core’ of the service designers’ expertise? The definition of these capabilities is not only a common concern of service design educators but also a relevant matter for professional consultancies that integrate service design into their organisation, which is another reason why we felt it was important to write this book.

This book also gives us the opportunity to clarify designers’ capabilities in relation to a new perspective that frames the activity of service designers in different areas and levels of intervention. Service design research is shifting the paradigm from a perspective that considers services in relation to goods (and their related production system) to a new perspective that involves different actors in a process of value co-creation. In the new perspective, designers not only design services but also work to facilitate the emergence of design capabilities that are latent in communities and individuals or are inherent properties of contexts (like cities or neighbourhoods). Service designers design with others, for services (or for value creation), and in different logical contexts. Thus, the final aim of this book is to revisit service designers’ capabilities in light of the new roles that have opened up in innovation processes on different scales.

1.2 What Do We Mean by ‘Service Design Capabilities’?

Publications in organisational studies, management, and human resources use terms such as ‘capabilities’, ‘competencies’, ‘skills’, ‘talents’ and ‘ability’, but in most cases, it is difficult to clearly distinguish between them (Teodorescu 2006; Acklin 2013; Delamare Le Deist and Winterton 2005). Of these, the term ‘capabilities’ has the broadest meaning, as it has been used extensively to describe both organisational capabilities (Teece et al. 1997; Zahra and George 2002; Barney 1991, 2001) and an individual capability, in which the latter is seen as involving the confidence to apply knowledge and skills within varied and changed situations (Stephenson and Weil 1992). The body of literature also considers capabilities as linked to the resources that

an individual or an organisation has access to (e.g. financial resources, raw materials, machinery, software applications). In this book, we adopt a clear-cut characterisation borrowed from research in strategy that simply distinguishes between resources and capabilities:

Resources are the assets that organisations have or can call upon and capabilities are the ways those assets are used or deployed. [...] A shorthand way of thinking of this is that resources are ‘what we have’ (nouns) and capabilities are ‘what we do well’ (verbs). Other terms are sometimes used, for example, ‘capabilities’ and ‘competences’ are often used interchangeably. (Johnson et al. 2017, p. 80)

For example, a service designer may have access to resources like funding or a software application to create interactive visualisations or an innovation space where they can invite users to collaborative design sessions. But to use these resources wisely and effectively, the service designer should have the right capabilities: they must know how to make a financial plan for the project, how to use the software application to produce engaging and impactful visualisations, and how to smoothly facilitate a collaborative design process. This is what we refer to when we use the word ‘capabilities’, and this includes a broad spectrum of skills, talent, and specialised knowledge and abilities. In this book, we occasionally refer to competences so as not to overuse the word ‘capabilities’; however, in line with Johnson and colleagues, we mainly use the two words interchangeably.

Within design research, many authors have studied capabilities in design (for some recent examples, see Lin 2014; Mortati et al. 2014; Manzini 2015; Wrigley 2016; Geraghty and Charnley 2016). This book builds on these contributions, particularly the work of Conley (2010). While academic literature has explored capabilities in relation to design more broadly, few studies are exclusively dedicated to examining capabilities in service design (Bailey 2012; Malmberg and Wetter-Edman 2016). This book aims to fill this gap.

1.3 Core Design Capabilities

When working on services, designers should apply a number of capabilities, some of which are typically personal (e.g. empathy, the capability to understand logical or social contexts), while others are generically professional (e.g. business capabilities, organisational capabilities, sensitivity to aesthetics and form). This book focuses on capabilities that specifically involve the design of services. Broadly speaking, these include the capabilities to inquire into context, provide perspectives on possible future situations, and structure design processes. To give an even clearer picture, we include a list of the specific capabilities in focus:

- *Addressing the context*: identifying and responding to relationships between a solution and its context
- *Controlling experiential aspects*: empathising with people and addressing experiential features of possible solutions

- *Modelling*: simulating, visualising and experimenting with possible solutions before all the information is available and using form to embody ideas and communicate values
- *Vision building*: imagining feasible, possible and desirable futures
- *Engaging stakeholders*: initiating and facilitating participatory co-creation processes
- *Working across different logical levels*: shifting from operative levels to different levels of abstraction
- *Building logical architecture*: articulating or identifying logical structures to frame problems and creative activities
- *Open problem solving*: identifying solutions across different logical domains and within uncertain and ambiguous contexts.

Capabilities, such as those listed above, generally refer to different strategies and actions according to different levels of intervention. The same capability will produce different effects and support different strategies depending on whether the designer is supporting people's interaction in the *value creation context* (see Sect. 2.2), designing the structure of a service, or contributing to policies or strategies that aim to change the institutional context.

1.4 The Structure of the Book

This book stems from the experience of the Service Design Lab at Aalborg University, an active research lab based in Copenhagen. Over the past two decades, the lab members have extensively studied and written about service design and directly worked on dozens of service design projects, both large and small. This book was conceived at the intersection of design research and practice and originates from our daily work and attempts to define, characterise, teach and apply service design capabilities with our students and partners. The book is structured into eight chapters:

Chapter 2 specifies the approach to service design that this book intends to propose and introduces the framework used in the chapters that follow to discuss service designers' capabilities. In particular, after an introduction on the nature of services and the evolution of the concept of value creation, three logical levels are presented in which design action is framed: one level that focuses on service as interaction, another level focusing on service as infrastructure, and a final level focusing on service as systemic institution.

Chapter 3 contains a synthetic description of eight core service design capabilities: addressing the context, controlling experiential aspects, modelling, vision building, engaging stakeholders, working across different logical levels, building logical architecture, and open problem solving.

Chapter 4 considers the service design capabilities required at the level of 'service as interaction'. This level concerns the precise moment in which value is created—the moment in which individuals, groups of people, citizens or service beneficiaries (we

use different ways of indicating the main subjects, depending on context) interact with the service infrastructure, with peers, or with technological components, all with the aim of creating value. This is the crucial level of value creation, where the designers' capabilities complement and sometimes support the capabilities or knowledge of others. The capabilities outlined in this chapter indicate a specific design action in relation to the actions of other actors involved in the value co-creation system.

Chapter 5 considers the logical level of 'service as infrastructure'. This is the moment in which the service—in terms of its potential for value co-creation, or its value proposition—is defined through the appropriate ordering of human, organisational and technical factors. In other words, its infrastructure. This is the most familiar area for service designers, as it has been widely researched in the literature and in design education. This chapter highlights the capabilities designers use when designing services and clarifies the specific contributions designers can offer in collaboration with other professionals.

Chapter 6 focuses on the level of 'service as systemic institution'. At this level, the actions of designers are not aimed at defining changes or patterns of change but rather creating mechanisms for large-scale change. The role of designers at this level has not been sufficiently debated. Only in the last few years have designers started discussing their role in defining large-scale design and innovation changes. And despite these new discussions, the role remains unclear—both to other disciplines and the designers themselves. As a result, design action has not specifically referred to such changes except in a few cases where designers have participated in policy-making initiatives or analysed the scalability of local initiatives. Designers' capabilities to work and influence change on this level should be discussed in greater depth; therefore, these capabilities are the focus of this chapter.

Chapter 7 proposes the possible use of the conceptual framework outlined in the previous chapters to navigate the tools and methods available to service designers. This chapter is aimed at supporting designers or design students in building their own *operative paradigm*—that is, their own personal toolbox—on the basis of the levels of intervention and the capabilities they are recommended to use at each level.

Lastly, Chap. 8 presents some concluding remarks. A book can be thought of as a picture in time of a specific knowledge area, but knowledge by its own nature evolves continuously. This chapter offers some brief suggestions about what is beyond the frame of this picture and considers how the whole book can be used as a navigation tool to meet the present and future challenges facing service designers.

1.5 A Final Note About the Aims of This Book

After having outlined what this book is, it is important to explain what this book is not. It should be clear at this point that this book is not a collection of design tools for service designers. Given that the body of literature already proposes an exhaustive number of toolkits, this book aims instead to discuss service design capabilities in innovation processes, although any relevant tools are always mentioned in relation

to specific design capabilities. We also provide references for and more information about each tool when relevant to specific design capabilities.

It should also be noted that, although this book does not intend to position service design within a philosophical and theoretical framework, it is nevertheless grounded in theoretical sources. The authors use these sources in their teaching and research, and it is through drawing from them that this book derives its logical structure.

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