Chapter 3
Core Service Design Capabilities

Abstract This short chapter provides descriptions of service designers' core capabilities. In the chapters that follow, these capabilities are discussed in relation to the three levels of design action.

The three levels for value creation mentioned in the previous session require a specification of the capabilities designers need in order to navigate and effectively work at each of those levels. The discourse surrounding the specificity of design capability is not new. Back in 1990, Cross highlighted the character of design abilities with the aim of enabling design educators to nurture such abilities in their students (Cross 1990). This is part of a wider debate on the foundation of design competences, started by the same author (Cross 1982) and aimed at qualifying design as a coherent discipline of study, clearly distinguished from areas related to scientific knowledge and humanities. The debate focused on the nature of design knowledge with the aim of defining the fundamental idea for a design culture (Nelson and Stolterman 2012). Although relevant for this debate, design practice was not its main focus because the aim of those studies was mainly to define the discipline. Design capabilities are instead more systematically investigated by Conley (2010), and in relation to service design, by Bailey (2012) and Malmberg and Wetter-Edman (2016). The original characterisation provided by these authors has been readapted in relation to the theoretical considerations presented in the previous chapter.

Addressing the context Every value co-creation action happens in a context, and it relates to the material and immaterial conditions of the context and the relation any solution can have within such a context. Analysing and understanding the context is usually the first action designers undertake in a design process. This analysis involves both the relationship between the individual and physical contexts, which concern individual attitudes, routines and behaviour. The analysis also examines the relationship between the individual and the socio-technical context, which focuses on social or technical knowledge, practices and shared problem-solving strategies.

Controlling experiential aspects This capability refers to the relationship between designers and those they work for. It concerns the knowledge designers have about the people involved in a service. Such knowledge usually goes beyond the mere

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information about their needs or attitudes, implying that designers empathise with those people and deeply understand not only their routines, practices, attitudes and current needs but also the experiential quality a new solution would imply for them.

Modelling Modelling refers to designers' capability to simulate, visualise and experiment with possible solutions before all the information is available. Modelling and visualisation tools, such as visual representations or prototypes, are particularly powerful in the early phases of design processes when there are not enough elements to foresee a solution or even to frame the problem in a manageable way. The core capabilities of designers in this regard are not related to the fidelity of the model but rather to the quality of the knowledge a model can produce. For this reason, modelling can be used as an analytical tool (to create a model of a problem) or as a facilitation tool—a boundary object (Star and Griesemer 1989) that supports the interaction of key stakeholders in a service.

Vision building is a key characteristic of design activity. It consists of the capability to envision possible futures—however far in time and broad in scope they may be—and create consistent and structured visions of what that future could look like. The visions may consist of different kinds of representations, from simple narratives to complex scenarios, and from visual representations to simulations and prototypes.

Engaging stakeholders The process of value co-production is intrinsically based on the participation of an ecosystem of stakeholders. In particular, the service customer is always a value co-producer (Vargo and Lusch 2004, 2008). Designers have to be capable of identifying, mapping and engaging the stakeholders who will be part of the value co-creation process and to initiate and facilitate the process of value co-production. Such engagement will either lead to the direct involvement of some key stakeholders (e.g. the service beneficiary) in a co-design process for the definition of new solutions or to the creation of facilitation objects, mechanisms, and infrastructures that mediate and facilitate the process of value co-production.

Working across different levels of abstraction The operative context in which designers work often requires shrinking the focus of a designer's action to the minimum details of a service; however, actions and functionalities in services need to be codified and made accessible in different contexts and situations. This implies that designers should be able to take care of details and to abstract, which involves reducing the details to find broader frameworks to address the stakeholders' interaction in the service. This capability is also useful for understanding how even a minimum number of actions in a service can imply or generate broader systemic changes and institutional transformations.

Building logical architecture While the experience of a service may sometimes seem simple and linear, service design solutions often require that the organisation has complex logical and human technical and managerial structures. Such structures may be clearly visible in an organisational diagram but may also be articulated in a complex logical architecture, which also has institutional and socio-technical

Table 3.1 Descriptions of the design capabilities highlighted in this chapter

Name of the capability	General description
Addressing the context	The capability to identify and respond to relationships between a solution and its context
Controlling experiential aspects	The capability to empathise with people and address experiential features of possible solutions
Modelling	The capability to simulate, visualise and experiment with possible solutions before all the information is available, using form to embody ideas and communicate values
Vision building	The capability to figure out coherent possible futures
Engaging stakeholders	The capability to initiate and facilitate participatory co-creation processes
Working across levels	The capability to work through different levels of abstraction
Building logical architecture	The capability to articulate or identify logical structures to frame problems and creative activities
Open problem solving	The capability to identify solutions across different logical domains and within uncertain and ambiguous contexts

implications. The designer's capability in this respect consists of identifying the elements of such structures and finding ways for such elements to interact and work together.

Open problem solving As mentioned in the previous chapter, we are assuming that, in most cases, service designers operate in an open-ended context. As a result, contexts are weakly defined—with change outside the control of designers, or in fact, any individual actor. Instead, they are the result of interaction and negotiation among different actors. This requires the designers to conceive of solutions that need to be completed in the moment and context of value co-production. The output of designers' activity should be seen as a framework for possible solutions rather than a solution per se.

Table 3.1 summarises the capabilities described in this chapter. The logical levels outlined in the previous chapter involve different perspectives and challenge designers' capabilities in different ways. For instance, when working on services interaction, designers are required to use their capabilities to support or provoke value creation processes, and when organising services as infrastructure, designers use their capabilities to manage resources, knowledge and time sequences. Finally, when working at the institutional level, designers' capabilities are used to propose possible scenarios and link different changes. The chapters that follow will focus on the way designers' capabilities can be used at each logical level.

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