# EMOTIONAL SKILLS FOR SERVICE DESIGNERS IN CO-CREATION PRACTICES

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LAPIN YLIOPISTO
UNIVERSITY OF LAPLAND

Rovaniemi 2021

For all those who decide to follow the path of emotions

## Abstract

Emotional skills for service designers in co-creation practices

Services are strongly linked to the economies of all countries and to satisfying the needs of the citizens who inhabit them. Service design addresses the challenge and complexity both in the size of each project and in the experience of people interacting with a service. Co-creation, as an essential practice, transforms the service designer into a facilitator of the convergence of diverse perspectives in a common and creative environment. Service design and co-creation have a strong connection in carrying out projects where the encounters of people with their experiences and expectations demand specific skills from facilitators. However, the most highly developed skills at present are those related to the management of methods and tools focused on obtaining results consistent with project objectives. Although that is not a negative aspect in any way, it is undercut by the lack of preparation in skills that allow the facilitator to set up co-creation experiences which are driven by emotions.

The purpose of this study is to identify emotional skills and how they become meaningful support for service designers during co-creative practices. Therefore, it is essential to broaden the understanding and knowledge of emotions in service design and in the facilitation of co-creative instances. In this mixed methods study and its four sub-studies, I delve into the concepts associated with the primary purpose. First is an initial exploration to understand the possibility of the impact of service design in two projects at the country level developed in Chile (sub-study I). The second study seeks to understand emotions from the perspective of the facilitators and participants in co-creative workshops carried out in Sweden, Estonia and Finland (sub-study II). The third discovers the emotions that experienced service designers identified in a completed project and specifically in their role as facilitators in co-creation workshops (sub-study III). Finally, I analyse a case of building a community through service design methods, highlighting the skills of the facilitators at defining an atmosphere of inclusive and respectful interaction (sub-study IV).

Sub-study I used two cases to explore and analyse the potential understanding of co-creation as a temporarily emerging community which has the challenge of representing the largest possible number of citizens. Sub-study II revealed the limited knowledge of emotions during co-creation workshops. Although the responses obtained in that study generally coincided with one another, they described different intensities, which could mean a different emotional perception in each case. Sub-study III showed a lack of precision in distinguishing among emotions, both in the process and in carrying out a co-creative workshop, and a strong connection

between the intensity and variability of the emotional experience with interactions with others. Sub-study IV identified the value of co-creation when conceived as a community highlighting the influence of dialogue, for which the service designer must have skills suitable to meeting the challenge at hand.

This study proposes co-creation as an environment where a community emerges, a community which talks, listens, expresses, shares and agrees according to the common purpose. Co-creation with an emphasis on community requires facilitators with emotional skills that allow them to connect with people and be part of that dialogue. Three emotional skills to support facilitators in co-creation practice were identified: embodied knowledge, emotional awareness and collective spirit. The three skills converge through emotions as a common axis. Future research will focus on defining the training of these skills and their specific connection to boosting well-being perception among both people involved in the process and in all users of the service.

**Keywords:** service designers, emotions, skills, co-creation, community

## Tiivistelmä

Tunnetaidot palvelumuotoilun yhteiskehittämisen käytännöissä

Eri maiden palvelut riippuvat niiden taloudellisesta tilanteesta vastattaessa kansalaisten tarpeisiin. Palvelumuotoilulla voidaan kiinnittää huomiota palveluja käyttävien ihmisten kokemusten kirjoon. Yhteiskehittäminen on käytännön menetelmä, jossa palvelumuotoilija muuntuu fasilitaattoriksi pyrkien yhdistämään eri näkökulmia ja painotuksia tähdäten luovaan yhteiseen toimintaympäristöön. Yhteiskehittämisessä ihmisten erilaisten kokemusten ja odotusten kohtaaminen vaatia fasilitaattorilta erityistaitoja. Nykyisin palvelumuotoilussa erityisen painoarvon saavat sellaiset menetelmät ja työkalut, joiden avulla saavutetaan asetetut tavoitteet. Tässä toiminnassa ei sinänsä ole mitään väärää, mutta huolta voi kantaa siitä, ettei huomiota kiinnitetä riittävästi fasilitaattorin tunnetaitoihin eli niiden taitojen kehittämiseen, joiden avulla fasilitaattori voi kohdata ja käsitellä osallistujien tunnepohjaisia kokemuksia palvelumuotoilun yhteiskehittämisessä.

Tämän tutkimuksen tarkoituksena on kuvata palvelumuotoilijan tunnetaitoja sekä niiden merkitystä yhteiskehittämisen käytännöissä. Tutkimuksella halutaan lisätä tunteita koskevaa tietoa ja ymmärrystä palvelumuotoilussa ja sen fasilitoinnissa yhteiskehittämisen tilanteissa. Tutkimus on otteeltaan monimenetelmäinen ja siinä on neljä osatutkimusta. Ensimmäisessä osatutkimuksessa tarkastellaan palvelumuotoilun mahdollisia vaikutuksia kahdessa kansallisen tason projektissa Chilessä (osatutkimus I). Toisessa tutkimuksessa kuvataan Ruotsissa, Virossa ja Suomessa järjestettyjen yhteiskehittämisen työpajojen fasilitaattorien ja osallistujien tunteita (osatutkimus II). Kolmannessa osatutkimuksessa keskitytään palvelumuotoilijoiden tunnistamiin tunteisiin fasilitaattorin roolissa yhteiskehittämisen työpajoissa (osatutkimus III). Lopuksi kuvaan tapaustutkimusta, jossa tutkittavaa yhteisöä rakennetaan palvelumuotoilun menetelmin painottaen fasilitaattorin taitoja muodostaa inklusiivinen ja keskinäiseen arvostukseen nojautuva ilmapiiri (osatutkimus IV).

Osatutkimukseen I kuului kaksi tapausta, joiden avulla analysoidaan mahdollisuutta ymmärtää yhteiskehittäminen väliaikaisesti muodostuvana yhteisönä, jonka haasteena on edustaa mahdollisimman suurta osaa kansalaisista. Osatutkimus II toi esiin rajalliset tiedot tunteista yhteiskehittämisen työpajoissa. Vaikka tutkimuksessa saadut vastaukset olivat yleisesti ottaen samankaltaisia, niissä kuvatut eri intensiteetit voivat osoittaa tunnehavaintojen tapauskohtaisen eroavuuden. Osatutkimus III osoitti yhtäältä fasilitaattorien vaikeuden erottaa eri tunteita yhteiskehittämisen työpajoissa. Osatutkimuksessa IV tunnistettiin

yhteisön yhteiskehittämisen kannalta arvokkaaksi dialogi sekä palvelumuotoilijan taidot vastata sen vaatimuksiin.

Tämä tutkimus nostaa esiin yhteiskehittämisen ympäristönä, jossa yhteisö puhuu, kuuntelee, tuo julki, jakaa ja sopii asioista yhteisesti yhteisen päämäärän hyväksi. Yhteisöllisyyteen painottuva yhteiskehittäminen edellyttää fasilitaattoreita, joilla on hyvät tunnetaidot. He osaavat rohkaista ihmisiä keskinäiseen kanssakäymiseen ja osallisiksi dialogiin. Tutkimuksessa nousi esiin kolme fasilitaattorin käytäntöä tukevaa tunnetaitoa: kehollinen tieto, tunteiden tiedostaminen sekä yhteishengen luomisen ja ylläpitämisen taito. Jatkotutkimuksena kiinnostavaa olisi tarkastella sitä, miten näitä taitoihin koulutetaan ja miten ne voidaan kytkeä palveluja käyttävien ihmisten hyvinvointiin.

**Avainsanat:** palvelumuotoilijat, tunteet, taidot, yhteiskehittäminen, yhteisö

# ACKNOWLEDGEMENTS

The emotions related to gratitude are among my favourites. I feel satisfaction over what has been achieved and enjoy tracing all those who generously contributed in various ways to make the present so splendidly magical. I begin by thanking my first supervisor, Dr Satu Miettinen, who inspired me to undertake this study and to travel from Santiago de Chile to Rovaniemi, Finland's Arctic Circle city. From the first day I met her, I knew that her kind and creative vision of service design would be an essential contribution to studying emotions in depth; during our years together, I never ceased to admire her comprehensive and subtle vision. In addition, my project received the kind and motivating contribution of Dr Kaarina Määttä; all her words were an injection of vital energy to finish writing this dissertation. This project was guided by a third supervisor, Dr Katherine Mollenhauer, who believed in my project from day one, accompanying the entire process with her experience and remarkable track record in the precision of research methodologies. This project would not be the same without the guidance of these three wonderful women.

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This dissertation would not have been possible without the co-authors of the sub-studies; I was fortunate to write with Caoimhe Isha Bealué, Mira Alhonsuo, Enni Mikkonen, Melanie Sarantou, Satu Miettinen and Katherine Mollenhauer, each of whose contributions was valuable and significant both in the results achieved in the various articles and for the nourishing experience of working collaboratively with such talented professionals.

I am deeply grateful to the talented Chilean professionals who have had a strong influence on my design journey from a broader, holistic, scientific and spiritual perspective. I especially acknowledge Susana Bloch, who is widely cited in this research for her great contribution to the knowledge of emotions through the Alba Emoting System and because knowing her work powerfully influenced my decision to investigate the study of emotions and its relationship with design.

The years of development of this research have been a wonderful experience of professional and personal growth. Living and studying in such a different culture has been a tremendous opportunity for deep learning in so many areas, which without a doubt has left a wonderful and indelible mark on me. Rovaniemi is a friendly, quiet and respectful city; I value the unique experience that I had in my relationship with the forests, the northern lights, the snow, the *ruska* and the *laavus*. Even more, I appreciate the people who became my family here and on whom I relied, especially during the difficult year of the pandemic. Thanks to Mira Alhonsuo for welcoming me as a sister and making my arrival and stay so kind and loving, thanks to Caoimhe Isha Bealué and Mattieu Côté-Demers for hugging me every time I was fragile and for all our complicit and loving conversations, and thank you to Mari Suoheimo, Maileena Tuokko, Essi Kuure and Melanie Sarantou for many inspiring conversations and kind affection. Thanks to my friends from Chile who accompanied me, celebrated my achievements and held me back when nostalgia appeared; special gratitude goes to Carolina Cádiz, Daniela Martinez, Sandra Aedo, Mariana Kaplún, Paola Jabes, Cristian Valderrama, Ricardo Alfaro, David Lois and Maximiliano Javier Figueroa. I value the company of each of you so much and, in a study that involves emotions, the importance of emotional support becomes even more significant.

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for the sweetness and love that always comforted my heart; I hope in some way to inspire a passion for learning in every path they decide to follow as they grow up.

For emotion-driven research, this section is vital because emotions are the mark of our experience and the people who accompany our paths are decisive in how we live life. Thank you to all who have accompanied me before and during this research because what I am today is thanks to everything I have learnt while going through this life with you.

Thank you, Kiitos, Gracias
Mariluz Soto Hormazábal
Rovaniemi, November 2020

## List of Original Articles

This doctoral dissertation is based on the following four original peer-reviewed articles labelled with Roman numerals (I–IV); I detail my participation in each case. All sub-studies were peer-reviewed and accepted; sub-studies I, II and III have been published, while sub-study IV is in press.

I. Mollenhauer, K., & Soto M. (2019). From citizens to community: The complexity in the context and the transformation and the challenges of modernising Chilean services. In S. Miettinen & S. Melanie (Eds.), *Managing complexity and creating innovation through design* (pp. 190–205). Routledge.

I had primary responsibility for this article; I defined the general topic and structure and wrote the main part of the text. I defined the methods and analysed the results and also defined the main findings and topics to discuss. This article was ranked Jufo 3 according to the Finnish Publication Forum.

II. Soto, M., Beaulé, C., Alhonsuo, M. & Miettinen, S. (2020). Emotions: The invisible aspect of co-creation workshops. In J.-F. Boujut, G. Cascini, S. Ahmed-Kristensen, G. V. Georgiev, & N. Iivari (Eds.), Proceedings of The Sixth International Conference on Design Creativity (ICDC 2020) (pp. 192–198). The Design Society. https://doi.org/10.35199/ICDC.2020.24

I had primary responsibility for this article. As this article is part of my data, I defined the general topic and structure and wrote the main part of the text. I defined the methods and analysed the results. I also defined the main findings and topics to discuss. This article was ranked Jufo 1 according to the Finnish Publication Forum.

III. Soto, M., Mikkonen, E., & Miettinen, S. (2020). Emotions and the service designer: A relationship uncovered. *Diseña*, *17*, 148–169. https://doi.org/10.7764/disena.17.84-105

I had primary responsibility for this article. As this article is part of my data, I defined the general topic and structure and wrote the main part of the text. I defined the methods and analysed the results and also defined the main findings and topics to discuss. This article was ranked Jufo 0 according to the Finnish Publication Forum.

IV. Soto, M., Mollenhauer, K., Miettinen, S., & Sarantou, M. (2020, in press) Building a community through service design and responsiveness to emotions. In T. Seppälä, M. Sarantou, & S. Miettinen (Eds.), *Arts-based methods for decolonising participatory research*. Routledge.

I had primary responsibility for this article, in which I defined the general topic and structure and wrote the main part of the text. As I worked on the project presented in the article, I collected the data and analysed the results. I also defined the main findings and topics to discuss. This article was ranked Jufo 3 according to the Finnish Publication Forum.

The sub-studies I, II, III and IV articles are reproduced in Appendix 7 with the kind permission of their original publishers.

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# 1 INTRODUCTION

Services have clear relevance in today's world; indeed, some of the most developed countries have economies based on services (Ostrom et al., 2010). Service design reviews experiences and crafts solutions for people in their particular and complex contexts. It makes understandable the complexities of a project (Miettinen, 2017) and keeps the entire service logical and of genuine quality (Simons & Bouwman, 2005). Service design borrows from different perspectives, tools and methods (Sangiorgi & Prendiville, 2017) to improve a project's process and outcomes. Furthermore, user participation in designing services is an essential feature. Co-creation is defined by Sanders and Stappers (2008, p. 6) as 'any collective creativity' where people co-design, even if they are not designers. Earlier, Prahalad and Ramaswamy (2004) argued that value should be created with people, giving full consideration of their uniqueness and the active role of each person. Therefore, co-creation can be an active tool for transformation and change (Kuure et al., 2014) and has an impact on the dialogue of community members in seeking to define the personal, social, economic and political aspects of where they live or work (Kuure, 2017).

Co-creation is the encounter of collectiveness and creativity, both of which are intrinsically collaborative. Collaboration is connected to service design through the practice of co-creation and specifically as a way to involve and engage users and stakeholders in the entire process and as a motivation to enable active participation in issues affecting society (Corubolo et al., 2018). Creativity integrates people and the sociocultural context (Csikszentmihalyi, 2013) in a constant interaction between every individual and his or her experience. Collectiveness and creativity link more concepts related to experience, such as community and flow, each of which highlights different attributes of people's encounters. In a collective and creative environment, one of the major challenges is the emotional flux that runs through the entire process.

Emotions as biological responses to stimuli (Frijda, 1986) have a connection with 'action readiness' by preparing a type of answer based on the situation (Frijda, 1988). In the cognitive aspect, emotions link the response from the mental connection with the specific behaviour (Izard, 2009); some are found universally, such as facial expressions (Ekman, 1971) and differences in breathing intensity (Bloch, 2008). In design, emotions have been studied in their relations with object, products and technology, with Desmet (2002) arguing that the interactions between people and products and thinking about a product can trigger emotions. In addition, interactions in a specific situation and daily experiences can influence emotions

as an inspirational component (Mattelmäki et al., 2014); emotions also influence interactions with others and with the general context, including its social, cultural and environmental aspects (Mikkonen, 2017).

Co-creation is an encounter with two specific aspects where emotions are one of the golden threads: on one hand, the community gives its members a sense of togetherness in their natural exchanges (Tolosa, 2013), and on the other is the positive experience of people's interactions or flow (Csikszentmihalyi, 2008). Therefore, the facilitators of co-creation workshops should have specific skills to ensure a positive participant experience by creating a sense of togetherness and by optimising interaction to allow the flow of collective creation.

Many authors have sought to define service design (Blomkvist & Holmlid, 2010; Meroni & Sangiorgi, 2011; Miettinen, 2017; Miettinen & Valtonen, 2013; Sangiorgi & Prendiville, 2017; Stickdorn & Schneider, 2011). There are also several books about service design's methods and tools (Curedale, 2013; Polaine et al., 2013; Stickdorn & Schneider, 2011; Stickdorn et al., 2018a, 2018b) and a considerable number of articles about the emotions of users or consumers in their experience with services; however, there are fewer publications about service designers' emotions, even though they are responsible for the entire project and specifically the co-creative workshop's success. Studies of emotions have focused mainly on service outcomes, on the relationship between a service and its users and consumers. The role of emotions during the process and among service designers as facilitators of the whole project has received much less attention. It is understandable that people think they know about emotions because they experience them throughout their lives, but in a project context, precision in assessing emotions is often lost in determining who should identify them. This precision requires skills and training to observe and distinguish among emotions.

Commonly, the purpose of co-creation workshops in a service design context is to obtain answers, confirmations and validations of the previous stages of a project and to gain some insights into its next steps. Therefore, it is valuable have a clear plan and specific tools and methods to use, which puts all the effort into that part of the process without service designers' having any particular training in the emotional aspects of the encounter. However, co-creation as a highly interactive environment merits special attention to emotions, and training in emotional skills can help identify and manage one's own and others' emotions and foster an optimal collective process (Troth et al., 2012).

As explained above, the service design process mainly deals with people involved in different parts of a project or the project in its entirety. Co-creation, as a common practice in service design projects, has different challenges which require a wide range of understanding from the facilitator. In general, all people have previous experiences that define the way they face a specific situation (Tolosa, 1999) and how they behave, think and feel (Tolosa, 2013). Therefore, co-creation faces the challenge

of including the understanding that people arrive at a co-creation workshop with a set of previous experiences which might influence the opening mood of the encounter; this can offer facilitators an extra sensitivity to manage the situation. There are also external factors influencing the experience in a co-creation workshop, such as the perception of the workload, the room or place conditions (spacious, light or gloomy, wall colours, smells, type of floor, type of furniture, etc.), auditory perceptions (e.g. traffic noise, silence, or music), the surrounding environment (e.g. city centre, in the middle of nature, difficult or easy to reach, at the top of a building, or in a house with garden), the amount and length of breaks and the type of food served during the workshop. It may seem obvious, but it is still necessary to emphasise that the interactions between people also present important challenges, especially considering that co-creation requires those interactions and that emotions are the invisible interlacing that drives, strengthens or blocks them.

Service design projects make the connection between situations and people's experience; they seek to discover ways to improve that experience through transforming a service or creating a new one. Because service design uses co-creation as a practice to listen to and create with users and stakeholders, service designers have to develop and strengthen skills to boost dialogue, foster a creative environment that increases trust and confidence and deal with all external factors that can contribute to or interrupt the flow. People commonly refer to empathy when someone can feel others' emotions. This view approaches 'cognitive empathy', which refers to the ability to perceive and process others' emotions with accuracy (Maibom, 2017). In service design, cognitive empathy is a popular concept that can seem like a 'must' for facilitators, but there is neither a deep understanding of nor clear guidance about how to develop that ability. However, there is a lack of scholarship on emotions for service designers; although their performance depends on their knowledge of methods and tools and their personal skills, they do not have meaningful support to develop emotional skills.

The purpose of this study is to broaden the understanding and knowledge of emotions in the service designer's role as a facilitator; therefore, the main question of this study is, 'How can emotional skills support service designers and strengthen their role in co-creation practices?' This article-based thesis answers this question through four articles, each investigating two specific questions, and this synthesis. The articles are detailed in chapter 3.

As co-creation is an essential part of the entire project, the contribution of this thesis is to expand and make visible the emotional skills that service designers should develop and strengthen when carrying out workshops with co-creative characteristics. The role of the service designer as facilitator in co-creation workshops is essential to generating an optimal experience both in the perception of the participants and in the achievements obtained, which are a true reflection of opinions shared and of collective creation.

This study is based on the perspective of head, heart and body called the 3C's trilogy – for its initials in Spanish (Tolosa, 2008) – which was developed more than 20 years ago and has been used in a wide range of projects in many Latin American communities. This approach contributes to understanding people's emotions in a broader context than simply the experience of feeling; rather, emotions are situated in relation to behaviours and cognitive aspects of knowledge, including beliefs. With this research, I propose a new emphasis to go further along this perspective, towards an understanding of the emotions present in those areas where, most of the time, they are completely ignored, even though emotions have a powerful influence on those areas.

Although this doctoral study began in 2017, the journey of reflection that underpins this research began more than 10 years ago, when I started working with the author of the 3C's trilogy, which was then being applied in projects involving communities of different types and sizes in Chile and elsewhere in Latin America; most of these projects were carried out using co-creative practices. At the same time, I was amazed by the work of Susana Bloch, a Chilean psychologist who created the Alba Emoting System, which focuses on identifying and managing emotions through breathing. I learnt and applied the trilogy on practice with a design and emotions emphasis. Therefore, after years of professional experience in such diverse projects, I have identified some essential aspects of facilitating co-creative processes and the concrete influence of emotions as of significant value in the projects in which I participated. Service design began to have an influence on my reflection and practice during my master's studies. All my previous professional and academic experience shaped this study's focus on the emotional skills needed to support service designers in their role as facilitators.

The last part of this study was developed during the COVID-19 pandemic, which revealed new challenges in how external factors can influence people's emotions, how important emotions are and how services should consider them to face various contingencies.

# 2 Theoretical background

## 2.1 Emotions and service design

### *2.1.1 Emotions*

Emotions have gained importance through the years. More than thirty years ago, Frijda (1988) wrote that 'things have changed over the last 10 or so years. Emotion has become an important domain with a coherent body of theory and data' (p. 349). Emotions as a complex topic cannot be reduced to an easy, single definition; there are many definitions that reflect different fields and practices.

That emotions are present in design is beyond dispute, but they have not been studied in their relation to service designers. Emotions have been widely and deeply explored in multiple disciplines, including psychology, sociology, education, medicine, business, technology and product design. Scholars have researched emotions from multiple perspectives – to understand their nature (e.g. Csikszentmihalyi, 1990; Frijda, 1986, 1988; Izard, 2009; Plutchik, 1984), as a force for social change (e.g. Doetsch-Kidder, 2012; hooks, 2003; Mikkonen, 2017), as visible expressions of facial gestures (e.g. Ekman, 1971, 2004) and breathing intensity (e.g. Bloch, 2008), via their interaction with product design (e.g. Desmet, 2002) and in relation to human–technology interactions (e.g. Norman, 2004).

One perspective on emotions has a long history: evolution, with Charles Darwin (2014) having argued for the functional connection of emotions with survival in both humans and animals. From this perspective, researchers in psychology developed a fundamental comprehension about how emotions arise (Bloch, 2008; Ekman, 1971; Frijda, 1986, 1988; Izard, 2009). The evolutionary perspective divides emotions into two categories: *basic or primary* and *complex or complementary*. Basic or primary emotions are those that are essential for survival (Bloch, 2008), represent our basic needs (Plutchik 1984) or are universal or at least easily identified regardless of culture (Ekman, 1971); complex or complementary emotions combine two or more basic emotions and are defined by the culture in which they appear (Bloch, 2008). Even those researchers who have developed their research from this perspective have differences in the emotions they consider basic. Ekman (1971), for example, identified fear, anger, happiness, sadness, disgust, surprise and interest as the seven basic emotions, whereas Plutchik (1980) defined eight: fear, anger, joy, sadness, disgust, surprise, curiosity and acceptance. Bloch (2008) found six – fear, anger, joy, sadness, erotic love (e.g. couples) and tender love (e.g. maternity) – and Izard (2009) enumerated eleven: fear, anger, joy, sadness, disgust, shame, guilt,

interest, contempt, in love and attachment. As Desmet (2002) explains, there are advantages and disadvantages of each perspective, although all four authors he analysed (Ekman, 1971; Izard, 1977; Plutchik, 1984; Tomkins, 1984) identified more unpleasant emotions than welcome ones. However, of the four authors analysed in the present study (Ekman, 1971; Plutchik, 1980; Bloch, 2008; Izard, 2009), there is only a minor tilt towards emotions that could be considered unpleasant. In addition, some researchers regard the very notion of 'basic' emotions as reductionist because it tries to group several complementary – and highly nuanced – emotions under the umbrella of basic emotions (Parrot, 2010).

Although one could add more perspectives that understand and apply the concept of emotions with different emphases, the present study does not aim to theorise exhaustively about emotions but rather to bring the concept closer to service design and examine how it can contribute to the performance of professionals in that field. In this sense, the perspective of basic and complementary emotions contributes to bringing the concept closer to practice among professionals who are not specialised in emotions.

Addressing emotions in design is also complex; as Desmet (2002) explains, emotions are triggered by interactions with an object and interactions between people around an object. While this may sound difficult to understand in theory, Desmet explains that the interaction triggered by the presence of an object is not only direct (e.g. touching, looking at or using the object) but also by what the object represents (e.g. memories or associations with other objects, situations or even people). In addition, it is possible to identify emotions in human–technology interaction which are triggered by conscious, unconscious and automatic responses (Norman, 2004). Both in the interaction with an object and with technology, a situation is configured in which emotions arise. In service design, that interaction always involves human beings' interaction with other humans, with other non-human beings and with objects, whether through technology or without it. Therefore, the social and relational aspects of emotions are relevant not only between people but also with the environment (Mikkonen, 2017).

## 2.2 Service design

Service design has rapidly found itself deployed as a method for developing services in the industry due to its ability to combine the cultural and social factors behind human interactions (Clack & Ellison, 2018). In addition, service design and its human-centred methods can be a catalyst for organisational change and transformation (Junginger, 2015) and for learning (Kuure et al., 2014). The focus on service design is the creation of 'logical, desired, competitive and unique' experiences, but this creation is – in concert with the users (Miettinen, 2017, p. 4) – intended to strengthen the

entire design process. Discussion of emotions in service design can concern the service experienced or its final design; they do not necessarily occur during the process itself. Service design in both its user-centred design or participatory design approaches (Sanders & Stappers, 2008) incorporates the participation of the user throughout the process before the result is finalised; therefore, from this moment, the understanding of the service is being modified. The emotions that arise in this interaction allow an optimal environment to determine the flow of collaborative creativity, which influences the design or modification of the service. Service design uses methods and tools to boost collaboration to achieve the participation and integration of different stakeholders throughout the process in a single place (Sangiorgi & Prendiville, 2017). In service design processes, users and other stakeholders are involved in co-creating new service or product solutions through their experiences.

Service design has the possibility of generating the conditions for positive emotions to emerge in the diverse interactions that define an experience. Moritz (2005) describes service design as a field that integrates different perspectives and disciplines with a holistic approach to innovate and improve services. Even with all the integrating characteristics of everyone who participates in a service, the human-centred design perspective has been criticised for its anthropocentric characteristics (Acosta & Romeva, 2010). These criticisms are directed largely at approaches that consider the needs of people while downplaying or even ignoring the impact of their interactions on the environment.

Within the service design process, emotions are not only experienced when using the service in its final version; in fact, most service design processes also involve users and different stakeholders triggering various emotions throughout the process. Previous experiences can determine the emotionality of the present, and emotions that occur in current experiences can influence future emotions (Soto, 2018b). Experiences are influenced and determined by a number of factors. According to Tolosa (2008), the 3C's trilogy can help understand people at three levels, organised under their initials in Spanish: *Cabeza* (head), which involves mental representations like language, ideas and beliefs; *Corazón* (heart), where the emotions, feelings, emotional states and attitudes are identified; and *Cuerpo* (body), which is related to behaviours like actions, gestures and senses. This trilogy offers great potential for analysing the particular and general contexts of an experience and identifying the variables that influence those contexts.

Emotions in service design can be related to those emotions that arise in the interactions between people and in people with all the factors that influence their environment. The complexity of emotions in an interactive environment is given by a set of factors related to present perceptions, with people's judgements depending on their previous experiences. The visceral level is the most primitive part of the brain, and it reacts positively or negatively to environment stimuli like temperature, lights, colours, smells and shapes (Norman, 2004).

## 2.3 Emotions and co-creation in service design

### *2.3.1 The role of service designers in the design process*

Co-creation as a commonly used practice in service design allows the understanding of the service from the experience of all participants. Co-creation, like 'any act of collective creativity' (Sanders & Stappers, 2008, p. 6), involves the relationship between participants and facilitators. According to Greenhalgh et al. (2016), there are three principles for a successful co-creation process:

> (1) a systems perspective (assuming emergence, local adaptation and nonlinearity); (2) the framing of research as a creative enterprise oriented to design and with human experience at its core; and (3) an emphasis on process, including the framing of the program, the quality of relationships and governance and facilitation arrangements, especially power-sharing measures and the harnessing of conflict as a positive and engaging force. (p. 418)

Social, communication and empathy skills are the basis for conducting co-creative processes in the prototyping of services (Miettinen et al., 2014). The service designer's role has changed and requires specific skills to conduct the design process so as to integrate users and other stakeholders. In practical terms, service design integrates different perspectives, methods and tools to create or improve existing services. There are various alternative names for a facilitator, including curator, metadesigner and negotiator (Teder, 2019).

The role of service designer has an operational and strategic component in which skills as a communicator and facilitator of the entire process are essential (Miettinen et al., 2014). The facilitator guides a group of people to diminish the possibility of issues arising among the group (Justice & Jamieson, 2006). The values of facilitation can include the empowerment of participants to solve problems themselves and democratic decision making, equality and inclusion (e.g. Hogan, 2007; Webne-Behrman 1998). Participants can be engaged in the process and collaborate through different facilitation methods and techniques (Hogan, 2007).

Service designers fulfil the facilitator's role in the co-creation process, in which they have to guide and moderate the conversation. Co-creation seeks to engage stakeholders and provide them with the tools for learning and transformation (Collins & Ison, 2009). A service designer is also responsible for generating a comfortable atmosphere based on trust where everyone's opinion is respected and valued. Finally, the service designer must integrate all comments, suggestions, contributions and ideas, establish consensus and finally produce results in which everyone feels represented; skills related to emotions that help identify different elements and factors that could influence the definition of and interactions within a situation can be vital in helping the service designer achieve those goals.

### *2.3.2 Emotions and collective creativity*

According to the user-centred and participatory approach (Sanders & Stappers, 2008), the experiences of participants are one important focus of service design. In workshops or team groups, facilitation works as a driver for change; therefore, its role in those collaborative activities is essential for service design to trigger change or transformation (Kuure et al., 2014). Service designers must develop or strengthen specific skills to provide the optimal environment for carrying out the workshop, maintaining its purpose and encouraging co-creation. Those skills include the ability to understand and consider emotional experience – both the designer's and the users' – from a multidimensional perspective that moves beyond a merely reactive response (Hekkert & McDonagh, 2003).

In any interaction between people, emotions will always be present to a greater or lesser extent. The perception of others and the self is constantly evolving with an a rapid, unconscious evaluation of the situation. The challenge is greater when, as part of their interaction, people are supposed to be creative and to create with others. Creativity appears when people feel part of something or feel secure and safe in expressing themselves; the environment also contributes to allowing the flow of creation with some visual support and conditions to make the experience more comfortable. The interactions between people are among the most important aspects to enabling participants to feel free to add their input to the collective creation. In service design, co-creation is very common and usually occurs in a workshop environment. In this case, it is important to add facilitator guidance and workshop structure to the creativity boost list.

A facilitator, as the name suggests, is a person who facilitates an interaction by making it easy to follow, understandable and integrative of the different perspectives of all people involved. The facilitator is responsible for the process, the participant experience and the outcomes. The facilitator's tasks include unblocking everyday conditions that may impede the process and of which the participants themselves may be unaware (Raelin, 2012). As to creativity, the facilitator contributes to boosting creativity through establishing a clear structure for the workshop, making all participants comfortable with the process and ensuring that they feel heard. In co-creation, it is therefore essential that the participants feel free to express themselves and can depend on their input being accurately integrated into the outcome.

Emotions are relevant in creativity because an optimal experience can make a significant connection to building something with others and feeling like part of that creation. Positive emotions contribute to creativity and build a commitment to the process within which not only happiness-related emotions emerge, but also those that fuel enthusiasm and the shared challenge of going further than expected. Positive emotions flow in this present space; they also have a component of permanence in the memory of those who experience them, influencing the perception of the collective creation carried out and the ensuing activities that each

person experiences. A good experience contributes to collaborative creation and to the perception of well-being; therefore, the impact of what happens in a workshop, for example, can be much more significant than simply the encounter itself.

As explained above, creativity can be driven or blocked by interaction between people and by the environment. In interactions between people, there are different kinds of exchanges that define the relationship and their perceptions of being together (Tolosa, 2013). The relations within a workshop environment will be mediated by the facilitator, who should have the necessary skills to respond to any situations that may arise. The skills related to communication for service designers are relevant to driving the process (Miettinen et al., 2014) and making things happen. Dialogue is a crucial communicational skill for building agreements. In general, dialogue plays a significant role in any situation, from a national crisis to a family discussion.

Dialogue requires talking with and listening to another person and handling different opinions to try to build a consensus, at least to some extent. Facilitators contribute with methods and techniques to drive the engagement in a co-creation environment (Hogan, 2007). Emotions are another piece of the dialogue. Empathy allows us to recognise others' emotions, and emotional intelligence allow us to recognise emotions in ourselves and others and manage the situation, depending on what happens in the interaction.

## 2.4 Emotions and emotional skills in the practice of service design

### *2.4.1 Emotions and experience*

Emotions in experience are complex to define because there are many factors involved; sometimes, they are even harder to identify for the person who is experiencing those emotions. Desmet (2002) defines emotions in their connections to products in terms that recall the discipline of aesthetics. Shapes, colours and brand history can trigger different kinds of emotions; some are relatively superficial, but others can have profound meanings. According to differences in mindset and personal perceptions, the likes or dislikes in the face of an object can change depending on the observer. Even some shapes can trigger emotional representations similar to human ones, making the products closer to the observer (Norman, 2004), while preferences for a given brand can be attributed to social status or the persuasiveness of that brand's marketing effort.

It is easy for everybody to recall least a few examples of buying decisions that are connected with previous experiences; even the memory of a loved one can influence the preference for one object over another. Many factors can influence a decision; some can be predicted, but others are simply part of an individual's experience. Thaler and Sunstein (2009) explain through the 'choice architecture' concept how the disposition of elements can influence the buying behaviour of consumers. They

do consider general customer behaviour in a store when considering the best places for products, depending on the company's interests, but they emphasise that each customer makes the final decision; the arrangements inside a store simply respond to aggregated probabilities. However, everything related to people (e.g. interactions, attitudes, reactions and behaviours) is subject to change and connected with the daily, previous and expected experiences that modify and provide extra information which can be transformed into inspiration (Mattelmäki et al., 2014). Therefore, all people's experiences can have an impact on their present and future perceptions, understanding and decisions.

Co-creation is a service designer practice in which participants, typically users and all the people (including workers) involved in a service, contribute to identifying opportunities for improving that service. This environment of collective creation is also the place to make decisions. Therefore, it is a place where many emotions can arise due to shared interaction and reflection (Tolosa, 2013). Emotions in these situations emerge as a response to the information received, in both quality and type (George & Dane, 2016); emotions are also a powerful driver of meaningful decisions (Lerner et al., 2015). The service design process commonly takes place in co-creative environments where decision making is an essential action for connecting the needs and desires of the participants who, through this type of interaction, discuss and agree on a common path to follow. Service designers guide this process of collective creation, and emotions are a key component for both participants and service designers as facilitators. The facilitator has the responsibility for leading the process; thus, he or she has to develop certain abilities to foster connections between participants through empathy and maintain progress towards the purposes of the activity (Kuure at al., 2014). Emotions linked with decision making through co-creation and empathy drive a holistic, inclusive and efficient service design process.

Just as emotions can be triggered by a product, many factors play a significant role in experiences. People have complex ways of connecting things, situations, people and memories, all of which involve emotions. The results are like a recipe; we may all have the same ingredients, but the amount of each ingredient we put in a dish can make a vast difference in how it tastes. To extend the recipe metaphor, some ingredients are time, perceptions of others' expressions, the surrounding conditions and previous situations. Time is an important factor because it brings experiences from the past to the present and, even in the present, it is possible to get a sense of some part of the future. From another perspective, social intelligence through the mirror neurons explains how we can react just by seeing the expression on another person's face; if that person is smiling, we will smile back, but if that person is angry, we may well answer in the same aggressive mode (Goleman, 2013). The surroundings also play a role in this equation; in any specific situation, all the elements are part of the experience. In a room, for example, the colours of the walls, the distribution of chairs and tables, the size of the room and all possible elements in that space can

have an effect. Other elements are previous situations, whether negative or positive: a traffic jam, an uncomfortable discussion with a family member, a health situation in the family, a lovely breakfast, a pleasant bicycle trip through a birch forest or an unpleasant underground journey in a big city at rush hour. These are just some of the many examples than can influence emotions before a meeting, workshop or indeed any encounter.

The perception of any experience is subjective; in the same situation, the people involved may have different opinions and explain their experiences differently, perhaps radically so. Even the same person in the same situation with the same people could have a completely different experience. Every situation has moments; it is not a flat experience, and managing all those moments will shape the ultimate opinion about the situation. In this sense, the interaction between people has the challenge of trying to connect with every personal perception.

### *2.4.2 Emotional skills in co-creation and service design*

Co-creation workshops involve the participation of different types of participants with specific personalities, personal goals, expectations and experiences, all of which interact among themselves and with the surroundings. There are different factors in collective creation (Sanders & Stappers, 2008), any of which can influence to varying degrees boosting emotions and behaviours. Service designers as facilitators of co-creation workshops have to plan and design the experience according to a given project's purposes, requirements and participants. However, knowledge is produced by and with the participants (Schultz et al., 2018); any previous plan is simply a structure to guide some of the initial ideas. The guiding skills for facilitators are connected with the ability to create and enhance relationships based on trust and respect. The position of the facilitator in this creative space makes it essential to intervene as little as possible as an expert; rather, the facilitator should invisibly interweave the connections between participants. Therefore, service designers in this atmosphere of collective creation have to be aware of the different stories of each participant and how each can influence the perceptions of the others (Wilson 2001). In addition, this relationship of equality between participants demands that facilitators must abandon their positions as experts in the field if they are to be a genuine part of the community (Schultz et al., 2018). This position fosters an attitude that values and indeed insists on the importance of plurality in the design of services to represent the perspectives and experiences of all participants.

The participation of people who represent different types of interaction with the service allows everyone to feel part of the process and thus the results. Although this may sound obvious, it does not always happen. It is a great challenge to generate the optimal interaction for the development of a collaborative activity. The process of making sense is much more than what is visible in the results; it implies the position that everything has a meaning and gives people clues to be aware of progress as part

of their own experience of participation (Csikszentmihalyi, 2008). In addition, participation in a co-creation workshop requires conversation to maintain or modify agreements depending on the personal, social, economic and political spheres of all the people involved (Kuure, 2017). From a practical perspective, the challenges to facilitation are guiding participation, rapid prototyping and documenting the experience as a part of making it visible (Miettinen et al., 2014).

Dialogue is a permanent interaction with others and with oneself to define a shared understanding (Bohm, 2013); it also widens the possibilities of staying flexible to reach agreements combining individual and collective interests. Therefore, dialogue is conducive to increasing and fostering trust between the people participating in an interaction; it is vital to distinguish among emotions to be able to communicate them. Through the communication of emotions, it is possible to solve problems in a way that leads to more desirable results, but that requires clarity in the manner of communicating results (Lerner et al. 2015). The more accurately emotions are identified, communicated and expressed, the better the definition of the relationship among the people who interact in an instance of shared creation. The work carried out in a co-creative workshop requires listening to and integrating the experiences of all the participants. To improve the understanding of each participant, a systematic and collaborative work plays a significant role (Meroni, 2008) in transforming the approach from the individual to a perspective focused on the relationships within a community (Miettinen et al., 2016). Therefore, from a community approach, it is important to specify the context to which people belong and the current and possible relationships with a product or service (Cantú et al., 2012). Finally, it is necessary to understand that communities are not static and that for each interaction, there is a significant possibility of change for one or many – if not all – of the people who participate in it (Tolosa, 2013).

# 3 Research Questions

This dissertation contains four sub-studies (I–IV) that have been published in peer-reviewed processes, two as book chapters, one in a journal and one as a part of conference proceedings (see List of original articles).

The research has as its main goal the identification of emotional skills that support service designers in their work in co-creation practices. Therefore, the overarching research question is, 'How can emotional skills support service designers and strengthen their role in co-creation practices?' The research question was investigated through four sub-studies.

## 3.1 Sub-study I

The aim of this sub-study was to understand complexity and approach it from a community rather than an individual perspective in order to generate transformations in more challenging scenarios such as public services. Two questions were explored: 1. How do service designers handle complexity in projects? 2. How does co-creation transform citizens from an individual into a community perspective?

## 3.2 Sub-study II

The aim of this sub-study was to identify the emotions experienced in a co-creation workshop by facilitators and participants. Two questions were explored: 1. Which emotions are most prevalent during the co-creation process? 2. How aware are facilitators of their emotions during co-creation workshops?

## 3.3 Sub-study III

The aim of this sub-study was to identify the role and meaning of emotions according to service designers' experiences conducting or participating in projects and as workshop facilitators. Two questions were explored: 1. How do service designers perceive their emotional experience in the service design process and workshops? 2. How can service designers' emotional awareness help them deal with uncertainty in the service design process?

### 3.4 Sub-study IV

The aim of this sub-study was to connect the emotional component of decision making with decolonising practice in the creation of a community from the service design perspective. Two questions were explored: 1. How can the consideration of participants' emotions support more democratic and inclusive decision making through service design workshops? 2. What can be learnt from this specific evaluation process in Chile to be further used and implemented in decolonising approaches?

# 4 Implementation of the study

The answer to the main research question was addressed through four sub-studies. The four sub-studies present different angles and perspectives to dive into the data and identify the findings that contribute to answering the main research question of this thesis. Table 1 illustrates the data and methods used in each sub-study to create new knowledge by answering the questions posed.

***Table 1.*** *Research methods in the four sub-studies*

| Research questions | # | Article | Data collection method | Material | Analysis |
|---|---|---|---|---|---|
| RQ1: How do service designers handle complexity in projects?<br>RQ2: How does co-creation transform citizens from individuals into a community perspective? | I | Mollenhauer, K., & Soto M. (2019). From citizens to community: The complexity in the context and the transformation and the challenges of modernising Chilean services. In S. Miettinen & S. Melanie (Eds.), *Managing complexity and creating innovation through design* (pp. 190–205). Routledge. | Case analysis (N=2). | Final report and article published from projects carried out by the Public Innovation Laboratory at the Universidad Católica de Chile. | Initial immersion, value coding and interpretation through triangulation of all data (Leavy, 2017). |
| RQ1: Which emotions are most prevalent during the co-creation process?<br><br>RQ2: How aware are facilitators of their emotions during co-creation workshops? | II | Soto, M., Beaulé, C., Alhonsuo, M. & Miettinen, S. (2020). Emotions: The invisible aspect of co-creation workshops. In J.-F. Boujut, G. Cascini, S. Ahmed-Kristensen, G. V. Georgiev, & N. Iivari (Eds.), *Proceedings of The Sixth International Conference on Design Creativity (ICDC 2020)* (pp. 192–198). The Design Society. | (1) Case study based on three sprints (participants N=44; facilitators N=9)<br>(2) Online questionnaire (N=65). | (1) Emotional record, a tool to register daily emotions for participants and facilitators; see Appendices 2, 3 & 4<br>(2) Online questionnaire (Q1) with open questions; see Appendix 5. | Initial immersion, coding, and interpretation through triangulation of all data (Leavy, 2017). |

| | | | | | |
|---|---|---|---|---|---|
| RQ1: How do service designers perceive their emotional experience in the service design process and workshops?<br><br>RQ2: How can service designers' emotional awareness help them deal with uncertainty in the service design process? | III | Soto, M., Mikkonen, E., & Miettinen, S. (2020). Emotions and the service designer: A relationship uncovered. *Diseña*, *17*, 148–169. | Qualitative; online questionnaire with open questions (N= 15). | Online questionnaire (Q2) with two parts: the first asked about the service design process and emotions experienced, and the second part asked respondents to identify emotions in their experience as facilitators; see Appendix 6. | Process of initial immersion, coding, categorisation and interpretation (Leavy, 2017). |
| RQ1: How can the consideration of participants' emotions support more democratic and inclusive decision making through service design workshops?<br><br>RQ2: What can be learnt from this specific evaluation process in Chile to be further used and implemented in decolonising approaches? | IV | Soto, M., Mollenhauer, K., Miettinen, S., & Sarantou, M. (2020, in press) Building a community through service design and responsiveness to emotions. In T. Seppälä, M. Sarantou, & S. Miettinen (Eds.), *Arts-based methods for decolonising participatory research*. Routledge. | Case study with (1) three workshops (N= 120) and (2) survey (N= 27). | (1) Would scenarios, 3C's matrix and business model canvas;<br>(2) Online survey. | The strategy of categorisation and thematic analysis to converge the data with possible actions (Simons, 2009). |

## 4.1 Methodology

The aim of this thesis is to identify the emotions that service designers experience when they act as facilitators in a co-creative workshop; therefore, all the methods used were focused on hearing about their experiences in their own words. Asking about the experience of service designers connects my research closely with pragmatism, which focuses more on studying a problem than in defining methods (

This research is focused on understanding service designers' emotions and related skills. Therefore, many questions about emotions immediately arose: 'What is an emotion? Which emotions do facilitators experience in co-creation workshops? What is the role of the facilitator? Which is the relationship between facilitation

and service design? Which is the relationship between co-creation and service design?' From an ontological perspective, the answers to these questions offer an understanding of the reality that is not immediately visible (Scotland, 2012).

Another assumption is that service designers have knowledge of their own experience and can thus share their understanding about which emotions are present in their work. From the epistemological point of view, which addresses knowledge and its creation, appropriation and communication (Scotland, 2012), this research supposes there is an embodied but unconscious knowledge. In addition, even when many people agree that emotions are important, they are by definition invisible, so their value is hard to measure despite the significant effects they can have on human interaction.

I chose a mixed methods approach (Cresswell & Cresswell, 2017) to understand the phenomenon of emotions in service design, integrating qualitative and quantitative perspectives into my research (Leavy, 2017). The qualitative methods were used to obtain an immersive understanding of the context (Silverman, 2011) and to dive deeply into the meanings and subjective experiences of the participants (Leavy, 2017). There are four reasons behind this decision. The first is to obtain a basic understanding of the relationship between individuality and community in a co-creation practice (sub-study I). The second is to visualise the amount of emotions involved in co-creation and how accurately service designers identify emotions (sub-study II). The third is to learn how aware service designers are about their own emotions and the connections between the process and their experience (sub-study III). The fourth is to highlight the meaning of emotions in decision making and what is required to build a community from a co-creative practice (sub-study IV). Qualitative methods help meet these four goals by enabling a view of the big picture of the specific situation, with all its meanings, complexities and angles (Muratovski, 2016). Quantitative methods, meanwhile, were used to show the knowledge of emotions, to distinguish their volume and to find agreement between answers. Quantification was essential for identifying the most prevalent emotions in co-creation (sub-study II) and which emotions service designers can perceive during the service design process (sub-study III). In addition, the answers from (Q1) and (Q2) enable drawing certain conclusions about the need to recognise accurately the participants' emotions in order to improve decisions according to the participants' expectations and context. At bottom, the quantitative part of the research makes visible the limited knowledge of the different types of emotions and their descriptions; for this reason, combining qualitative and quantitative methods enabled a deeper dive in the study's overall conclusions.

## 4.2 Research Methods

The work reported in this thesis is organised into four stages based on the research process (see Figure 1). Each stage had its own methods, goals and outcomes. The methods for this research were important at every stage because they provided valuable information to understand the current state of the knowledge and practice of emotions in service design. The four stages had specific purposes and related sub-studies; the methods for each stage are explained below.

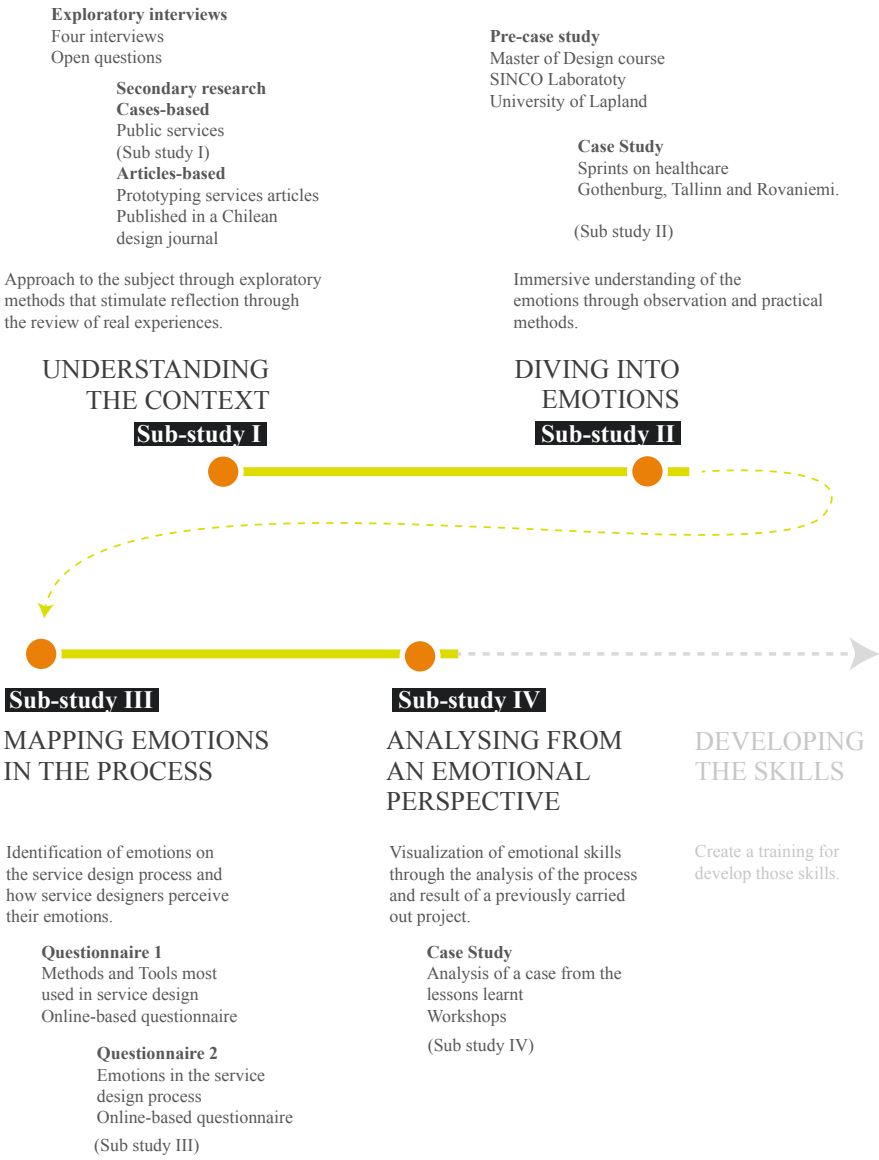



***Figure 1.*** *The process of the research*

#### 4.2.1 Stage 1: Understanding the context (sub-study I)

The main goal of this stage was to understand the context by listening to people's experiences in order to narrow down the scope of the enquiry. Two methods were used first, exploratory interviews revealed from the experience of professionals the relevance of emotions in service design and co-creation practices. The second method involved dividing the research into two parts. One focused on the analysis of two cases of projects in the public sector to identify how service design works in practice and in topics of national interest (sub-study I); the other was desk research that involved reading articles about service prototyping to make the relationship between emotions and co-creation clearer (Soto, 2018a).

#### 4.2.2 Stage 2: Diving into the emotions (sub-study II)

The purpose of this stage, which involved an immersive type of research, was to learn how emotions are perceived in a co-creation practice (sub-study II). Through this stage, the understanding of the emotions experienced could be connected with the service designers' perceptions to be gleaned in the third stage. The method used in the second stage was a case study, which Simons (2009) describes as 'an in-depth exploration from multiple perspectives of the complexity an uniqueness of a particular project, policy, institution, programme or system in a "real-life" context' (p. 21). The case study method was used to understand a specific situation with the people involved in the case. The data was collected through field work notes and an emotional record (see Appendices 2 and 3). The emotional record was a voluntary online questionnaire to be filled out daily with the emotions experienced. A design sprint is a flexible and intensive product design framework. It follows an innovative, step-by-step and typically five-phase process that uses design thinking conducted by a small team (Banfield et al., 2016). It has been employed with great success for business strategy and innovation, and any development team can use it (Knapp et al., 2016).

For this stage, a pre-case study was carried out first to refine the purpose and define with accuracy the questions and observation process. The pre-case study was a valuable method for simplifying the data collection method and the overall experience. The data was collected through field work notes, the emotional map (Appendix 1) and a group interview. The emotional map is a tool specifically created to visualise the emotions experienced in realising a workshop through graphic representation.

#### 4.2.3 Stage 3: Mapping emotions in the process (sub-study III)

The main goal of this stage was to listen to service designers' experience of the meaning of co-creation in service design and their knowledge of emotions. This stage consisted of two questionnaires. The first (Q1) was designed to learn the methods and tools commonly used by service designers to obtain a quantitative

vision (Appendices 5 and 6). The second (Q2) was used to identify the emotions that arise in the service design process from the perspective of service designers (sub-study III).

Q1 was an online survey of service designers with questions intended to collect common practices (Muratovski, 2016) in service design, particularly the methods and tools most often used to visualise the connections between service experience, backgrounds, and years of experience with their answers. Q2 was an online qualitative questionnaire (Rivano Eckerdal & Hagström, 2017); respondents, without disclosing personal information, answered open-ended questions to explain in their own words the service design process and the emotions involved.

#### *4.2.4 Stage 4: Analysing from an emotional perspective (sub-study IV)*

This stage focused on reflecting on the results obtained in the previous stages; I applied the lessons learnt in a real case as a test. I used a project I had previously completed and analysed the methods with an emphasis on emotions to define the skills of interest in this research (sub-study IV). The data collection method in this case involved three workshops with the structure of ideation, prototyping and implementation (Stickdorn et al., 2018a). The workshops, with an emphasis on co-creation, were made up of participants with expertise in the subject to be discussed (Stickdorn et al., 2018b). Different tools were applied in the workshops: would scenarios, the 3C's matrix (Tolosa, 2008) and the business model canvas (Osterwalder & Pigneur, 2010). The three methods are detailed as follows: the would scenarios involved thinking about the desired reality for the community; the 3C's matrix characterised that desired scenario; and the business model canvas focused on feasibility assessment.

### 4.3 Data collection

Each stage led to a sub-study as its outcome. The methods used were exploratory with secondary research (I), interviews, desk research and, case studies (II and IV) and questionnaires (III). I first carried out a pre-case study to refine the method and used other sources to list the emotions and test their complexity. Thanks to that exercise, the case study in sub-study II was more precise and simplified. I describe below in greater detail the research methods used, the reasons for the participants' selection and how they supported this research.

#### *4.3.1 Sub-study I: Exploratory methods*

The process of data collection for sub-study I was secondary research focused on two cases from a Chilean research centre at the Pontificia Universidad Católica de Chile; it is the only research centre in Chile working on service design from

the academic side. This sub-study was written with one member of this research centre who had expertise in the methodology and experience in one of the chosen cases. The secondary research method was used as a starting point of the research (Stickdorn et al., 2018a) to understand how service design was used in a real-world context. We began by speaking with the director of the research centre and asking him if we could study some of the cases they had carried out; in that conversation he explained the centre to us. In turn, I explained the purpose of our research, and he recommended two cases, both with significant relevance in Chile. Therefore, we received the report from one of the cases and an article written about the other case. We then reviewed other sources to understand the area more deeply (Muratovski, 2016), especially service design and the context of services in Chile. There was also one article in which the research centre explained its methodology (Pontificia Universidad Católica de Chile, 2017), which offered important insights into how the cases were carried out. Ultimately, as an exploratory effort, sub-study I was decisive in shaping the following stages and limiting the scope of the overall study.

Sub-study I had other stimulating methods during the early stage, such as four exploratory interviews and reading about service prototyping at the University of Lapland's Service Innovation Corner (SINCO). The exploratory interviews were enormously helpful in refining my assumptions through the experience of other researchers.

The four interviews were conducted with professionals holding master's degrees and possessing experience in service design projects. Participants were chosen to meet the purpose of this part of the research and as a form of convenience sampling (Leavy, 2017; Lopez & Whitehead, 2013); I sent invitations to my own network. Two of the interviewees were women, two were men. Two were PhD students, one was an international consultant, and the other was an entrepreneur. Each had experience in different types of projects, so they shared diverse perspectives about how they viewed the connection(s) between emotions and service design.

In addition to the desk research, I read articles about the SINCO. Like the Chilean research centre, SINCO has experiences with different kinds of projects, both in Finland and elsewhere in Europe. This method was focused on understanding one of the topics related to my research (Stickdorn et al., 2018b): prototyping services as a way to co-create in a specific environment. Reading about SINCO gave me a clear theoretical overview about how prototyping works and its usefulness for service design projects. This reading effort was also connected with emotions and published in a Chilean design journal. Both methods, exploratory interviews and readings, provided a strong foundation for sub-study I.

#### *4.3.2 Sub-studies II and IV: Case studies*

The case study for sub-study II benefited from a pre-case study that was deployed to help define and sharpen the focus and clarity of the data collection method. The

pre-case study was carried out in an advanced service design course at the University of Lapland in Rovaniemi. First, I gave a presentation to explain my research and the case study; those who volunteered then provided informed consent and signed in. Second, as the course was organised in stages, I took field notes during each class and at the end of every stage. Third, participants had to answer a short questionnaire about their experience with five keywords. In the first questionnaire, they made a list of the methods they had used; in the second and third questionnaires they had to identify five keywords about the group process. In the fourth questionnaire, they identified their experiences using keywords organised around three skills – strategy, communication and empathy –with blank space to add more skills. The course lasted two months and was scheduled through the double diamond design process to 'discover – define – develop – deliver' (Design Council, 2007). Each group had to organise a co-design workshop during the course, not only to obtain data for their design brief but also to learn and practice facilitator skills.

To measure emotions during the co-creation workshop facilitated by the students, I created, with the help of the course teacher, an emotional map (Appendix 1), a matrix based on a graphic from *Design for Emotions* (Van Gorp & Adams, 2012) that represents emotions organised as pleasurable or unpleasant. The emotional map was applied on two occasions: soon after having developed the workshops and again four to seven days after the workshops were developed. This approach enabled the analysis of changes in the perception of emotions in each case. The purpose of this matrix was to allocate time to identify the emotions experienced while carrying out the workshops, where students faced a challenge fraught with vulnerability and emotional instability. The pre-case study included group interviews conducted one week after the workshop. The purpose of the interviews was to deepen students' emotional distinctions, invite them to reflect on their process and ask them how, based on their experience, the process could be improved during and after the workshop; the article related to the pre-case study is under review at The Journal of Design Strategies.

The pre-case study had nine student participants: eight from Finland and one from abroad. The students organised themselves into three groups to answer two emotional maps, one just after their workshop and the other four or five days later. Each group had different design briefs on which they focused during the entire course.

The pre-case study improved data collection for sub-study II, with the list of emotions refined in light of the comments from the emotional map and a greater emphasis placed on emotions closer to services and experiences. The sub-study consisted of three design sprints in Gothenburg (Sweden), Tallinn (Estonia), and Rovaniemi (Finland). The sprints were part of a co-designing healthcare project funded by Nordplus Horizontal 2018. The main aims of the design sprints were to develop joint research and innovation initiatives inside the Nordic-Baltic region,

to engage all relevant stakeholders and to support interaction between those stakeholders to increase innovative capacity by offering knowledge transfers. In addition, the purpose was to advocate design thinking as a methodology in helping to build services where end users could act as co-designers of healthcare.

The data was collected mainly through a daily questionnaire, one for participants and another for facilitators; both were called an emotional record. Based on the lessons learnt from the pre-case study, the number of emotions was reduced to nine, and simple explanations of the emotions listed were added, using hypothetical situations in a workshop context to avoid misunderstandings of or overthinking about each emotion. Respondents chose one or more emotions from joy, love, fear, anger, sadness, astonishment, satisfaction, confused and bored. They could also add an explanation if they wished and add any new emotions they felt should have been on the list. The facilitator questionnaire also included open questions and a personal reflection area in which participants were asked to identify five keywords associated with their day.

Questionnaires were distributed to sub-study II participants (Sweden, $n = 18$; Estonia $n = 20$; Finland $n = 6$) during the design sprints. Most participants were students, but healthcare practitioners were also involved, some as part of the design team and one as a mentor. The design sprints were intensive workshops that lasted four or five days.

The data for sub-study IV was collected in three workshops carried out between 2015 and 2017. The purpose of that project was to build a community for the Master in Advanced Design (MADA). This project began in the context of National Quality Certification for master's programme improvement; ultimately, the data was authorised for educational use. As I developed that project with my co-author, our reflections as facilitators of the process formed part of the data analysis and interpretation. Data was collected through five tools. First was the would scenarios; participants were organised into five groups of graduates and three of students. They distinguished which actions and situations they would like, which they would not like and finally how the ones they would like might be developed. Second was the 3C's matrix; once again in groups, they answered the following questions in their own words: 'What is MADA? What do you feel about being a student (graduate) of MADA? What are the MADA rituals?' The third approach was answering simple what, why and how questions as a way to ideate together possible projects that would help build the MADA community. Fourth was the business model canvas; in groups with teachers and students analysed and refined the traceability and sustainability perspectives of their ideas. Fifth was a simple open-ended questionnaire with two questions about the differences between this experience and the others they had undergone and their emotional perceptions.

There were 120 participants in sub-study IV: students, graduates and teachers from the master's programme. They came from different fields, though most were

from design, and several Latin American countries, though most were from Chile. All were connected with the MADA programme and participated voluntarily.

#### *4.3.3 Sub-studies II and III: Questionnaires*

In addition to the emotional record, sub-study II included data from an online questionnaire (Q1) with open-ended questions (Denscombe, 2009). The purpose of this questionnaire was to learn the most common methods and tools used by service designers and their opinions regarding co-creation practice. Sub-study III, meanwhile, was based on data collected through an online questionnaire (Q2) with open-ended questions. Q2 contained three sections: 1) verification of permission and confidentiality; 2) identification of emotions during the realisation of a service design project; and 3) identification of emotions for both facilitator and participants during the realisation of a co-creation workshop.

There were 65 respondents to Q1 (43.5% female, 56.5% male). A plurality of respondents had a master's degree (43.5%), followed by bachelor and professional degrees (32.3%) and PhD students (9.7%). Respondents were mainly from Finland and Chile and had developed their projects in the private sector (61.3%), the public sector (25.8%) and the 'third sector' (12.9%), a term that has emerged to encompass non-governmental organisations and other non-profit organisations.

The Q2 respondents were 15 service designers who met certain requirements: a minimum experience of 2 service design projects (as leaders or collaborators) and 2 co-creation workshops as facilitators. The respondents were professors or professionals working in service design. Q2 did not ask for more specific information in this regard in an effort to keep their answers anonymous and thus hopefully more detailed and frank.

## 4.4 Analysis

While data analysis is the last stage of the research effort, it is the that one makes sense of the data and its connection with the research purposes (Simons, 2009). Therefore, the organisation of data analysis is among the most important decisions of the entire research process. In this thesis, the data was organised into groups according to stage and was backed up with due caution (Saldaña, 2014): two backups were in cloud applications and one was on a physical hard drive. The data was analysed following the structure of data preparation, initial immersion, coding, categorising and interpretation (Denzin & Lincoln, 2000; Leavy, 2017); finally, the analysed data was used in articles to be validated by the academic community.

### 4.4.1 *Data preparation and initial immersion*

The types of data in the four sub-studies were different, but the processes employed shared many similarities. In sub-study I, the data was from secondary research; therefore, the reports and articles were collected and organised in a spreadsheet to visualise all the available material. The reading process was carried out immediately afterwards to identify which contents in each item contributed to obtaining the necessary information for content analysis (Krippendorff, 2004; Mayring, 2000).

In sub-studies II and III, the data was organised in a spreadsheet. The responses obtained online through Google Forms were delivered in a comma-separated file; after downloading, the data was organised based on the characteristics of the information (Muratovski, 2016). In both sub-studies, one premise was to keep the data organised in a single place so it could be seen in its entirety (Leavy, 2017). For Q1 and Q2, the analysis process began with a quantification of the responses to determine the number of coincidences and differences in the responses (Braun & Clarke, 2006) to every emotion; this approach provided a clear sense of the most common emotions perceived daily (for sub-study II) and at each stage of the design process (for sub-study III). The emotions were then organised in paper form, using sticky notes (Figure 2). The paper visualisation of the emotions provided a succinct overview of the responses and how they can be coded.

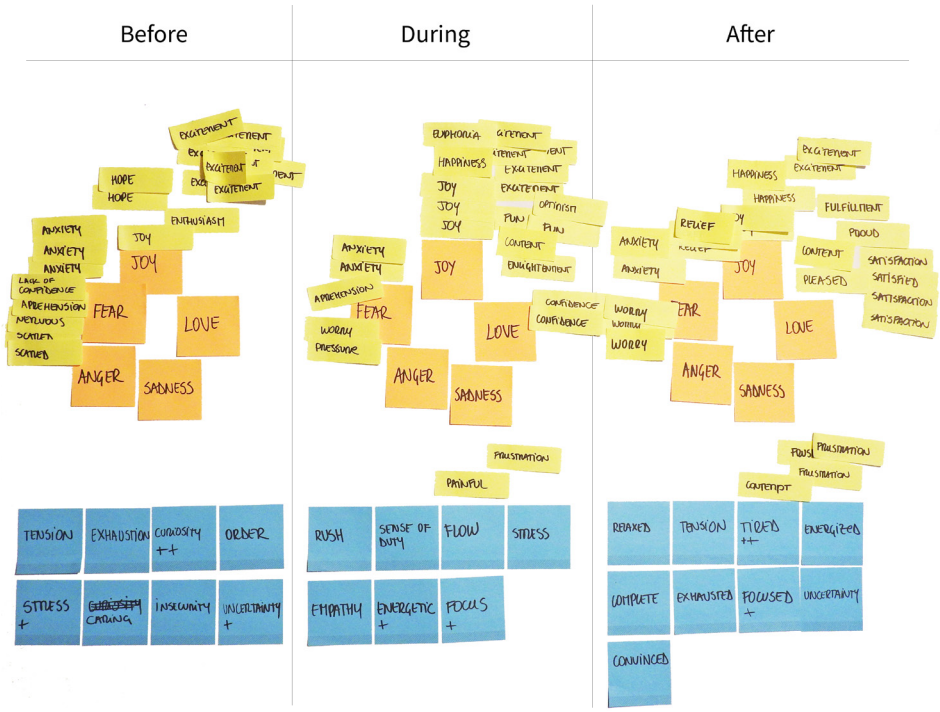



***Figure 2.*** *Data preparation example*

Sub-study IV followed the same process as the other sub-studies; first, all the answers were entered in a spreadsheet to organise the information. Each method (would scenarios, the 3C's matrix, questions and the business model canvas) was in a separate worksheet because they were carried out in different workshops; in addition, the would scenarios and 3C's matrix were processed and fed the subsequent workshop.

### *4.4.2 Coding and categorisation*

The visualisation of the most relevant contents in sub-study I was achieved through mind mapping (Buzan, 1993) to unfold the knowledge in a visual shape (Simons, 2009); the reason for this approach was to simplify the content with a one-page visualisation of the main concepts (Figure 3). The strategy of reducing the data helped maintain the focus on the core purposes of the research (Simons, 2009). Coding through concepts reduced the complexity of the content and aided in classifying the concepts (Leavy, 2017). Categorisation provided the themes needed to organise the cases; at this point, previous methods like exploratory interviews and desk research about service prototyping were treated as valuable sources, although they were not formally part of the sub-study I data.

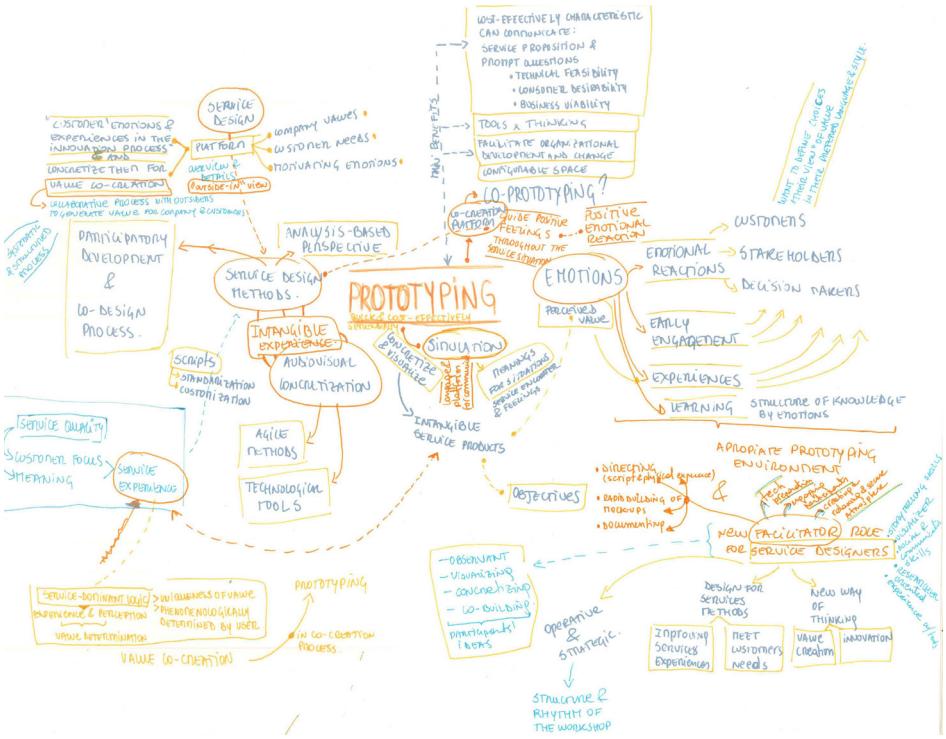



***Figure 3.*** *Conceptual visualization of reading process*

After the quantification of the coincidences and differences in sub-studies II and III came a qualitative process that involved a deep dive into the explanation of each response. The responses provided valuable information for understanding the reasoning behind every emotion marked; in many cases, the description of experiencing the emotion offered insights into the lack of awareness or precision in the participants' distinction among emotions. The sticky notes from the previous stage were re-organised to identify coincidences and determine connected themes that could be further developed. During this process, I also added my own thoughts (Leavy, 2017) and the revision of the field work notes (Muratovski, 2016).

The coding and categorisation in sub-study IV was shared with a selection of students and graduates, because the participation of members of the community was essential to jointly identifying the most important themes in the answers. For those meetings, I prepared the information and added more details to present all the data in a way that was clear and easy to follow, with suggested codings. At our second meeting, we confirmed the codes and chose the categories to present in the next step, which was the last workshop with the community. The categories were chosen to prepare for the directions in which the co-creation process would move.

#### *4.4.3 Interpretation and validation*

Using a holistic, experienced-based perspective for interpretation (Simons, 2009) was essential to undertaking a durable analysis that could help co-creation materialise successfully in the future. Sub-study I was connected with the reality of services in Chile. Considering the historical evolution of these services added some complexity, but the most significant interpretation was the link between co-creation and emotions in understanding the community context. The evaluation process between the findings and the contextual information fostered triangulation (Denzin, 1978; Leavy, 2017) to analyse the relationship with the research purpose. Triangulation has also been reported to improve the reliability and validity of a study (Golafshani, 2003).

In sub-studies II and III, meaning was a central issue. The opportunity to see all the answers and the connections between them prompted the essential question, 'What does this mean?' (Leavy, 2017), and the link between the amount of emotions perceived by service designers and the description of their reasoning brought to light the confusion and vagueness in their understanding. In addition, in both sub-studies the co-creation workshops unveiled different types and intensities of emotions from the facilitator's point of view (Figure 4); even when they experienced more positive emotions, they reported uncertainties during the process and differences in how they perceived both their own and participants' emotions.

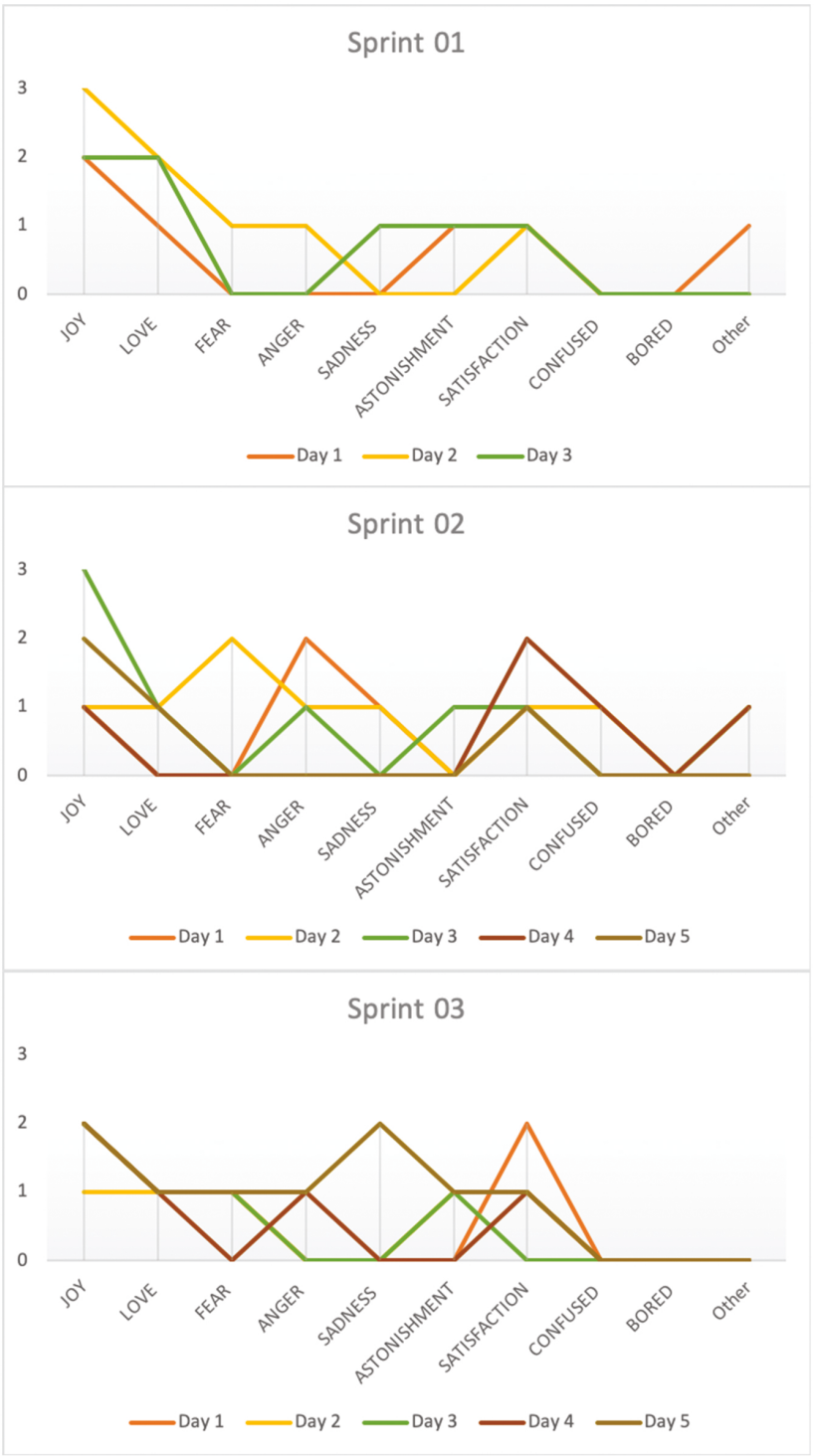



***Figure 4**. Facilitators' emotional perceptions*

Sub-study IV had a different process of interpretation and validation because it was based on a project in which I applied my previous experience as a consultant working with communities in Chile and elsewhere in Latin America. From those experiences, I learnt the ability to connect emotions with the particular context of communities and match their expectations with organisation goals. I also learnt that the inclusion of the community was an essential element throughout the process and how that process could build a sense of community. As a respondent type of validation (Simons, 2009), I gave a final presentation of the results to students, graduates and teachers, along with an outline of the project's next steps, possible changes and the timetable for the most difficult decisions. I remade the 3C's matrix in a final version that integrated all the previous comments and, as a validation, all the findings were added to the programme guidelines and future actions.

For the four sub-studies, I considered as validation the interest from the academic community in publishing the process and results of this research in each of four articles. All the articles were accepted after undergoing peer review, validating their coherence and contributions to the field. In the four sub-studies, the comments from the reviewers were positive, with some highlighting the importance of the connection between emotions and service design, especially the emotions in service designers' performance. Typically, emotions are related to user experience, and there has been less interest in how service designers experience their role and responsibility as facilitators of co-creative practice.

## 4.5 Evaluation and ethical considerations

### *4.5.1 General evaluation*

This study complies with the investigative rigor which requires implementing measures of credibility, trust, confirmability and transferability (Lincoln & Guba, 1985). As each sub-study was written with co-authors, the content benefited from those colleagues' points of view and the knowledge they brought to the experience. In addition, the choice of a mixed methods approach helped obtain a wider understanding of the topic (Creswell, 2009); even when the sub-studies did not use all the data collected, it was useful to have access to this new path in service design research.

This thesis and the four sub-studies were intended to express ideas legibly using the same terminology and relevant style guidelines (Creswell, 2009). All use almost identical structures to give readers an easy flow of reading, allowing them to evaluate the conclusions for themselves (Caelli et al., 2003). Finally, some elements were added in chapter 4 of this document to provide an overview about the research methods, process and results:

- Table 1 provides the four sub-studies' research questions, article names, data collection methods, materials and analytical decisions. This table gives the readers a first look at what they will find described at greater length in the chapter.
- Figure 1 illustrates the four stages of the process, the methods used in each case and a brief description of the context. The purpose of this figure is to explain in a single image the organisation of the research process and to understand the connections between the various stages.
- Table 2 briefly describes the findings that answer the research questions of each sub-study. It summarises all the results detailed in Chapter 5 and compares them with the research questions, thus facilitating the understanding of the findings.

The design of an investigation is the sum of planning and defined actions which must be clear and meaningful for both the researcher and the audience to which it will be presented (Creswell, 2009). The way in which the information is presented contributes to the external validation of any research effort. The reader can evaluate the quality of a study on the basis of a research report that provides sufficiently detailed information on the research, its approaches and its methods and carefully describes the research process (Caelli et al., 2003). Validation can be both internal and external. Trustworthiness has been divided into credibility (which corresponds roughly with the positivist concept of internal validity), dependability (which relates more to reliability), transferability (which is a form of external validity) and confirmability, which is largely an issue of presentation (Lincoln & Guba, 1985).

#### *4.5.2 Researcher position*

In general, the motivation behind a study depends on personal experiences and reflections (Caelli et al., 2003), and the methods used in a study are defined according to the researcher's skills and experience; in the case of a mixed methods methodology, that includes skills and experience with both qualitative and quantitative approaches (Creswell & Plano Clark, 2011). My experience working as a consultant for more than 10 years provided much of the knowledge that made undertaking this research possible. As part of my job, I collected data such us interviews, desk research and workshops; I also conducted data analysis. In addition, I had worked from a communications perspective and participated in different types of projects where research was essential to understanding the context. To illustrate the types of projects that help shape my position as a researcher, I worked as a consultant in a national Mexican program to support migrants living in the United States and their families living in Mexico, helped in a communications skills training program for leaders of civil society organisations in Nicaragua, developed the communication strategy for a new hospital in Chile, built a community in a master's programme in Chile and

worked as a researcher for a scientific book for a Chilean museum. As a researcher who has adopted a pragmatist perspective, I base my research on actions, situations and consequences (Creswell, 2009) and pay special attention to the responses of the participants in my data collection to decide next steps and try to interpret their responses with the broadest possible view.

I recognise the emotional skills I have developed as a result of my work experience and academic knowledge. I have had constant training in identifying the most subtle aspects of emotions that can be detected in communication between people. Fortunately, I was able to learn and apply the emotional aspects of communication in the various projects in which I participated. I emphasise that the value my experience gave me was to develop a critical vision of the communication phenomenon and evaluate actions to be carried out according to interactions with different communities and cultures. My interest in studying the phenomenon of emotions in service design was driven by the practical work and research that I have carried out over the years. Although my earlier emphasis was on communication, my exposure to design while earning both my undergraduate and master's degrees gave me the academic tools to connect both fields in a virtuous and scientific manner.

It is thus clear that my previous experience shapes the present study, which has allowed me to ask myself questions that went further and provided a scientific basis for reflection. All of the above was driven by the conviction that services can contribute to people's perception of well-being. If there is a possibility of contributing to the well-being of people through services, I dedicate my work to that effort.

### *4.5.3 Ethical considerations*

Due to my previous experience and to avoid preconceptions, the early stages of this effort had an exploratory phase that involved a pilot study in which I received evaluations from the participants (Creswell, 2009) about a tool created to identify emotions. Hence, the first stage involved exploratory interviews with four professionals and researchers and thematic reading. Both methods contributed to redefining the research approach and limiting it to co-creative practice. Moreover, in the second stage, a pre-case study focused on listening to the comments of the participants and integrating them into improving the data collection. This method was key to defining the data collection tool and limiting the scope of the investigation to the emotional abilities of service designers and not to the field in general, as was originally proposed. Again, the exploratory phase was important for anticipating possible misunderstandings of the participants (Creswell, 2009) in the following stages and for the research scope itself.

Like any research that collects data from people, this study has to consider ethical issues (Orb et al., 2001). This study collected data from professionals and students. In both cases the respondents' identities were kept anonymous; they were appropriately informed of the reasons for and conditions of the study, including the

fact that their participation and responses were voluntary. In sub-studies II and III, due to the nature of the questions that requested specifying respondent emotions and experiences, no personal information was requested; only the answers to the questions were collected. Likewise, the decision to maintain the total anonymity of the respondents (Creswell, 2009) was made to eliminate any possibility of harm (Orb et al., 2001). Both sub-studies II and III used online questionnaires that made abundantly clear that answering the questionnaire meant granting permission to use the collected data for research purposes. The responses to the questionnaires were voluntary, and the respondents received no financial compensation.

In the case of the qualitative questionnaires in sub-study II, they required daily accounts of the experiences of workshop participants, which is quite close to the diary method (Rivano Eckerdal & Hagström, 2017). Thus, anonymity was important to generate trust and candour in the respondents.

It bears repeating that confidentiality and anonymity were essential to obtaining answers that were as honest as possible, especially on the questionnaires. Although participants did not provide detailed information about their work, they might have felt compelled – when being asked about their emotions – to answer with what they 'should' feel instead of the emotions they actually experienced during their work. Thus, their anonymity helped provide richer and more accurate data.

# 5 Results

## 5.1 Understanding the user as a member of a community through co-creation

In sub-study I, the complexity of Chilean services was addressed by design methodologies that adopted a community perspective. When projects and research have a focus on users, they usually refer to one person, but that person has an entire world beyond his or her personal characteristics. As the aim of this sub-study was to glean knowledge from the practice of service design in a complex project, one of the findings was the unclear position of the service designer; although the results are the most relevant aspect, the service designer is responsible for carrying out the entire project. The results from sub-study I helped narrow the research aim and reformulate the research question (Stickdorn et al., 2018a).

Service designers have the challenge of dealing with different types of projects and choosing the methodology that will lead to the optimal implementation of each project. The experience the Public Innovation Laboratory has developed in the field of public services allowed them to design their own work methodology (see Pontificia Universidad Católica de Chile, 2017). Furthermore, co-creation is a practice that enables knowing all the many aspects of a service and amassing the experiences of users and stakeholders. This type of practice allows service designers to immerse themselves in the various angles that each service presents and where there are opportunities for improvement. The experience of co-creation can be linked not only to a specific result but also to the participation and interaction of the participants, which begin to generate changes in personal perceptions.

During co-creation workshops participants build a common understanding, implicitly defining a sense of trust and belonging and agreeing on the criteria that guide collective creation; through those characteristics, they are constituted as a temporary community. Co-creation sessions create a common place to share experiences and expectations and are thus invaluable resources for service designers to identify opportunities to improve the service. As a place of observation, co-creation enables the monitoring of participant interactions, their personalities and how they resolve problems and connect ideas; co-creation is thus also an extension of the actual service situation. All the participants represent different perspectives involved in the real context and thus hint at some of the characteristics they bring together as a community.

The emphasis on the community is more visible in projects at the national level, where identifying users and stakeholders can be much more thorough by accumulating information from the various communities with which each one interacts. There are many factors involved in the national context, such as current contingencies, the way in which the government solves emerging problems and the country's public policy history and social and cultural conditions. Every country has a different historical background and, even when facing the same problem – such as a pandemic – each country reacts according to its economic, cultural, social and political conditions. Therefore, having a community focus enables service designers to see the impact on the service beyond the interaction itself; this approach visualises the impact that user-service interaction has on the subsequent relationship that users will have with their communities. For example, a good experience with a public medical service will increase positive perceptions of that service, a positive self-perception of well-being and a favourable predisposition to future sessions. The person who had a pleasant experience will remain more available and friendly in interactions that may follow the visit to the doctor and may even change his or her perceptions of other public services.

## 5.2 Limited awareness of emotions during co-creation

The main results of sub-study II, according to the questionnaire, revealed that co-creation is an important practice in service design. The results of the emotional record applied in the three sprints showed that the most common emotions for participants in co-creation were joy, anger and satisfaction, all of which were related to the process. For facilitators, joy was one of the most common and present emotions throughout the process; others were love, satisfaction and astonishment, the last three related to the facilitators' perceptions of the participants' process. The results from the emotional record also suggested that it is difficult for facilitators to accurately identify their own emotions and those of the participants.

Questionnaire (Q1) collected data about the relevance of co-creation; this information was significant because respondents explained in their own words their experience with this practice and because co-creation was revealed to be one of the most common ways to integrate all the people involved in a service to collaboratively improve that service or create a completely new one. Co-creation was a relevant experience for 87% of the Q1 respondents. Many responses referred to co-creation as nothing less than essential for service design, sometimes quite passionately. The distinctive practice of service design that is co-creation is what differentiates a general consulting project from a service design project; for example, one respondent said, 'It's part of the DNA of service design'. The opinions of the 13% of respondents who denied the importance of co-creation for service design

explained co-creation as merely one way to develop a service project; the decision as to approach would ultimately depend on the specific characteristics and timeline of the project. However, most survey participants identified three aspects that demonstrate the importance of this practice:

1) the relevance of user and stakeholder experience in terms of understanding the context and the opportunities for improvement (problem framing). According to the responses, it is essential to have a context-focused approach through the people directly involved in the service; co-creation practice allows for a wider comprehension and the precise level of opportunities to develop the project. Some comments were related to the importance of user and stakeholder participation: 'It is an interactive way to integrate the visions and experiences from all actors'; 'Because service is all about resources integration and co-created value, and we need first-hand information, fresh ideas and committed users/actors'. The next quote from a respondent emphasises the position of service designers and their relation to participant involvement: 'It doesn't make sense to come up with ideas in a meeting room without involvement of the potential users of the services we're designing'.

2) the lack of omnipotence of designers and a perception of their role as process facilitators rather than problem solvers. The results regarding this aspect point to an abandonment of the designer's ego as a problem solver; rather, the goal is to adopt a position of enabling the participation of other people to promote collective creation. Some respondents indicated that co-creation is a communication channel with users: 'If there's no co-creation, the development lacks the real vision and feeling of the user'. Another response emphasised the relevance of the designer's collaborative work: 'Designers alone cannot conceive a solution to complex problems'. Therefore, service designers have to work collaboratively with the complexity of the project and the people involved: 'Stakeholders need to be involved. No single person can do service design; it's part of human-centred design, so users need to be involved, but also the organisational focus with internal stakeholders is really important. It's more about facilitating than "designing"'.

3) the view of co-creation as an interactive and collaborative path that allows the integration of different experiences and perspectives. According to the responses, this aspect helps focus on the interactions in a co-creation workshop and how meaningful the encounter is for gaining a broad and diverse vision of the context: 'There is no single person or stakeholder that can do everything perfectly. There need to be niche experts that have to co-operate to ensure that the best experience is created'. Therefore, a valuable result could be boosted by a workshop with a co-creation emphasis: 'Because it's essential work on something together to reach a mutually valued outcome'.

In the emotional record's collection of the daily emotions experienced during the sprints, the responses showed differences depending on the day, but joy was one of the most recurrent emotions during the entire workshop. On the second and third

days, which usually involved data collection and confronting challenges, anger was the main emotion experienced. On the last days, satisfaction and frustration were the most common emotions during the final process, in which participants build prototypes and define their outcomes. The keywords related to the process were overwhelmed for the first days of the workshop and proactive, relief, stress and tired on the last days.

The challenge was greater in the facilitators' emotional record. Facilitators had to identify their own emotions and those of the participants. The most common emotions were joy on almost every day and anger associated with the group process and confusion over the sprint structure on the second, third or fourth days. Satisfaction and astonishment were the most common emotions related to the outcomes from each group in the last days, often followed by expressions like 'glad to end the whole thing; we did it!', 'satisfied with how well everything went' and 'overall, the week went well'. Bored was the only emotion that facilitators never selected to describe their experience, but it was chosen as an emotion that facilitators perceived among participants.

Although the perception of the facilitators on some occasions coincided with those reported by the participants, the overall precision of facilitator perceptions is far from clear. Comparing the descriptions of emotions experienced by facilitators and participants reveals differences in how they perceive and describe emotions. Therefore, the results were compared using a numerical approach that will be amplified in later research.

## 5.3 Inaccuracies in distinguishing among emotions

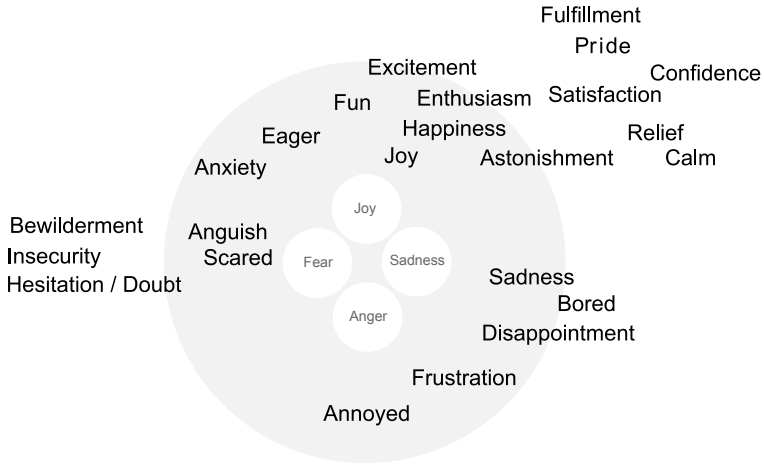
In sub-study III, the most common emotions perceived by service designers during an entire project were joy, frustration, disappointment, enthusiasm and excitement. The emotions experienced by service designers during the project process were divided into those directly related to an action or the present moment and those linked to their self-perception, which have a different impact on the service designer; in the case of workshops, the most common emotions were joy and fear and, at the end, satisfaction and frustration, depending on the results of the workshop. At the same level of results, the type of interaction and challenge in each stage define the type of emotion perceived. There is no clear understanding of emotions or their meaning in the process; according to the responses, emotions are mainly functions of the results, with some answers pointing out other concepts related to emotions such as stress, sense of duty and rush. In only a few cases were emotions described as part of the service designer's unfolding.

The questionnaire began by asking respondents to specify the model or methodology most used to develop service design projects. Although the purpose of asking the question was straightforward, the results provided unexpected information. The

responses revealed confusion between methods, tools, methodologies and models. Several respondents indicated interviews as a methodology, which is quite valuable and often used as a method in data collection, but it does not define the process the way a methodology does. The most often used methodology was the Design Council's double diamond (2005), but it was noted in only 3 of the 15 answers.

As the main purpose of questionnaire (Q2) in this sub-study was to identify emotions in the service design project, it asked respondents to describe the various stages and the emotions that arose in each one; with this information, it would be possible to understand more precisely the associations between a given stage and the emotions identified with it. One lessons learnt in sub-study II was to avoid giving respondents the names of the emotions, leaving them free to express the emotions they experienced without having to pigeonhole them under a predetermined name. This decision meant that the characteristics that respondents identify and associate with an emotion were learnt with greater precision.

A total of 25 emotions were identified by the 15 respondents: joy, frustration, disappointment, and enthusiasm and excitement were the most common answers. In the data analysis, the emotions were organised into four basic emotion – joy, fear, sadness and anger – to visualise the emotional roots of the respondents' experiences (see Figure 5). The results reveal 13 emotions close to joy, 6 close to fear, 4 close to sadness and 2 close to anger. The emotions also differed by how close they were to the four basic emotions defined in the data analysis process. Those emotions inside the circle in Figure 5 were stronger and more closely connected with moments that occurred while carrying out the project; the emotions outside the circle were more closely linked to retrospective self-evaluation and thus endured beyond the situation that led to their arising. In addition, these more enduring emotions were connected with evaluating the project's progress and achievements.




| | Stage 1 | Stage 2 | Stage 3 | Stage 4 | Stage 5 |
|---|---|---|---|---|---|
| Excitement | ● | ● | ● | ● | ● |
| Enthusiasm | ● | ● | | ● | |
| Happiness | | | ● | | ● |
| Fun | | | | ● | |
| Joy | ● | ● | ● | ● | |
| Astonishment | ● | ● | | | |
| Fulfillment | | | | | ● |
| Pride | | | | | ● |
| Confidence | | | ● | ● | ● |
| Satisfaction | | ● | | ● | |
| Relief | | ● | | | ● |
| Calm | | ● | | | ● |
| Sadness | ● | | | | ● |
| Bored | ● | | | ● | ● |
| Disappointment | | ● | ● | | ● |
| Frustration | | ● | | ● | ● |
| Annoyed | | | | ● | |
| Overwhelm | | | | ● | |
| Scared | ● | | | | |
| Anguish | | | | | ● |
| Hesitation / Doubt | | | | ● | |
| Insecuity | | | | ● | |
| Bewilderment | | ● | | | |
| Anxiety | ● | ● | | ● | |
| Eager | | | | ● | |

***Figure 5.*** *Emotions experienced in the service design process (sub-study III)*

In addition, the information provided by respondents describes the project's stages, making it possible to identify the level of interactions. Comparing the interactions with the emotions described in each stage led to another finding: when the levels of interaction with other people were lower (stages 1, 3 and 5), the largest number of emotions experienced were associated with joy. The stages with higher

levels of interaction with users (stages 2 and 4) revealed concentrations of emotions associated with either fear or joy. At the final stages of delivery and synthesis (stage 5), the concentrations of emotions were joy, love and sadness. There were also specific emotions whose frequency depended on the outcome; in the case of positive results, satisfaction and pride were mentioned, whereas frustration and disappointment appeared when the results were adverse.

The emotions identified when service designers carried out a workshop were organised into the three stages: before, during and after. At the before stage, when the focus was on initial design and planning activities, and the during stage, when they were conducting the workshop, the most frequent emotions were joy and fear. In the after stage, once the workshop was over, the focus was on evaluating and reflecting on the output; joy and fear remained common, but other emotions arose depending on whether the outcome was positive (satisfaction) or negative (sadness and frustration). The findings reveal an indisputable link between emotions and the responsibility for guiding a collective creative process to obtain results, as the following quotes show: 'the pressure of the responsibility to secure a valuable outcome'; 'all these feelings depend on how the stakeholders respond to the workshop, and how I'm able to anticipate or resolve situations'; and 'always checking the schedule and/or the content/participants'.

These representative citations of Q2 responses reveal the emotions that each facilitator goes through. Within the attempt to identify the emotions experienced, the respondents identified other concepts that were confused with emotions – rushing, sense of duty, flow, stress, empathy, sense of being energetic, focus and son – that strengthen the link with a sense of responsibility.

## 5.4 Emotions and decision making to build a community

Sub-study IV showed the process of building a community or a sense of community, through a set of actions involving co-creation, with an emphasis on decision making based on emotions. The results show the strategy of listening first and then trying to build something with the participation of all the people involved in a project – students, graduates and teacher – helped boost ideas closer to meeting the participants' expectations. The decolonising perspective incorporated in the review and analysis after the project added a point of view that emphasises a practice centred on the experience of the people and their expectations. The sense of belonging was reflected in the greater availability to participate in activities and to contribute to the growth of the master's program, but an additional data collection method would have been necessary to deepen this point.

One exercise carried out during the first workshop was the 3C's matrix, where participants identified their perception of the master's programme in the three

columns. In the first column, they expressed their cognitive or mental perception through some aspects of the master's programme, such as a place to build a network, gain more experience and knowledge related to innovation and experience multicultural and interdisciplinary integration. The participants filled the second column mainly with positive emotions about their motivation, satisfaction and joy at having been part of the programme, but there were also some less positive emotions regarding English terminologies and protective or paternalistic treatment. The last column collected mainly negative aspects, such as the excessive use of sticky notes, the requirement to carry out teamwork, which students who work during the day reported to interfere with their optimal participation and the structure of the contents.

The second workshop mainly involved co-creating ideas to build a community, so at the end the participants proposed five ideas for the desired community. The five ideas involve activities in both virtual and face-to-face environments. Participants organised their ideas so as to extend the experience from classrooms to a website by adding more content, such as information about students, graduates and teachers, to make their backgrounds visible for potential contact networks and to expose the experience of each participant. In addition, the ideas included face-to-face activities to reinforce knowledge and spaces with special, dedicated tools to develop their courses in the best possible way. The five ideas were organised into three categories: linking, learning and dissemination: i) linking refers to the opportunities for connections between community members; ii) learning refers to the access to meaningful content and increasing the understanding of the process; and iii) dissemination refers to the diffusion of the activities and the achievements of both students and graduates. The five ideas were combined and organised into these three categories to visualise the three areas of action, and some of the ideas were carried out during the development of the project.

Decision making based on emotions required a flexible structure and methodology in each workshop. This approach made it possible to emphasise the permanent flexibility in the project development structure and fostered genuine and meaningful dialogue. It was in the dialogue where the decolonising perspective was integrated as both nuance and impulse. Emotions from this perspective are connected with the decolonisation approach through the promotion of egalitarian and respectful interactions, where interdisciplinarity was often a challenge and socially established structures like student–teacher and student–graduate relationships were avoided. Co-creation as a collective space for creativity resonates positively with concepts such as respect and empathy, for which dialogue is the channel to reach consensus and an atmosphere that encourages creativity and a sense of community.

## 5.5 Summary of results

The overall purpose of the research is to answer the primary research question: 'How can emotional skills support service designers and strengthen their role in co-creation practices?' The sub-studies focus on answering various aspects of this question, as detailed in Table 2.

***Table 2.*** *Summary of research questions and results*

| # | Research questions | Results |
|---|---|---|
| I | 1. How do service designers handle complexity in projects?<br><br>2. How does co-creation transform citizens as individuals into a community perspective? | Complexity can be addressed through a design methodology appropriate to the challenges of the project. Co-creation is a practice that contributes to knowing the different edges of each challenge, allowing the service designer to grasp the complexity as it arises from the experiences of all those involved. Because co-creation requires a set of elements to share, to propose and to agree, those participants can be seen as a community. The co-creative environment fosters understanding the participants in a broad way by obtaining some indications of the communities with which they surround themselves and which influence them. What happens during a co-creative workshop broadens personal experience and creates an environment of evaluation, contention and understanding that moves beyond individuality. |
| II | 1. Which emotions are most prevalent during the co-creation process?<br><br>2. How aware are facilitators of their emotions during co-creation workshops? | According to the emotional record method, the most common emotions experienced by participants were joy, anger, satisfaction and frustration. The emotions for facilitators were joy, anger, satisfaction and astonishment.<br><br>The facilitators were imprecise in their emotions; many of their responses were related to an optimal emotional state; they were open to experience and they mainly perceived the emotions in response to the results obtained from the exercises or activities carried out in the workshop. |
| III | 1. How do service designers perceive their emotional experience in the service design process and workshops?<br><br>2. How can service designers' emotional awareness help them deal with uncertainty in the service design process? | Service designers perceive their emotions in the process in accordance with the degree of difficulty and the level of interaction with others. There is also a distinction between emotions that arise in a given moment and those that transcend the situation and allow the results to be evaluated.<br>A broader and deeper understanding of emotions would enable service designers to identify the elements that influence their own emotional experiences and those of the project and workshop participants. |
| IV | 1. How can the consideration of participants' emotions support more democratic and inclusive decision making through service design workshops?<br><br>2. What can be learnt from this specific evaluation process in Chile to be further used and implemented in decolonising approaches? | Decision making based on emotions defined the structure and methodology. The characteristics were the flexibility to change according the progress, listening to expectations and defining next steps with the participants. In this sub-study, the decolonising concept was applied as a different mindset; designers abandoned their position as experts to be facilitators of the process. Emotions were linked through dialogue as a practice where all participants were equals and they had to share and agree upon common visions. The results show that service designers need to strengthen their skills at fostering a respectful and nurturing dialogue. |

The results of the sub-studies show that the knowledge of emotions by service designers is imprecise and superficial. It also confirms that the structure of a workshop, in both the planned activities and the results, is at the centre of their attention and thus most influences their emotional intensity. While methods and tools are a good support for emotional support, service designers do not have an adequate knowledge base of emotions. A deeper knowledge of emotions would allow them to improve their responses to the diversity of situations that may arise in interactions with more people and increase their accuracy in perceiving participants' emotions. The 3C's matrix (Tolosa, 2008), which was used as a knowledge base in all four sub-studies, encourages the organisation of a more precise and inclusive observation of the various areas that influence people's emotionality.

In summary, the emotional skills connected with the 3C's trilogy broaden the service design approach, where decision making is powerfully influenced by the knowledge of emotions, by revealing more subtle aspects that require consistent skills.

Promoting dialogue and providing an atmosphere that contributes to the flow of co-creation are the most concrete skills that a service designer should strengthen, a mission that is all the more meaningful when considering co-creation as the constitution of a community. Although it may appear obvious that these skills are relevant when facilitating co-creation processes, there has been more research on emotions in the knowledge of the user or participant experience rather than those responsible for guiding that process. In general, the emotions of the service designer have not been studied in meaningful and have not been analysed with an eye to training professionals in this field.

# 6 Discussion

My study is focused on learning the current state of knowledge of the emotions of service designers in both general practice and conducting co-creation workshops. The first stage of carrying out this study involved reviewing two cases in which the design of services was the way to solve problems at the national level (sub-study I). The next step was to identify the emotions that arise in co-creation from the perspectives of both participants and facilitators (sub-study II) and then distinguish, in a service design context, the emotions that arise in an entire project and specifically in a co-creative workshop (sub-study III). Finally, a case was used to identify the impact of emotions on decision making, and the characteristics needed by the facilitator to build community through co-creation were glimpsed (sub-study IV). Below, I present the themes that emerged from the four sub-studies; in discussing the first two, I reflect on the understanding of emotions and co-creation seen as a community. In the last theme, I propose a definition of the emotional skills that would support service designers in co-creation practices.

## 6.1 Knowing and experiencing emotions

Emotions are present in our daily lives, so all we know what an emotion is (Desmet, 2002). According to Frijda (1986) emotion is a category of the psychology field and is explained as a set of mechanisms, or a system, connected with satisfaction and a mechanism that determines appropriate actions; therefore, emotion 'is the mechanism that produces readiness change with control precedence, both for motivation (desire, enjoyment) and in emotions proper' (p. 473). The term emotion has many broad and often abstract definitions, with each field offering its own description, often depending on a general or particular aspect of the phenomenon. Although everyone has experienced emotions, identifying them accurately is much more difficult than that universality of experience might suggest.

From the beginning of this study, one of the major challenges was to identify each emotion experienced. In the exploratory stage, a case study was carried out to test the understanding of emotions in the emotional map (Appendix 1), but it was extremely difficult to identify them with precision, given the many options available, many of which are very similar. Therefore, the strategy changed in the next stages; first, a list with only nine emotions (sub-study II) and then an open-ended question (sub-study III) both showed that the understanding of emotions is limited

– perhaps even severely so – and that there is significant confusion in how to name the emotions experienced.

There is more research into the nature of emotions from different fields than there is about emotions as phenomena (Lerner et al., 2015) or how they can be seen without being an expert. On a daily basis, people experience emotions, but the knowledge we have of them is limited because that knowledge requires constant refinement and comparison. Some attempts to go beyond theory and visualise emotions have been undertaken by Paul Ekman (2013), using facial expressions, and Susana Bloch (2008), using respiratory intensity and frequency, which allow us to appreciate them in a more concrete way.

In a service design environment with a co-creative practice, emotions are essential; good and bad experiences provide invaluable information to identify opportunities for improvement, strengthening and identifying what should be changed and what should be maintained. Service designers as facilitators of co-creation workshops have to help participants express their feelings freely while deploying the subtlety needed to manage situations for creative and nurturing purposes and avoiding conflicts that block the process. Service designers could be considered – in Thaler and Sunstein's (2009) term –choice architects, who use decisions related to experiences to generate improvements in people's lives. One part of nudging and aligning the 3C's of head, heart and body is to allow users, to maintain an active and leading role throughout the process and increase awareness of the emotions that are experienced (Soto & Kaplún, 2019).

Knowing and experiencing emotions is neither merely a practical path to approaching emotions nor an exercise to manage or structure the dynamics in order to achieve service design outcomes. Knowing and experiencing emotions refers to an open state that increases sensitivity thresholds and an understanding of the emotional processes needed to more precisely identify which emotions arise in a specific situation and the factors that influence them. Therefore, instead of focusing attention on reducing everything that generates situations of conflict or negative stress, knowing and experiencing means expanding the knowledge of the process. The concept of empathy arises here almost spontaneously as the golden action needed to get closer to another person, which is part of the daily work of a service designer carrying out co-creation instances with users and stakeholders.

According to Tolosa (2013), to know people both broadly and precisely, we have to identify their mental representations such as beliefs and knowledge, their emotions and their behaviours, which can be achieved through the 3C's trilogy. His perspective, used extensively in this study, has allowed me to understand the real context and see how the connections between those three aspects provide important clues about people. The approach can even be extended to analysing organisational practices and the way in which organisations construct and conceive reality. Having a greater knowledge of a given individual makes it possible for some of the conditions

for empathy to arise, such as being aware of the other's situation or state (Smith 2015). This approach and knowledge of the other is explained by Zahavi (2017) as follows: 'empathy concerns our general ability to access the life of the mind of others in their expressions, expressive behavior, and meaningful actions' (p. 40). This knowledge enables integrating into the training of facilitators deep listening and anticipation skills so that they can react in time or help with the strengthening and consolidation of a community.

## 6.2 Community emphasis in co-creation

Our prevailing emotions have a substantial effect on how we behave. Sanders and Stappers (2008) describe different levels of creativity and how researchers (and often designers and facilitators) need to learn relevant tools to foster participants' creativity and 'facilitate people's expressions at all levels' (p. 14). These levels and learning aspects are as follows: (1) *in doing*, the facilitator needs to learn to lead; (2) *in adapting*, the facilitator needs to learn to guide; (3) *in providing scaffolds*, the facilitator needs to have skills for making; and (4) *in offering a clean slate*, the facilitator needs to learn creating. These four skills are essential to guiding the experience from the perspective of the facilitator and oriented to obtaining the best possible results.

However, two new levels should be added to emphasise the community element of co-creation connected with emotions through service design. These two levels would contribute to managing the struggle to foster a respectful environment: (5) *in community making,* the facilitator needs to have the skills to create a community in each collaborative session; (6) *in emotional reading,* the facilitator needs to develop the skill 'to see beneath the water' and anticipate as many contingencies as possible. These two levels contribute to building a sense of community by triggering specific actions linked with an atmosphere of collaboration and participation in co-creation activities where facilitators must balance the power of all participants. Supporting participants through their emotional processes could lead to better outcomes and have a positive overall impact on the entire process.

People are immersed in different communities during their lives (e.g. family, colleagues, friends from college, friends from university, gym, book reading groups) m and lifestyle can also sometimes be observed in people's bodies (e.g. bodily differences between active and sedentary people or lung cancer for smokers); our habits and interactions with our surroundings leave traces on us (Tolosa, 2013). If all the communities with which we have interacted during our lives leave voluntary or involuntary traces, the participation in a co-creative activity can also leave a mark of some kind. On the immediate time horizon, if the purpose of the activity is to improve a service, the experience of the participants can be decisive in changing people's perceptions of the service and, of course, the service itself.

This study conceives of co-creation as a genuine community of creation, where everyone collaborates and contributes to co-creation. This emphasis is due to the environment that is configured to foster creativity; as explained in sub-study III, the role of the facilitator is essential to foster dialogue and define an atmosphere of interchange and respect. Emotions always flow in human beings and thus arise during participation in co-creation workshops. According to the three levels of emotional response that Norman (2004) has proposed, the visceral level emerges in interactions with others and the environment, the behavioural level represents the actions deployed in said interactions, and the reflective level processes the experience, even making it last after the activity has concluded.

As explained in sub-studies II and III, participants and facilitators agreed on several of the suggested emotions and those they freely identified. Both sub-studies revealed the emotions that arise in a particular context of co-creation and in general during the realisation of a service design project. As this thesis is focused on the service designer in the facilitator role, both sub-studies provided clues about the experience of facilitators and participants, thus increasing the knowledge of emotions during co-creation.

To sum up, the themes that emerged from the four sub-studies pointed out the vital importance of knowledge of emotions for service designers and the benefits of conceiving of co-creative practice as a community. Many previous studies have focused on the emotions that users experience while scarcely considering the emotions experienced by those who are responsible for shaping the experience of others; in this case, the service designers. The knowledge of emotions allows service designers to clearly identify the emotions they experience and therefore be more precise in assessing and describing the emotions they observe in others. With this more precise understanding, it is also possible to identify the factors that influence emotions. To build an atmosphere of respect, trust and optimal freedom for conducting a co-creative workshop, the service designer as facilitator must know how emotions arise and are expressed, which requires the facilitator to have adequate preparation and sensitivity. The co-creation seen as the constitution of a community allows for organising and better managing people's actions and making this optimal atmosphere a meaningful experience that achieves its stated purposes.

## 6.3 Skills to enhance emotions in co-creation

Emotional skills are highly subtle and specific skills that clarify our perceptions of emotions in our lives, in our relationships with others and in the ways we manage them. Within this study, several related themes emerged that could be deepened and amplified in the future, but since the study of emotions in service designers is still an emerging – if important – field, I will continue by briefly recapping the

emotional skills identified as essential according to the sub-studies and supported by the perspective of the 3C's trilogy (Figure 6). The three areas are interconnected and work together in a balanced manner.

| 3C's Trilogy | 3C's | Emotional skills |
|---|---|---|
| Head<br>Mental construction of concepts, beliefs, ideas and symbolisms |  | Embodied knowledge<br>Experiences, practices and contexts as a knowledge for to applied in co-creation |
| Heart<br>Set of attitudes, emotions, states and feelings |  | Emotional awareness<br>Understanding your own emotions and those of others |
| Body<br>Set that groups behaviors, gestures and senses |  | Collective spirit<br>Recognition of emotional manifestations to generate a sense of community |

***Figure 6.*** *The 3C's trilogy and emotional skills*

The three skills explained below have emotions as a common axis and are also connected with the 3C's trilogy; they comprise a step forward in this trilogy to be applied specifically to co-creative practices when carrying out service design projects.

### *6.3.1 Embodied knowledge*

This ability corresponds to the knowledge and practice that together determine, according to Tolosa (2008), the system of reasoning, beliefs and judgments. This system works voluntarily and involuntarily since knowledge is not only obtained from books but also from lived experiences that leave traces. Knowledge can be obtained in different ways, including from people's behaviours (Smith, 2010); even without any words, we can understand how our loved ones feel.

In the field of service design, this area can also be linked to the number of books offering methods and tools to carry out co-creation projects and workshops (e.g. *This is Service Design Thinking*, *This is Service Design Doing, 250 Essentials Tools, Business Model Canvas, Sprints*). In addition, the planning stage and defining the structure in co-creation workshops give facilitators a clear path to follow when they conducting a workshop.

Embodied knowledge is linked with decision making through emotions. Emotions have a significant influence on decisions, and emotional knowledge opens a window on the combination of the reasoning behind an emotion or what triggers

an emotion. According to Lerner et al. (2015), there are incidental and integral emotions; incidental emotions are those without a direct or clear relation to the decision but that could still be influenced by it; integral emotions are those caused by the decision.

### *6.3.2 Emotional awareness*

This ability suggests increasing the knowledge about emotions, first as an auto-perception and then recognising them in others. Basic emotions are a comprehensible way to understand emotions and gradually deepen knowledge of a wider and more nuanced variety of emotions. When facilitators are more aware of emotions, they can empower participants through the co-creation process by managing different situations that can add extra stress to the group or give the participants more emotional support through specific information. Therefore, it is essential to achieve emotional awareness to strengthen observation skills, sensitivity to situations, the ability to anticipate facts and the flexibility to adapt the structure of the workshop to the specific characteristics of the participants.

With more accurate observation skills, it is possible to strengthen the relationship with the participants by increasing the ability to anticipate and detect power struggles between participants and fostering dialogue to resolve conflict and reach consensus when small crises arise within groups. These seemingly small decisions can have a significant positive impact on the participants' perceptions and, therefore, on their experience. In addition, a broader and more precise knowledge of emotions allows service designers to identify their own emotions and prepare for the situations they have to face.

### *6.3.3 Collective spirit*

This skill proposes a focus on the body and on expression that contributes to communicating with others, generating a sense of belonging to a community. The role of designers differs from situation to situation; in service contexts, their typical job description is close to a research-oriented professional with social and communication skills (Miettinen et al., 2014). The body is an important part of emotions, which can coordinate or even control our behaviours (Nummenmaa et al., 2014), whether consciously or unconsciously, according to the situation and stimuli. Emotions are visible in our breathing (Bloch, 2008) and facial expressions (Ekman, 2013) and can be felt in various parts of the body (Nummenmaa et al., 2014).

The collective spirit can be built with a set of actions that depend on each situation and the surrounding factors which can influence or define the experience. A skilled facilitator can define the relationships and characteristics of the community (Tolosa, 1999) to refine and boost creativity. Achieving creativity is not a privilege limited to talented people (Bohm, 2004); according to Csikszentmihalyi (2013), creativity is a

systematic phenomenon which depends on people's interactions with their thoughts and the sociocultural context (p. 23).

The collective spirit in co-creation practices means building a genuine sense of community. The facilitator has to contribute to setting up an atmosphere of respect, dialogue, sharing and trust. Hence, the facilitator should know the basics elements needed to trigger the optimal experience for co-creation, identify new signals that can be read from the interactions between participants and communicate appropriately for the situation.

# 7 Conclusions and further research

People experience many emotions during their daily lives, and that includes their professional work. For service designers, as in many other fields, challenges increase when there are interactions with others. This thesis has demonstrated that service designers are aware of some emotions but make few clear distinctions and are prone to inaccuracy in their attempts to describe them. Service designers have to solve a problem and understand the origin of that problem (Widmark & Patel, 2013) while providing an optimal experience through enjoyable activities (Csikszentmihalyi, 2008). The type of experience defines the emotions triggered and how they will be archived in what Bloch (2008) calls the emotional memory. From a business perspective, Van Gorp and Adams (2012) argue that 'we receive information about the world from our senses' (p. 6); therefore the skills needed by service designers to set up a workshop are simply crucial to defining the experience in a co-creation environment. According to Buck (2016), the essence of emotions is the neurochemical component of our body or biological level combined with the subjective part of the emotions, and the ecological level connected with the body responses is therefore observable: 'there are interrelated systems of higher-level social, cognitive, and moral emotions reflecting interactions between biological potential and universal ecological contingencies' (p. 5).

The purpose of this study has been to broaden the understanding of emotions in the service designer, an understanding based on co-creative practice, an approach to the phenomenon rather than to theory. Hence, the three identified skills, *embodied knowledge, emotional awareness* and *collective spirit*, contribute to strengthening the practice of the service designer through a notion of community applied in a co-creation context. The community sense fostered by these three skills gives service designers more tools to support their performance based on emotional understanding. As all the skills are connected through emotions, it allows us to understand the emotional dimension as far beyond mere feelings and to apply the skills in a complex context with high levels of interaction. For the service designer as a facilitator of the process, these skills increase the degree of confidence in what happens in co-creative instances and help organise priorities in these three areas.

The sub-studies showed that service designers currently have little knowledge of emotions, and what they have is somewhat muddled. By delving deeper into this problem, this study has identified a gap in the scope of services: service designers do not have enough training focused on the knowledge of emotions. This lack reduces the chances of accurately identifying one's own emotions and those of others.

However, increasing the knowledge of emotions would allow service designers to be prepared in the face of the variability of the situations they face, to influence the improvement of the experience of the workshop participants and consequently to influence more effectively in design of the final service.

This study has identified the skills that service designers should possess to carry out their projects. In the future, this research can be extended even more deeply into these three skills by identifying possible ways to develop and strengthen them. Furthermore, I would like to undertake a detailed experimental study of the external factors that influence an experience and therefore the emotional perception of it (e.g. the infrastructure of the place where the co-creative workshops are held, the planning of the activities, the dynamics and their link(s) with the results).

The next phase of the effort of which this thesis forms a foundational part is to design an emotional training for service designers that uses the three key skills. Having completed this study, my motivation as a researcher and a person is the certainty that service designers can contribute to the well-being of society through their work. The three proposed skills allow service designers to connect with the participants in co-creation workshops to jointly create the solutions and improvements they want and expect. Improving the user experience requires service designers who are capable of designing better services, and emotional skills are a way to support the service designer in this challenge.

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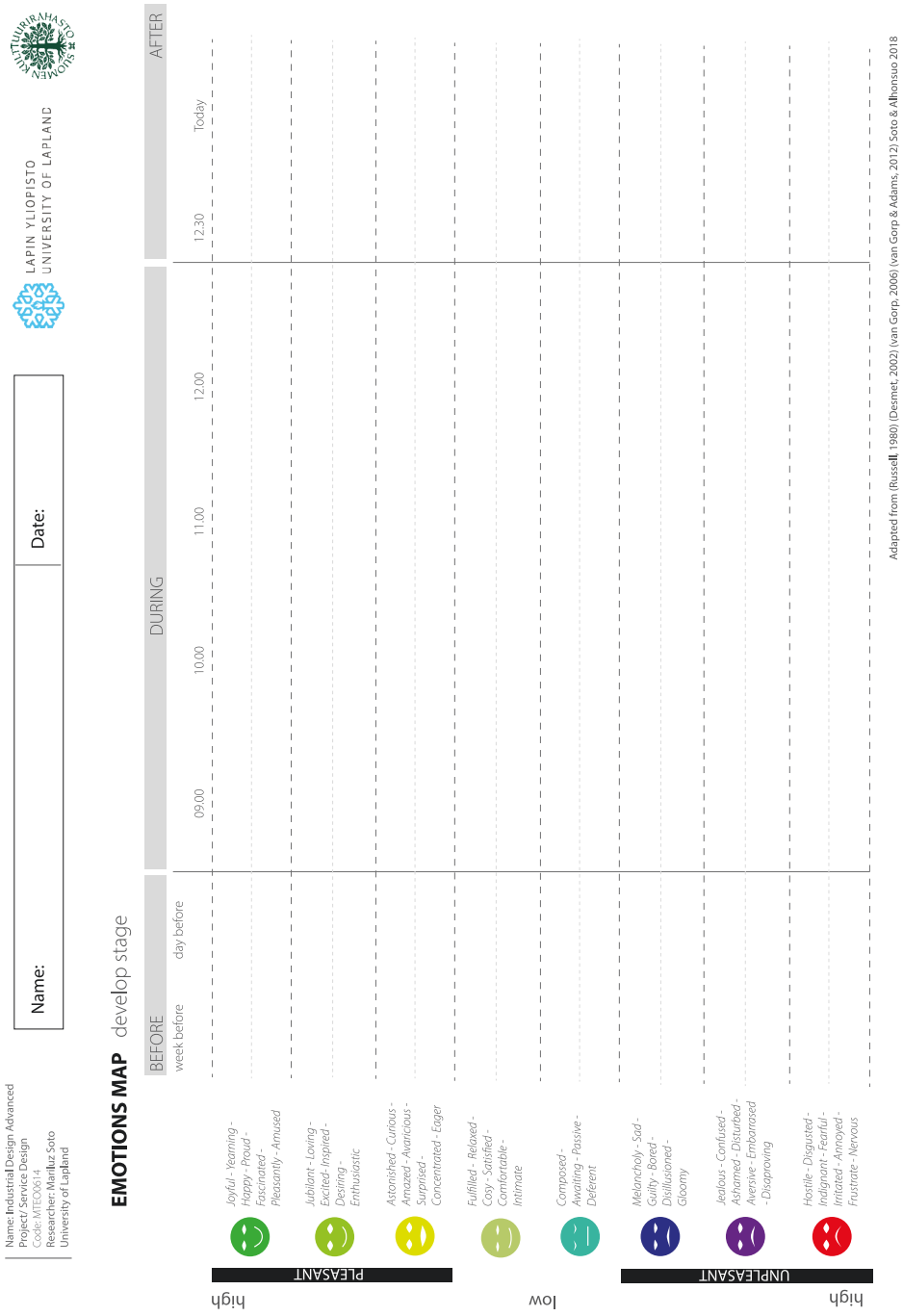
# APPENDICES

## Appendix 1: Sub-study II, Emotional Map (Pre-case study)



## Appendix 2: Emotional record participant invitation

**Dear Design Sprint participant,**

*[Introductory part regarding to the specific city of the sprint]*
In this email, I send you the link to answer the emotional record, an instrument that is part of my doctoral research. You can use the same link to answer the survey every day; you just have to mark the corresponding date. Anyway, every day I will send you a reminder to make it easier for you to get to the questionnaire.

The link is [the specific link for every city].

I must emphasize that answering this questionnaire is voluntary and by answering it, you authorize it to be used as part of my research.

Thank you very much for contributing to my research!

See you tomorrow.

All the best,

Mariluz Soto H.
Junior Researcher
Culture-based Service Design
University of Lapland
Finland

## Appendix 3: Sub-study II, Emotional record facilitators

Daily questionnaire



# Emotional record

Please select one or more of the emotions you felt today during the session and describe it/them.
Some guiding questions to describe the emotion:
What did you feel? How did you notice? Any physical gesture?
Can you associate your emotion to a specific moment of today's session?
Why do you think you experienced that emotion?
* Required

1. Date *

*Example: January 7, 2019*

2. JOY (Having a good time. Enjoying the workshop. You feel creative)

3. LOVE (You feel security. You feel excited and inspired)

4. FEAR (You feel exposed. You feel insecure about your knowledge)

5. ANGER (You feel disappointed. I had other expectations. You are upset)

6. SADNESS (You're not having a good time. You are not satisfied with your performance)

7. ASTONISHMENT (Impressed by learning and achieved. Unexpected lessons)

8. SATISFACTION (You are happy with your achievements and progress. You are proud)

9. CONFUSED (I do not understand the instructions. How can I integrate this new knowledge?

10. BORED (I do not feel part of the group, I'm not excited about it)

11. If you experienced another emotion that is not on the list, please write it and describe it here

## Emotions perception

The purpose of this section is to identify the emotions of the participants

12. Please mark the emotions that according to your perception the students experienced today (all that apply)

*Check all that apply.*

- [ ] JOY
- [ ] LOVE
- [ ] FEAR
- [ ] ANGER
- [ ] SADNESS
- [ ] ASTONISHMENT
- [ ] SATISFACTION
- [ ] CONFUSED
- [ ] BORED

Other: [ ] _____

## Appendix 3: Sub-study II, Emotional record facilitators

After-workshop questionnaire



# Questionnaire for Facilitators

Please, when you finish the Sprint, answer the following questions

* Required

1. What do you consider are your strongest skills as a facilitator? *

2. What do you consider are your weakest abilities as a facilitator? *

3. About the environment or room in which the sprint was developed, What are the elements that could be added, eliminated or maintained for the realization of another sprint? (elements such as the organization of chairs, lights, sounds, colors, presence of technolog etc.) *

## Appendix 4: Sub-study II, Emotional record participants



# Emotional record

Please select one or more of the emotions you felt today during the session and describe it/them.
Some guiding questions to describe the emotion:
What did you feel? How did you notice? Any physical gesture?
Can you associate your emotion to a specific moment of today's session?
Why do you think you experienced that emotion?
* Required

1. Date *

2. JOY (Having a good time. Enjoying the workshop. You feel creative)

3. LOVE (You feel security. You feel excited and inspired)

4. FEAR (You feel exposed. You feel insecure about your knowledge)

5. ANGER (You feel disappointed. I had other expectations. You are upset)

6. SADNESS (You're not having a good time. You are not satisfied with your performance)

7. ASTONISHMENT (Impressed by learning and achieved. Unexpected lessons)

8. SATISFACTION (You are happy with your achievements and progress. You are proud)

9. CONFUSED (I do not understand the instructions. How can I integrate this new knowledge?

10. BORED (I do not feel part of the group, I'm not excited about it)

11. If you experienced another emotion that is not on the list, please write it and describe it here

Google Forms

## Appendix 5: Sub-study III, Questionnaire Q1 service designers



# Questionnarie: Most used methods and tools by Service Designers

This questionnaire is part of Mariluz Soto's doctoral research process (Culture-based Service Design, University of Lapland). The information collected will only be used for research purposes. By responding t this survey, it is considered that you agree and authorize the use of your answers for the educational purposes of this research.

This questionnaire consists of two parts, the first with 4 questions about your experience in service desigr and the second part collects information about the respondent´s profile.
* Required

1. Which are the methods and tools that you use the most to carry out your service design projects? (Please select the 5 most used in your projects) *

- [ ] Stakeholder maps
- [ ] Service Safaris
- [ ] Shadowing
- [ ] Customer-User Journey Maps
- [ ] Interviews
- [ ] The Five Whys
- [ ] A day in the life
- [ ] Expectation Maps
- [ ] Personas
- [ ] Idea Generation
- [ ] What if...
- [ ] Design Scenarios
- [ ] Ethnography approach
- [ ] Storyboards
- [ ] Service Prototypes
- [ ] Service Staging
- [ ] Agile Development
- [ ] Storytelling
- [ ] Service Blueprints
- [ ] Service Roleplay
- [ ] Customer Lifecycle Maps
- [ ] Business Model Canvas
- [ ] User Diaries
- [ ] Brainstorming
- [ ] Design Briefs
- [ ] Experience Prototyping
- [ ] Ecosystem Map
- [ ] Research Insights
- [ ] Vision Stories

Other: [ ] _____

2. Which are the books, articles or websites that you would recommend to learn about methods and tools to develop projects in service design? *

3. Would you define co-creation as "an essential" for the development of projects in service design? *

- ◯ YES
- ◯ NO

4. Why? *

Respondent information

5. Gender *

- ◯ Female
- ◯ Male

6. Profession *

7. Please write the country in which you live *

8. Select the age range corresponding to your age *

- 23 - 28 years old
- 29 - 34 years old
- 35 - 40 years old
- 41 - 46 years old
- 47 - 52 years old
- 53 - 58 years old
- 59 - 64 years old
- 65+ years old

9. How many years of proven experience do you have as a service designer? *

10. Select the most appropriate alternative to your academic background *

- ◯ I am a professional. (Completed undergraduate degree or a professional degree)
- ◯ I am student in a Master degree programme
- ◯ I am a Master. (Completed master degree)
- ◯ I am a PhD student.
- ◯ I am a PhD or Doctor
- ◯ I am a Post-Doctoral researcher
- ◯ I have already finished my Post-Doctoral research
- ◯ Other: _____

11. In which sector do you develop (mainly) service design projects? *

- ◯ Public
- ◯ Private
- ◯ Third sector (non-governmental organizations and other non-profit organizations)

12. Would you like to continue collaborating as a respondent or interviewee in this investigation? *

- ◯ YES
- ◯ No

13. If your previous answer was YES, please write below your email

_____

14. If you have any comments, questions or questions, please write them below. (Add your email if your comment requires a response)

## Appendix 6: Sub-study III, Questionnaire Q2 service designers



# Emotions in Service design

This questionnaire is composed of three sections: 1) verification of permits and confidentiality; 2) identification of emotions during the realisation of a service design project, and 3) identification of the emotions during the realisation of a co-creation workshop (for both the facilitator and the participants). // At the end, you will find a box in which you can leave comments and questions. If you ask questions in this area, make sure to include your e-mail address.

* Required

### Requirement to answer this questionnaire

Professors and professionals working in service design can participate in this questionnaire. Due to the nature of the questions and the aim of obtaining accurate data, the professional participants of this questionnaire are asked to have a minimum experience of 2 service design projects (as leaders or collaborators) and 2 co-creation workshops as facilitators.

### 1. Permits and confidentiality agreement

This questionnaire is part of Mariluz Soto's doctoral research process (Culture-based Service Design, University of Lapland) The information collected will only be used for research purposes. This questionnaire is part of one of the stages of doctoral research and could potentially be part of an article for academic dissemination. The answers to this questionnaire are anonymous. If any questions arise, please contact the researcher at the following address: msoto@ulapland.fi

1. Do you authorize your answers to be utilized for the educational purposes of this research

*Mark only one oval.*

- ◯ Yes
- ◯ No

### 2. Service Design process

2. What is the process you use the most to carry out your service design projects? *

**According to the process you defined in the previous question, please organize the stages ir chronological order (first, second, third, etc.) and describe the following information for eac case: 1) the name of the stage/phase, 2) the emotions experienced, and 3) the reasons that influenced these emotions.**

Example: First stage: Research (name of the stage/phase) + Joy (name of the emotion) + Was a new topic and all the members of the research team have interesting backgrounds (reasons that influence the emotion).

3. First stage/phase *

4. Second stage/phase *

5. Third stage/phase

6. Fourth stage/phase

7. Fifth stage/phase

8. Sixth stage/phase

## 3. Co-Creation

This section focuses on co-creation as a practice or recurring activity for the realization of service design projects. Understanding that all projects are different and that each co-creation workshop has different purposes and methodologies, this section asks that the answers demonstrate the most common situations.

**In your experience as a facilitator, what are the emotions that you have experienced in the development stages of the co-creation workshop and why?**

Explain for each phase (before, during, after) what emotions you have experienced and what distinguishes them.

9. Before *

10. During *

11. After *

**In your experience as a facilitator, what are the emotions experienced by the participants of the co-creation workshop and how do you identify them?**

Explain for each phase (before, during, after) what emotions have experienced and what distinguishes them.

12. Before *

13. During *

14. After *

15. General Comments

Please, if you have any questions, write it in the box below. If you require a response to your inquiry, please add your email address.