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The Role of Service Design in Startups: *Exploring Potential Benefits and Challenges from Service Designers' Perspectives*

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Abstract

The rapid and constant changes taking place in the modern business world together with an increased global competition is making it more urgent for companies to introduce innovative offerings at a faster pace. Purchasing decisions by customers are not solely based on function anymore, there is an increasing demand for intuitive and seamless experiences from the products and services that they interact with. The need to think and act differently has significantly increased the relevance of service design as a contributor to innovation. However, unlike corporates and public institutions, entrepreneurial startups rarely employ during their early stages the full potential of design in their business development and innovation processes.

This thesis was conducted to explore how service design could potentially contribute to the practice of entrepreneurial startups to identify the right business model in a more effective way, while avoiding the common pitfalls faced by most startups. First, the contemporary literature was reviewed to examine the startup and service science literature to identify potential service design implications for an early stage startup and the connection between practice and theory. Furthermore, the thesis explores the methodologies of lean startup and service design. This is followed with an empirical study that was conducted by applying a qualitative methodology, which involved in-depth interviews with service design practitioners.

The existing literature showed that there is a lack of research regarding the potential integration of service design practices within the Lean Startup Method. Furthermore, a pre-study and informal interviews with business incubators and startup accelerators showed that the service design approach is still not common amongst startup entrepreneurs and managers. For this reason, this qualitative study was limited to the perceptions of service design practitioners with sufficient knowledge and experience of the startup context. The aim of this thesis is to explore the potential benefits and challenges associated with applying service design in an entrepreneurial startup context. The findings and managerial implications of this research may serve as a foundation for future research, for further validation of the concept.

The study presents significant potential implications, benefits and challenges from implementing service design in a startup context, as well as practical suggestions on how to achieve that. The outcome is, that from the service designer's point of view, service design application in a startup context is possible and may be performed in two levels (separately or in combination), one in terms of practical tools and the other in terms of organisational culture, by building a design-led customer cantered mindset within the organisation. It identifies the potential of service design to facilitate the application of Service-dominant Logic in managerial contexts and provides recommendations about service design tools that may be optimal for its application in a startup context. It concludes with suggestions for further research.

Keywords: Service Design, Startup, Lean Startup Method, Value Co-creation, Service-Dominant Logic, Innovation, Service Science, Business Development, Entrepreneurship, Management, Marketing, Design Thinking, Business Model, Co-design

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Abbreviations

SD = Service Design

GDL = Goods-dominant Logic

SDL = Service-dominant Logic

CDL = Customer-dominant Logic

SL = Service Logic

LSM = Lean Startup Method

BM = Business Model

DT = Design Thinking

MVP = Minimum Viable Product

BML = Build-Measure-Learn cycle

OCT = Organisational Culture Transformation

SDTAI = Service Design Tools Application Intensity

1 Introduction

This chapter provides an introduction to the study, along with a description of the study purpose and a statement of the research questions.

1.1 Co-creation as a Competitive Advantage

A shift from a goods-production-centred view towards a service-based one is being observed in the business world. Due to increased global competition, new ventures are forced to introduce valuable and unique service experiences, as customers seldom make purchasing decisions solely based on function anymore. For this reason, an on-going 'conceptual shift' is taking place in marketing and management that is characterised by a movement from a traditional goods-centred dominant logic (Goods-dominant Logic) to emerging service-centred dominant logic (Service-dominant Logic) (Vargo & Lusch, 2008). In other words, value traditionally was considered as being created solely by the provider, but this new service paradigm has introduced new ways in viewing value: value is co-created by the service provider, customer, and other possible actors through various interactions and collaborative efforts, or as newer views suggest created only by the customer, and value emerges during the consumption process (Vargo and Lusch 2008b).

Vargo and Lush in 2004 stated that "Customers are always Co-Creators". The co-creation process pertains to the interaction and engagement of customers. Nowadays businessmen are pursuing the involvement and participation of the customer in new product and service development, to further establish customers' loyalty and confidence.

Companies perceive their customers differently today, shifting the role of customers from passive to active in the innovation process (Prahalad and Ramaswany, 2004, p. 2). Because of such transformations, the research literature has been evolving when it comes to the role of the customer in the innovation process. Not many decades ago, the role of customers with respect to value creation has gained more attention and became more attractive to firms (Krishna et al., 2013, p. 14). In today's era, customers are more informed, educated and aware of what is happening in the market. Therefore, they are becoming more rigorous when looking for offerings to fulfil their needs. Due to the vast number of offerings in the market, customers are also volatile in relation to loyalty (Vega-Vazquez et al., 2013, p. 1945). As for the innovation process, customers can play various roles. Some can supply the firms with information and knowledge, in relation to their demands and interests or information in the form of proposed ideas and solutions. Other customers tend to assess innovative ideas or prototypes (Piller et al., 2010, p. 7). As a result, firms changed their view toward the customers role, and the evolution of their wants and loyalty led to the re-appraisal of their existing innovation process. Thus, it becomes necessary for the firm to possess relevant knowledge from outside stakeholders, particularly customers with the aim to develop offerings that satisfy their needs and interests.

Moreover, it is argued that it is becoming fundamental for firms to consider the context and involve the customers in the participation of co-creating an experience with the product in order to bring to the market a unique co-created value (Prahalad & Ramaswamy, 2004, p. 16). Such experiences take place during the

co-creation process where the quality of the interactions between the customer and the firm can enrich their relationship and positively impact the co-creation experience for the customer (Prahalad & Ramaswamy, 2004, p. 50). These interactions are discussed by Ind & Coates (2013, p. 87) who emphasized these exchanges as social, establishing mutual meanings for both sides. Having such interactions can make the customer become a "connected, informed and active" individual (Prahalad & Ramaswamy, 2004, p. 2).

The successful application of co-creation leads to positive outcomes for both the company and the consumers. At the level of the company, co-creation equips firms with two significant sources of competitive advantages. The first source pertains to productivity gains through achieving higher levels of efficiency. This is due to reduced risk factors when launching the offering, faster delivery to market, and cost minimization in operations as the cost of input being supplied by participating consumers in the co-creation process is considered marginal when compared to the costs of the input obtained from conventional market research and employees. The second source of competitive advantages refers to the enhanced effectiveness in terms of upgrading the value of the product/service at the level of expected benefits and novelty, which is associated with higher commercial attractiveness and willingness-to-pay, thereby improving customer equity (Hoyer et al., 2010, p. 292). At the level of the consumer, the co-creation process strengthens the relationship between the company and the consumers through fulfilling their needs, as they get to express their views (Hoyer et al., 2010, p. 284).

1.2 Entrepreneurial Startups

Academics, policy makers, investors and entrepreneurs have recognized the key role of entrepreneurship as being one of the main driving forces behind economic development. Policy makers have been working on establishing favourable conditions for new business development and further expansion, meanwhile many investors are creating new ways and various alternatives for financing newly emerging ventures. With today's more significant presence of investors and financing options – varying from crowdfunding to incubators, accelerators and venture capital funds, new ventures encounter lower barriers to market entry, leading to the flourishing of startup activities.

It is important to stress that startups are not smaller versions of large enterprises (Blank, 2010; Owens & Fernandez, 2014), but temporary organizations associated with high risk and uncertainty making their way to grow into a larger firm. Steve Blank explains the main organizational difference between startups and large enterprises and its implications for innovation activities. Because corporations develop strategies and design structures in the sense that their proven business models can efficiently function, innovation within such organizations encounter more obstacles when compared to a startup organizational structure, as startups tend to be more flexible due to having less structural and strategic constraints (Blank, 2014).

In his blog article - 'Startup = Growth', Paul Graham also differentiates a startup from other small businesses (e.g. coffee shop) by its potential growth. According to the investor, two key criteria shall be met so that a startup can scale into a larger company. First, a big enough market must be available for the firm's offering, and second, the firm should be able to serve this market. Aiming for a greater market share is what stimulates the growth potential of a startup, however there is also the threat of being confronted by

a bigger number of competitors. For this reason, it is vital for startups to grow and scale faster (Graham, 2012). This can explain the reasons behind the significant emergence of high-tech startups – technology changes rapidly, thus enhancing and encouraging the generation of new ideas, innovation and potential growth. For the purpose of this thesis, the innovation-driven and knowledge-based type of entrepreneurship will be of higher relevance. The focus will be set on tech ventures, which are usually characterized by high innovation activities.

During their early stages, high-tech startups tend to be more product-focused and mostly developer-led, dedicating their efforts on the development and commercialization of products and services (Coleman and O'Connor, 2008; Paternoster et al., 2016). Their limited resources are focused on delivering and promoting the product to the market as well as establishing strategic partnerships (Sutton, 2000). Their chief concern is to identify a viable business model and verify a product-market fit as fast as possible through a highly iterative product testing for feedback gathering (Paternoster et al., 2016). It is highly essential that startups make it to the market at an increasing speed with offering timely, valuable and innovative solutions that fulfil customer's needs. This is due to the constant changes in the business environment and highly competitive market (Hokkanen and Leppänen, 2015; Sauvola et al., 2015).

1.3 Why Startups Fail

Many new ventures are founded every year, but rarely any of them succeed. Depending on how failure is defined, various rates are being reported. According to Paul Graham and other prominent Silicon Valley investors, the failure rate of tech startups is around 90%. And this failure rate is observed even among companies that have been accepted by Y Combinator - a prominent U.S. accelerator, located in California, where startups are selected and guided by experienced investors and the acceptance rate lies below 5%.

At the same time, many startups still find it hard to become enduring companies. There are many different reasons for startups to fail, ranging from lack of product-market fit to disharmony on the team. Blank (2006) suggests that many cannot achieve product-market fit. Heinonen (2013) suggests that one of the main issues in startups is "managerial". A recent research carried out by CBInsights (2016) suggests that there is rarely one reason for a single startup's failure. In this research (CBInsights, 2016), tackling problems that are interesting to solve rather than those that serve a market need was cited as the number one reason for startups to fail. In other words, often they fail within a couple of years from starting their operations because of building products and services customers do not want to use.

Consequently, a way for entrepreneurs to decrease the failure rate is to become more customer- centric and to adopt new methods and tools of co-creating offerings with their customers. The service design methodology brings a human focus to the development of services, helping startups see the big picture, as customers see it. At the same time, it offers practical tools to design all the interactions between the customer and the business in a consistent way.

1.4 Service Design and its Relevance in Startups

The emergence of the service design methodology is certainly triggered by a shift in the paradigm of innovation from producer innovation to user and open collaborative innovation (Baldwin & von Hippel, 2009).

There is no universal definition for service design. It is described as "an interdisciplinary approach that brings together various methods and tools from several disciplines" (Stickdorn & Schneider 2011, 29). It is influenced by human-centred design, emotional design, design thinking, and contextual design. The employed approach is based on experience centricity such as users' personal contexts and experiences to be able to visualize and create superior service experiences and systems. Service design also utilizes a wide range of human-centred tools and creative techniques for various innovation activities and purposes (Yu & Sangiorgi, 2017).

Considering that service design is human centred by nature, it is more relevant for this research to examine it from the perspective of contemporarily logics of value creation (Vargo & Lusch, 2004; Grönroos, 2006; Heinonen et al., 2010). In reference to the latter logics, customers are considered as cocreators of value and play a key role in the production and consumption of offerings.

New product and service development is shifting its focus from the technology itself towards the creation of customer experiences that take place during the interaction with the offering. Better technology is becoming the new standard, which is something that customers expect in any newly released offering. However, it is better design that can make the difference nowadays in exceeding customer's expectation for further satisfaction; service design approach is equipped with a wide set of tools that enables the creation of the winning experiences (Fjord, 2016) and it is becoming a key driver to service innovation (Sangiorgi et al., 2015).

According to Kolko (2015), Service design "might be one of the best available methods for creating pleasurable customer interactions and developing a responsive, flexible organizational culture". Even in a startup setting, the source of innovation should not be solely dependent on the technology itself but rather adopt other means to meet customer needs and desires.

Many entrepreneurs still underestimate the power of service design in relation to the business development process as can be seen by the lack of service design adoption in startups. There is more value to service design beyond visualizing a product or service. It is the process of finding out what a product or service is going to be, what it is going to do, how it is going to function, how it is going to look, and what it is going to say (Steen et al., 2011; Omar, 2014). Service design facilitates a collaborative environment for the team, serves as a communication channel with users, fosters a creative environment for the ideation and development of new services, gets an in-depth understanding of the competition, creates better brand impact, and design and delivers better customer experience. In other words, service design can create a substantial impact on all the key performance indicators of a company (Steen et al., 2011; Omar, 2014).

According to (Steen et al., 2011), the findings of their research show that service design tools allowed businesses to gain certain benefits along with competitive advantages through multiple successful cases.

Another research shows that there is a high correlation between the level of design application in a startup context and the capability of a firm to move forward towards the "company building phase" as defined by (Blank, 2013) in his customer development model: the more design methods and user-centred tools applied in a startup, the faster it reaches the building phase (Omar, 2014).

While service design is still an evolving discipline, it has the potential to contribute to the practice of entrepreneurial startups at the level of value co-design and co-creation, due to its human centred principles and qualities that help in shaping services in new effective ways (Meroni & Sangiorgi, 2011). Service design tools and methods are viewed as potential drivers for innovation.

1.5 Academic Literature Gap and Research Questions

Academic research shows the role of service design in shaping services in new effective ways (Sangiorgi, 2011; Meroni & Sangiorgi, 2011, Steen et al., 2011). Few other studies have examined service design's value as a strategic resource in business and a methodological approach to fuzzy-front-end innovation (Yu & Sangiorgi, 2017). However, studies on the application of service design tools and methods in startups have not yet gained much attention. This can possibly be due to the very limited empirical evidence of service design's role and position in business processes and design-centric descriptions of service design contributions (Yu, 2017). While there are some notable exceptions that have previously examined the role of service design in big corporations' contexts (Muratovki, 2015), the role of service design (and especially service designer's) in startups is not yet well documented.

Overall, there is a gap in the modern literature in how service design tools and methods could be applied in the context of young technology companies. The relationship between service design and startup process models (i.e. the popular Lean Startup Method) is not yet extensively studied. A literature review reveals that the two communities of lean startup and service design do not interact and cite each other very often. This implies the potential for learning from each other's strategy by merging or adapting specific parts or aspects and motivates a further investigation of service design as a potential approach to support the value co-creation process in startups by orienting such processes toward a more customer/service-centred logic.

The research questions (**RQ)** for this study are:

RQ 1: How do service designers think they may apply service design in an early stage startup context?

RQ 2: What benefits do service designers expect to be gained when applying service design in an early stage startup context?

RQ 3: What challenges do service designers expect to be encountered when applying service design in an early stage startup context?

The expectation is to shed light on the potential benefits and challenges when applying a service design approach in an entrepreneurial startup context, followed with suggestions on how the service design approach application can contribute to the existing practices utilized within a startup, in order to ensure effective results. The researchers rely their analysis and suggestions on a one-sided perspective: service design professionals. This may not reflect the actual application of the respective processes in practice. However, the aim of the research is to provide an overview of the topic and enough insights that can serve as a foundation and/or benchmark for future research.

2 Literature Review

2.1 Startup Theory

This part of the study presents a short academic literature review on startup organisations, to provide a point of reference for the rest of the research and the chosen business context it revolves around.

2.1.1 Startup Definition

While there is no universal definition of what is a startup (Eisenmann et al., 2011; Paternoster et al., 2014; Ghezzi et al., 2018), this thesis uses Blank's definition (Blank, 2007) that describes a startup as a *temporary form of business organisation whose main purpose is to identify a repeatable and scalable business model.*

2.1.2 Reasons of Startup Failure

For this study, it is beneficial to understand what the most common reasons for startup failure are, to highlight areas where there is still room for improvement. Startups, as new business endeavours, most often act within an environment of uncertainty, and that inherently increases the chances of failure (Chrisman et al., 2005; Trimi and Berbegal-Mirabent, 2012; Paternoster et al., 2014; Sull, 2004; Chang, 2004; Ghezzi et al., 2018). While these risks span across different startup areas of activities (Ghezzi et al., 2018), according to Eisenmann (2011), the greatest risk that startup entrepreneurs face and the one that this thesis is particularly concerned about is that of creating an offering that the market does not want or need.

A recent research carried out by CBInsights (2016) suggests that there is rarely one reason for a single startup's failure. In this research (CBInsights, 2016), tackling problems that are interesting to solve rather than those that serve a market need was cited as the number one reason for startups to fail. In other words, often they fail within a couple of years from starting their operations because of building products and services customers do not want to use.

Another research conducted a study on 51 startups that had a Minimum Viable Product (MVP) and still ended up with a failure, to identify the factors leading to this failure. It was found out that the second biggest problem was the lack of customers interested in the startup solution (Bednar & Tarasov, 2017). The founders defined this problem as a lack of real market testing. Many of them met with customers, asked about their problems and analysed possible solutions - preliminary analysis seemed promising. However, when they came out with the product to the market, they found out that people even though they had previously said they were interested, did not really want to buy it. The founders called these products "Vitamins (it's nice to have it) even though they thought they were going to sell Aspirin (must have it)". The founders said that also the timing of product launch was probably not right - either customers or the market was not ready yet, or they came out with the product too late. In both cases, the result was the same (Bednár & Tarišková, 2017).

When entrepreneurs follow the technology push strategy, there is a higher risk of not meeting the customer's needs and expectations. Innovative and disruptive technologies may create for startups competitive advantage over other alternatives in the market at first, but often it is not sustainable. Working at a fast pace leads startups to often rush into verifying the viability of their business model relying more on their intuition rather than customer feedback. This, in turn, can create a gap between startup offering and customer's needs, which is associated with the risk of startups failure and high costs to fix this issue by improving their offering. They may also encounter the resistance of potential customers to adopt their innovative offering due to new features and functionalities that are not valued, due to the user's lack of competence that prevents them from enjoying its targeted benefits (Möller, Rajala and Westerlund, 2008; Walsh, Kirchhoff and Newbert, 2002).

In a startup setting, both the problem and solution are not well-defined and understood, unlike the majority of well-established companies who have a clear understanding of the market needs. This means that it is crucial for startups to give more attention not only on the technology itself but also on service requirements to meet consumers' expectations and needs (Blank and Dorf, 2012; Bosch et al., 2013). Steve Blank clearly states that prior to startup launching, startups have to demonstrate substantial evidence that there is a market demand for their offerings associated with strong intention for purchase (Blank, 2003). Lewrick (2009) finds in his research that a typical low performing company lacks in customer orientation. Many companies tend to be more product oriented in their development process, which leads to not meeting customer needs. A more competitor-oriented strategy results in copying products and services, which affects the company's capability to create cutting-edge innovations for sustainable business success. Many low performing companies do not focus on continuous learning or develop the needed strategic policies to build on and expand their portfolio offering (Lewrick, 2009).

In today's business environment, the creation of a radical solution or identifying a unique business model is not sufficient to ensure the success of the business. Customers, partners, investors do not only look into the technological aspect of an offering but also consider the overall experience associated with this offering. Inventions become valuable innovations only when blended with broader social systems needed to deliver an invention to the marketplace. Nevertheless, there is difficulty in evaluating the potential services that may be embedded with complex product technologies. Hence, it is important to apply the appropriate service framework which is embodied within complex product technologies to offer a better customer experience by improving quality of life (Kimbell and Seidel, 2008).

2.1.3 Business Model Definition

By using Blanks' definition of a startup, the researchers for this thesis are bound to be concerned with business models. In particular, it is beneficial to explore what is a business model and what are the existing methods of identifying a viable repeatable and scalable business model.

According to (Teece, 2010), a business model defines the way the company creates and delivers value to its customers and how to convert the payments received by them in profit. Many other definitions exist that

include directly or indirectly the term value as part of the company's offering to the customer (Chesbrough and Rosenbloom, 2002; Osterwalder et al., 2005; Cortimiglia et al., 2016). This thesis adopts the definition of Zott and Amit (2013, p. 404), who believe that the business model describes how the company conducts its business. While this definition is more general than that of Teeces', due to the way this study defines the relationship between the customer, business and the term value further down, it is to be a better fit for this study.

2.1.4 Methods of Startup Development & Model Selection

Having a definition of what consists of a business model, it is useful to explore the different methods of identifying a viable, repeatable and scalable business model for startups. While many different methods exist, this research is going to focus on the most commercially popular method which is Ries' 'The Lean Startup Method'. While the source material (Ries, 2011), has not gained much traction within the academic community due to not being an academic publication, its popularity has been recognised by multiple authors, as well as commercial success (Blank, 2013; Greenwald, 2012; Yang et al., 2018, Eisenmann et al., 2011; Blank and Dorf, 2012, Ghezzi et al., 2018).

According to Ghezzi (2018), Ries' method stands out in popularity and impact on practitioners/entrepreneurs. This means that Lean Startup Method (LSM) is probably the most fitting choice to set up the context for the interviewees to respond to the research question in a reliable way and also in a context there are higher chances they are familiar with or have at least awareness and a basic knowledge about (this is further analysed in the methodology section alongside with the limitations of the study). It has to be noted that Lean Startup Method is based on the assumption that incremental innovation is the preferable approach within the startup context and other opinions have been voiced, for example that of Thiel & Masters (2014), who argued for a radical innovation approach. The researcher's choice of Lean Startup Method, for this study, is on a basis of popularity and not of superior methodology.

2.1.5 Early Stage Startup Context Definition

For the purpose of the study, it is important to define the business context according to which the research will revolve, which is the early stage startup context, for ventures utilizing the Lean Startup Method. In order to do so, the authors define said context by the parameters described below, as well as by reviewing the Lean Startup Method, which will be used as a point of reference throughout the study (interviews, analysis, etc.).

Lack of past experience

While in large businesses future planning/ forecasting is based on analysing past data, that is impossible for startups (McGrath, 2010), since there is no past information available. Therefore, startups find it difficult to use traditional business practices (Blank, 2013). As nascent ventures, they must overcome many obstacles to reach a level of stability and maturity and under these conditions, flexibility is required (Picken, 2017). The result of this is that the ventures' business model is not fixed, but it is developed through successive rounds of trial and error (Cortimiglia et al., 2016; Cosenz and Noto, 2018; Yang et al., 2018) and many scholars suggest that most of the times an early stage venture does not have an established viable business model (Chesbrough and Rosenbloom, 2002; Chrisman et al., 2005; Teece, 2010).

Lack of a viable business model

It also has to be mentioned that early stage entrepreneurs often have only a very basic concept of business (Gruber, 2007) and very limited resources to work with (e.g. time, money, human resources, etc) (Baker and Nelson, 2005). Chesbrough and Rosenbloom (2002) suggested that the initial business model is a hypothesis or just an idea and similarly Teece (2010) mentions that a viable business model rarely appears during the early stage.

The importance of speed

Due to the above, the general environment in which startups are active at, can be described as one of uncertainty, ambiguity and complexity. Many scholars argue that success is the result of the speed with which an early stage venture can go through cycles of trial and error and experimentation to evolve the initial idea/ business model (Mcgrath and Macmillan, 1995; Lynn et al., 1996; Osterwalder and Pigneur, 2010). Moving towards such a direction of constant adjustment (Wirtz et al., 2010), the methods that the company will implement must be simple and revolve around a prototype of the offering so that it can be adjusted according to customer feedback (Paternoster et al., 2014).

Since the study is concerned with startups and in particular with early stage startups, it is useful to briefly analyse the Lean Startup Method as the most popular startup development method as well as the one that was used as a point of reference for this research.

2.2 The Lean Startup Method

2.2.1 Lean Startup Method Background

Having justified the logic behind choosing Lean Startup Method as the preferred development framework of startup for this study, it is important to explore the emergence of Ries' theory and its background, to identify the points of connection and deviation between it and the development of the Service-dominant Logic, design thinking (DT) and service design that will concern the study further down.

According to (Ghezzi et al., 2018), Lean Startup Method is explicitly connected to the Lean philosophy of management, while also implementing in an implicit way principles of Learning School of strategy (Lindblom, 1959; Quinn, 1978; Mintzberg, 1978), the emerging streams of effectuation (Sarasvathy, 2001) and (Baker and Nelson, 2005) concerning entrepreneurship theory of new venture formation. More so than the Lean management philosophy, Lean Startup Method is generally connected to the Lean manufacturing and the early Toyota Production System by:

> 'seeking to reduce waste by creating minimum prototypes of functionalities in products and seeking customer feedback to evolve (Moogk, 2012); working with improvement cycles and continuous evolution, known as kaizen in TPS (Eisenmann et al., 2011; Haines, 2014); and implementing an improvement process, BML, an adaptation of the process PDCA, credited to Deming in the 1950s (Trimi and Berbegal-Mirabent, 2012).'

Ghezzi and Cavalo (2018) identified the key touching points between Lean Startup Method and TPS and these are documented in Table 1 below:

Lean Manufacturing	**Lean Startup Approaches**
Create value for the customer	Build a minimum viable product (MVP) to understand what customers want and validate your business model
Identify the value stream	Design a Lean canvas
Create flow	Trigger a continuous deployment cycle
Produce only what is pulled by the customer	Get out of the building (GOOB) and learn what customers ask for
Pursue perfection	Follow a build-measure-learn (BML) cycle

Table 1. Lean Manufacturing Principles in Lean Startup: Touchpoints, (Ghezzi & Cavallo, 2018)

While these touching points need not further analysis for the purpose of this study, mentioning explicitly that they exist is important, as they show that Lean Startup Method as a philosophy of business creation is much closer to a traditional view of marketing, rather to Service-dominant Logic or Design, even though it includes elements of design thinking in its customer development process (Ries, 2011). This idea is important to make the search for the application of service design in a startup context meaningful, as this means it would potentially greatly alter Lean Startup Method and not merely adjust it in a minor way.

2.2.2 The Lean Startup Method Process

Ries' work focuses on coping with the environment of the startup by using repeated cycles of customer feedback through a Minimum Viable Product to identify and validate a business model (as shown in Figure 1). The steps of the Lean Startup Method are according to (Ghezzi et al., 2018) (as shown in Figure 2):

(1) **Building the business vision:** also known as ideation, it is the stage where there is the creative process of generating ideas and designing the business that the entrepreneur wants to develop (Mueller and Thoring, 2012). The business vision should stay the same while the BML cycle is run, being discarded only if the experiments result in enough negative perceptions. The ideation phase is not explicitly part of the Lean Startup methodology.

(2) **Formulating the business model and hypotheses**: in this step, the delivery model of value to customers is designed. A hypothesis is a formalization of explicit or implicit assumptions about one or more dimensions of the business model, initially considered uncertain or doubtful (Blank and Dorf, 2012). The results of this step are always ideas.

(3) **Building experiments**: an activity of scientific nature in which the researcher or entrepreneur, through the manipulation of controlled variables, notes the variation of independent variables. They are used to test the business model hypotheses. There are several types of experiments, such as qualitative interviews, a/b tests, prototypes, launch pages, minimum viable product, smoke tests and concierge (Blank and Dorf, 2012).

(4) **Measuring results**: through data analysis and using statistical tools, the entrepreneur must measure and monitor the results of their experiments and confront them with previously defined hypotheses.

(5) **Learning**: a key concept and goal in the early stages of a startup. It consists of confirming or ruling out hypotheses through experiments. Ries (2011) calls this validated learning, whose outcomes fall into four categories: pivoting, iterating, escalating and giving up. After conducting an experiment and discarding a hypothesis, pivoting it is the action of radically changing one or more dimensions of the business model in order to formulate a new hypothesis and test it through new experiments (Blank and Dorf, 2012). Iterating is a less radical change than pivoting. Thanks to the learning acquired, it consists of promoting one or more changes in the business model or product to test the new hypotheses.

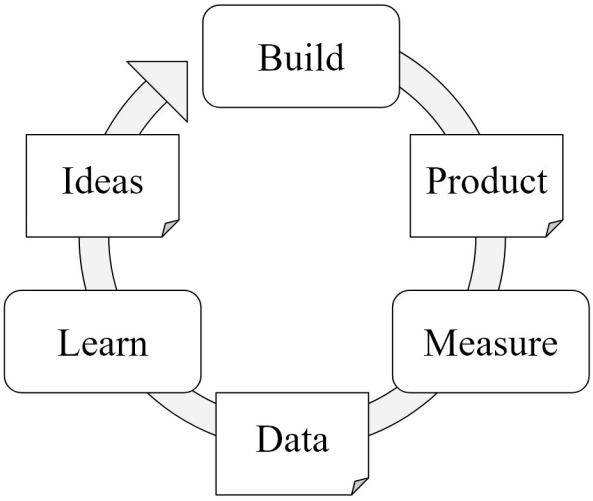

Figure 1. Build - Measure - Learn (BML) Process Model, adapted from: Ghezzi et al. (2018)

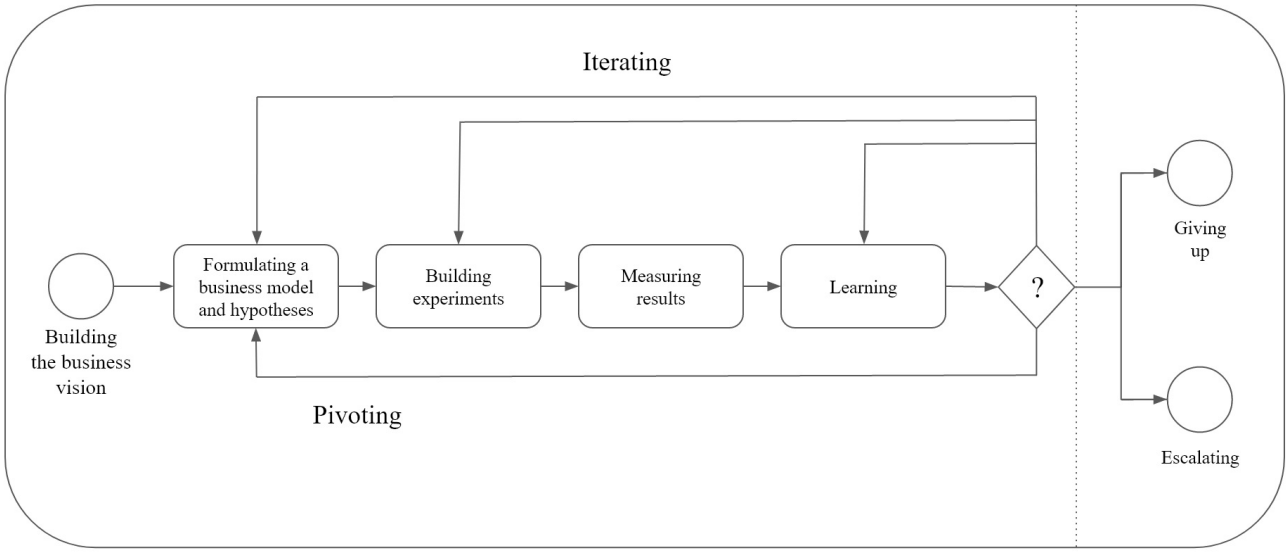

Figure 2. Lean Startup (LS) Process Model, adapted from: Ghezzi et al. (2018)

2.3 Service Theory

To better understand how service design connects with academic literature, it is useful to understand the origins and development of service marketing theory and therefore Service-dominant Logic as a theory of marketing and its managerial extensions/implications. Despite the two concepts (service design - Service-dominant Logic) academically and commercially do not have the same starting point, and in fact were not explicitly connected, in the recent years there are more calls from scholars to recognise their touching points (Ostrom et al., 2015), and the importance of for practicing the S-D logic has been recognised (Blomkvist and Holmlid, 2010; Zomerdijk and Voss, 2010; Patricio et al. 2011; Wetter Edman, 2010; Ojasalo et al., 2015). Service Design can become the practitioner's way of implementing Service-dominant Logic in new service development and therefore in new business offerings. According to Ojasalo & Ojasalo (2018):

> 'Co-creation of customer value, which is the central element of Service-dominant Logic (Vargo and Lusch 2004), is not trivial, however, and it requires more attention in the context of service innovation. (...) Since customer-experienced value is at the heart of service design, it has a great potential to facilitate the application of Service-dominant Logic in the managerial context.'

This view is in line with recognising that at the core of Service-dominant Logic and service design is the customer experienced value and the concept of value co-creation. While examining how service design can contribute in the development of lean service innovation (Ojasalo, 2018) currently consists a literature research gap (and one that this study partly aims to explore), it makes sense to understand and discuss the history of Service-dominant Logic as the inexplicit and unintentionally connected academic forebearer of SD, to shed more light in the analysis of Lean Startup Method at a later stage and how service design could contribute to the development of business theory at a conceptual level. This is also important because it will give a more solid overview of the field of service science in general and its history, which in combination with the relative absence of service design from academic conceptualization and placement in the history of business theory, it can be difficult to navigate.

2.3.1 Service-dominant Logic

According to Katarina Wetter Edman (2009) the origin of service marketing is considered to be Shostack's (1977) article that argued that a product focus was not appropriate for service companies. Woodruff and Gardial (1996, p. 59) argued that:

> "[...] in fact, it is difficult to determine whether a product generally provides value for an individual or organization without understanding the many different ways the product will be used [...]"

And at the same article value is defined as being relevant by:

> "the customers' perception of what they want to have happen [...] in a specific use situation, with the help of a product or service offering, in order to accomplish a desired purpose or goal".

Consequently, academic research within the marketing field focused on the definition of the dichotomy between goods and services (Matthing 2004) and the result of this effort was the IHIP model that describes services as Intangible, Heterogenous, Inseparable, and Perishable (Zeithaml, Parasuraman, & Berry, 1985). As a result, services are described respectively to the nature of products, which led to a critique of this view (Kristensson, 2009) and ultimately looking at services as a whole perspective rather an alternative to products (Matthing 2004; Wetter-Edman, 2009).

A result of the discussion that was described above, was the development of Service-dominant Logic by Vargo and Lusch (2004). The starting point of Service-dominant Logic is understanding services outside the context of goods. Rather defining a service through the lenses of traditional economic theory where is described as something other than a good, a type of output or an intangible good, in their work it is defined as the process of one actor utilizing their resources for the benefit of another (Vargo and Lusch, 2008).

Contrary to Service-dominant Logic, the traditional Goods-dominant Logic in marketing envisioned value as deliverable through goods or services. Goods-dominant Logic has been observed to give way to Service-dominant Logic as the mental framework (logic) of value creation by businesses (Erkki Paunonen Logicscapes: Critical analysis of value creation in Service-dominant Logic, service logic, and customer-dominant logic).

According to Heinonen (2010), Goods-dominant Logic places the supplier at the centre of the business activity, who defines the role that the customer plays in the value delivery process. In addition, to Prahalad and Ramaswamy (2004) the value creation process occurs within the company and customers have little interference with it at the end of the value chain created by the company, which stops at the point of sale. This business logic based on goods delivering value, suggests that value is embedded within the units of the company's output (Vargo and Lusch, 2008).

Service-dominant Logic on the other hand, suggests the below transitions from a product to a service focus:

> "1. From thinking about the purpose of firm activity as making something (goods or services) to a process of assisting customers in their own value-creation processes.
> 2. From thinking about value as something produced and sold to thinking about value as something co-created with the customer and other value-creation partners.
> 3. From thinking of customers as isolated entities to understanding them in the context of their own networks.
> 4. From thinking of firm resources primarily as operand — tangible resources such as natural resources — to operant — usually intangible resources such as knowledge and skills.
> 5. From thinking of customers as targets to thinking of customers as resources.
> 6. From making efficiency primary to increasing efficiency through effectiveness.
>
> Collectively, these shifts imply much more than just a move from goods to services. They imply a reframing of the whole purpose of the enterprise and its collaborative role in value creation, for both the actors involved in exchange and for society" (Vargo Lusch, 2012)

In that sense, the S-DL is a framework of thought that places the customer at the centre of value creation whether this is presented via goods or services. The perspective that all offerings are service offerings in the sense that they assist the customers in their value creation process (and therefore the company assists in co-creating said value, but never delivering it) changes the context within which service and value innovation takes place.

According to Mele et al. (2014), this shift suggests reframing the business model in general even in traditional manufacturing ventures to a service centred focus, that results to a shift from mass production to customization and flexibility in a big scale; innovation then becomes instead of a planned product development function, a culture, a strategy and an ongoing matter (Jamison et al., 2011). Placing the customer and relevant actors at the centre of this perspective, knowledge, networks, relationships, social activities become a vital part of the innovation process. This view reflects on the issue of integrating Design within the management of companies (Johansson & Woodilla, 2008). By positioning actors, innovation and value co-creation at the centre Service-dominant Logic gives space for the application of Design as a tool for the development of this approach within the managerial and marketing culture of the company.

A term that is central to the above discussion is that of value and how is created. This is connected to the discussion that will follow regarding value co-creation within service design as this is a concept central to the discipline and the changes that can bring to the Lean Startup Method. According to Lusch, R.F., Vargo, S.L. and O'Brien, M. (2007):

> 'In SDL, value is defined by the beneficiary (...) at the moment of use, which is called value-in-use. This notion of value creation is differentiated from the notion of value creation as a sequential process, value in exchange. Value in exchange, according to Vargo and Akaka (2009), is based in goods-dominant logic, and the value is thus destroyed when consumed If the value is defined by the user in use, the actual physical situation of the person is of importance. This is called value-in-context and highlights the time and place dimensions and network relationships as key variables.'

Therefore, when discussing the application of service design on Lean Startup Method, we are doing so in an effort to innovate on a value-in-context, rather on a value-in-exchange basis which can be translated in traditional terms turning customers' money into profit for the business. It is then apparent that the repositioning of value and the role of the customer can have multidimensional effects in the business development process and therefore Lean Startup Method itself.

To better define the potential impact that service design and to an extend the impact that the Service-dominant Logic view can have on Lean Startup Method on an abstract level, we need to define said areas of change. Vargo and Lusch (2014) further detailed the ways in which change can come in general terms in a relation between established vs Service-dominant Logic thinking which are described below.

1. **Entrepreneurship over Management & Effectual over predictive processes**

By arguing that management theory has its roots in the industrial revolution, the authors make a case for it being efficiency centred in manufacturing, innovation and distribution. The authors suggest that economy is viewed as bureaucracy centred, Newtonian machine like and customers as a known and stable quantity

that can be predicted and managed. The Service-dominant Logic movement suggests that organizations are not viewed as machines, rather as continuously developed effectually through a dynamic stream of new information.

2. Marketing over Manufacturing

Preoccupied by a focus towards productivity as a means of wealth creation, economic models focused on manufacturing. This resulted in a marketing theory through the lens of manufacturing as the activity of taking units of output to the market to be sold (Lusch et al., 2013). Service-dominant Logic reverts this logic by placing marketing as the primary role of the business and manufacturing (or other production activities) in a supporting role, something that reveals new opportunities for innovation.

3. Innovation over invention

In Service-dominant Logic, as marketing becomes superordinate to manufacturing, innovation becomes superordinate to invention, which is more of an engineering activity. Most of the risk taking occurs within the social and economic processes of innovation, but also serves as the source of most of the potential reward (Lusch et al., 2013), meaning that value is created more through innovating rather than inventing.

4. Effectiveness over Efficiency

The authors argue that in Goods-dominant Logic effectiveness follows efficiency within the marketing activities. For Service-dominant Logic, effectiveness as a user-centric concept is captured in ‘‘value in use’’ and ‘‘value in context’’ (e.g. Vargo et al., 2008) and therefore becomes of primary importance with efficiency becoming a natural outcome of it in the long run.

5. Heuristics over Rationality

As Vargo and Lusch (2014) put it:

> ‘(...)Heuristics work because they fit (are adapted to) the environmental structure (see Gigerenzer and Todd, 1999).This artificial structure particularly includes the institutions, which can themselves be seen as heuristic tools, and institutional logics, which are an integral part of the service ecosystem of S-D logic. None of this means that there is no rational, calculative thought; it just means that it is not only ‘‘bounded’’ (Simon, 1996) but also enhanced by human institutions that provide shortcuts to the very process of value creation, rather than just to value-related choice decisions.’

This heuristic approach is already apparent in Lean Startup Method, but service design takes a more quantitative approach as it will be discussed later, alongside with identifying the touching points of Lean Startup Method and Service-dominant Logic and consequently service design. Below, we shortly analyse the latest developments in service marketing and management theory and how they compare with Service-dominant Logic. That will allow us to pick the theory that is better suited for the analysis of this study.

2.3.2 Service Logic

While Service-dominant Logic has been growing in popularity in academic and professional forums, there have been attempts to further progress the marketing theory around a customer and a value co-creation perspective. In that spirit, Kristina Heinonen (2015) described the Customer-dominant Logic, where she emphasized the need for the development of a business and marketing logic with customer dominance as the primary focus.

While the Customer-dominant Logic is more of an alternative take to service theory development to that of Service-dominant Logic, Service Logic is aiming to create a theoretical suggestion around Service-dominant Logic with direct managerial implications for the practical facilitation of the Service-dominant Logic. This primarily focuses on suggestions for the businesses' management to create platforms for value co-creation.

The authors suggest that service activities can be looked upon as service distribution mechanisms and therefore customers are co-creators of said mechanisms (Grönroos et al., 2011). Grönroos and Annika (2014) also argue that since value creation as a dynamic process takes place within a certain non-dynamic context (Vargo, 2008), it is dependent on the context; therefore the provider should find their way into the customers context. This is possible through moments of interaction and here is where the authors make their major contribution by dividing the customers value creation into two parts, an open and a closed; interaction takes place in the open part of the process meaning the customer is available for interaction when in the open part (Grönroos et al., 2011)). Similarly, to Grönroos and Annika (2014), the providers process is divided into two parts as well, a production phase and an interaction phase, where in the first one resources for the customer take shape in the form that's needed and in the second the customer and the provider connect, integrate and coordinate their activities to concrete (Grönroos et al., 2011).

It is during the interaction phases where the provider has the strategic opportunity to be a supporting co-creator in the customers value co-creation process. This is where the need exists for the creation of a platform to facilitate this phaenomenon of interacting marketing. The value co-creation platform does not follow traditional organisational boundaries and it can be present in nearly all organisational processes and departments, something that makes marketing multifaceted and multifunctional (Grönroos et al., 2011). More specifically, the authors suggest that in order for the business to facilitate SL it must acquire thorough insight into the customers practices and not just knowledge about their needs as the latter may not be what customers really need to support their value creation process (Grönroos et al., 2011).

Consequently, a service perspective is customer centric and relational and for marketing to be effective it needs to transcend conventional organisational management beyond the expertise of the marketing specialist (for whom customer appears full-time), breaking the in-house silos (Grönroos et al., 2011). Despite the fact that employees in other departments (for whom the customer appears part-time) may initially seem unrelated, their behaviour as a whole impacts the brand and the value co-creation interaction platform even if their contact with the customer is minimal.

The authors (Grönroos et al., 2011) shed light into two main challenges:

> "(1) how to organise for marketing as customer management, not only as a separate specialist function; and (2) how to prepare employees outside the specialist marketing function to include a customer focus in their jobs [...] In service and marketing literature, no solutions have been offered thus far."

The solution that the authors present is an internal marketing strategy, for the employees to be offered a knowledge base, with meaningful tasks from their perspective to empower their performance and their interest in the customer focus aspect of their jobs.

2.3.3 Concluding Remarks

While Service-dominant Logic presents a marketing theory of service, it does not present any practical managerial suggestions for its application. Customer-dominant Logic takes a similarly abstract theoretical stance with Service-dominant Logic but suggests that it is a provider derived theory of marketing and the analysis of a customer ecosystem rather than a service one, will be beneficial. While Customer-dominant Logic may open new academic avenues regarding service theory, it is new compared to Service-dominant Logic and thus probably less well known around business forums; in addition, the Service Logic theory is an effort to provide managerial implications for Service-dominant Logic and therefore Service-dominant Logic seems to be more appropriate for the analysis of this study. The managerial suggestions derived from Service Logic are based on a Service-dominant Logic view in that it extends it into the management of the business, and they will be utilised for the analysis part of the study.

At the same time, the challenges described by the authors align well with the general frame of this study which is to initiate the research on identifying ways to implement a Service-dominant Logic perspective in startups, for which we speculate service design can assist with, probably even in line with Service Logic's managerial suggestions. The very solutions presented by the Service Logic's authors are well within service design's premises and service design could potentially move the development of this logic further into concrete managerial suggestions on how co-creation platforms can be developed while utilizing a Lean Startup Method framework. An example of that, could be the creation of an organizational culture that aligns with Service-dominant Logic's theoretical premises and at the same time makes employees customer focused tasks meaningful, embedding them into a knowledge based derived from service design, in line with what Grönroos (2014) suggested.

2.4 Service Design Theory

In this chapter, a short overview of the service design history and definitions takes place, and the authors pick the one that is deemed appropriate for the study. The service design principles are described, in order to showcase the links between service design and Service-dominant Logic and two major service design process models are described, alongside with an overview of popular service design tools in order to act as a point of reference for the empirical findings and the analysis part of the study. Finally, for the same

reason, a brief analysis of the importance of the service design environment and team takes place and the chapter concludes with an attempt to bring forward all the connections between service design theory and practice with the existing service theory and startup theory, to better showcase the motivations of this study.

2.4.1 History & Definition

Given that services are traditionally associated with immaterial, living and complex objects produced at the point of consumption, they are rarely seen as an "object of design". Still, forward thinking experts managed to recognise the field of service design and establish its principles over the past decades. Going back to the early 80s (Shostack, 1984), was the first to bring together the terms Service and Design, in his paper 'Designing Services to Deliver' published in the Harvard Business Review, proposing the adoption of the service blueprinting tool as an approach to design services (Moritz, 2005, p. 66). Later, many schools (KISD and Ivrea) started recognising Service design as a systematic practice, similar to product and interaction design. In 1991, Service design was first established as one of the fields of education and academic research at Cologne International School of Design (KISD). Ten years later, the first service design consultancy firm, live|work was launched in London (Kuosa & Westerlund, 2012). Today, Service design is considered a new fast-growing field that has been developed into a design-led approach for service innovation (Meroni and Sangiorgi, 2011).

Although being a fairly new design discipline, service design does not yet have a common definition (Moritz, 2005, p. 166; Stickdorn & Schneider, 2012, p. 29). Authors have admitted that it is not easy to agree on a common definition for service design (Stickdorn & Schneider, 2012, p. 30). Nisula (2012) found that very different meanings are being placed on service design and not many definitions were clear, as some were considered very broad and others very focused (ibid.).

There is an ongoing debate amongst service design specialists in relation to whether service design is a multidisciplinary field or not (Nisula, 2012, p. 1). Many researchers agree that service design is multidisciplinary, bringing together the elements of marketing, research, management and design [(Moritz, 2005, p. 48; Reason et al., 2016), whereas some service designers still consider service design primarily as a design discipline (Nisula, 2012, p. 1), assuming that the term 'design' is used in service development and innovation context (ibid.).

Different practitioners view service design from varied perspectives. It is argued that there are at least four different ways in which experts define service design and two of them are radically different to each other (Kimbell, 2011). One is viewing it as an approach based on a problem-solving activity and the other uses an exploratory inquiry (Dorst and Dijkhuis, 1995). The problem-solving approach, mostly employed in engineering, addresses a desired outcome that is known and defined in advance (Simon 1990), whereas exploratory inquiry is an iterative process used to design services by addressing problems and solutions that are not predetermined and defined in advance (Kimbell, 2011, p. 45). For this thesis, the exploratory inquiry is the design approach to be further investigated.

To find out the most accepted and popular definition among practitioners, (Stickdorn et al., 2018) asked a panel of 150 service designers to vote on their favourites, resulting with the following definition as the most popular one, which is also adopted for this thesis as it serves as a holistic view of service design:

> "Service design (...) is an approach to designing services that balances the needs of the customer with the needs of the business, aiming to create seamless and quality service experiences. Service design is rooted in design thinking, and brings a creative, human-centred process to service improvement and designing new services, through collaborative methods that engage both customers and service delivery teams, service design helps organizations gain true, end-to-end understanding of their services, enabling holistic and meaningful improvements."
>
> crowdsourced by Megan Erin Miller (Stickdorn et al., 2018)

2.4.2 Service Design Principles

For the purpose of this study, it is necessary to identify the main principles of service design, in order to better connect it with the existing service theory, as well as to have a point of reference for the analysis of the data.

In contemporary literature, several authors attempt to define the principles of service design. Chase (2004) introduces five "first order" principles from a behavioural science perspective: *give the bad news first, a miss is worse than a mile, let the customer control the process, segment the pleasure, combine the pain and finish strong* (Chase, 2004, p. 126).

Other design practitioners argue that the only three core principles that stem from service design practice are *movement, structure,* and *behaviour* (Reason et al., 2016, p. 16). Some design experts suggest that service design is based on four essential principles, namely *user-centric development, visualization, prototyping, and testing* (Barrie & Edwards, 2017, p. 8). Others, emphasized on the participatory nature of service design and empathy toward service users (Moritz, 2005; Miettinen, 2011) and consider service design as *co-creative, inspiring, visual, holistic* and *interdisciplinary* (Mager, 2009).

However, as observed in the academic literature, Stickdorn's definition of service design principles is the most widely quoted. The author defines five core principles, namely, user-centred, co-creative, sequencing, evidencing, and holistic (Stickdorn & Schneider 2012, p. 34). Some of these principles have stood the test of time very well, while others had to be re-examined in the new edition of his book to cope with the evolution of service design (Stickdorn et al., 2018)

This thesis adopts Stickdorn's new principles of service design, which includes the adjustments made to the original ones, in order to cope with the evolution of service design (Stickdorn et al., 2018), as shown in Table 2 and described in detail below.

1. **Human-centred** Consider the experience of all the people affected by the service
2. **Collaborative** Stakeholders of various backgrounds and functions should be actively engaged in the service design process
3. **Iterative** Service design is an exploratory, adaptive and experimental approach, iterating toward implementation

4. **Sequential** The service should be visualised and orchestrated as a sequence of interrelated actions.
5. **Real** Needs should be researched in reality and intangible values evidenced as physical or digital reality
6. **Holistic** Services should sustainably address the needs of all stakeholders through the entire service and across the business

Table 2. Overview of the Principles of Service Design, (Stickdorn et al., 2018), also see Appendix A.

Human-centred

Service design is a user-centred approach in the sense that it strives to put the user at the centre of the entire service process, in the pursuit of fulfilling their needs. To achieve that, service design employs a set of tools that allow the designer to empathize with the user, learning more about the individual service experience, hidden needs and expectations, and its wider context. Service design thinking starts to become effective at the point of understanding and identifying these disparate mindsets (Stickdorn and Schnieder, 2010). Moreover, researchers argue that customer centricity has a positive impact on customer satisfaction (Smith & Fischbacher, 2002, p. 945), trust, and loyalty to a service provider (Coelho & Henseler, 2012, p. 331; Stickdorn & Schnieder, 2010). This strongly suggests a connection between service design and Service-dominant logic, placing the customer at the centre of interest.

The term 'user' was replaced by 'Human' to make it clear that the 'user' does not only refer to the customer, but also to emphasize that any individual or party (service provider, staff, other stakeholders, non-customers, etc.) affected in any way by the service is included too.

Collaborative and Iterative

The author originally used the term 'co-creative' to shed light on two concepts. The first involved the scientific meaning of 'co-creation' in terms of involving the customers within the value creation process as services are irrelevant by nature without the customer's involvement (Stickdorn and Schnieder, 2010; Lusch et al., 2007, p. 7).

The second concept is related to 'co-design' which involves an interdisciplinary team in the creation process. Practical designers give more emphasis to the latter concept, as they facilitate the appropriate conditions for all stakeholders that come from different backgrounds to enhance the ideation process. The collaborative and cross-disciplinary nature of service design is emphasised, and the power of service design as a language to break down silos is highlighted within the co-creation process (Stickdorn et al., 2018, p. 70). The term 'co-creative' was replaced by 'collaborative' to emphasize stakeholders of various backgrounds and functions should be actively engaged in the service design process.

As for the 'iterative' principle, it is newly added to highlight that the service design is an iterative process and not linear (decide-plan-do). This means it involves running multiple experiments and attempts, allowing them to explore and adapt to new insights and lessons derived from failures, until reaching a refined service concept that is ready to proceed for further development (Stickdorn et al., 2018, p. 70).

Sequential

The author makes it clear that the service timeline is an important aspect to consider in service design, due to the impact that the 'rhythm' of a service can has on a customer's experience. Thus, the service process is considered to be made of a three step transition: "pre-service period (getting in touch with a service), the actual service period (when the customers actually experience a service) and the subsequent post-service period" (Stickdorn & Schneider, 2011, p. 40).

In order to ensure the delivery of a pleasant rhythm in a service, service design employs a set of tools that enables the deconstruction of a service process into single touchpoints for further analysis, through the visualization of each touchpoint and interaction taking place in a service (e.g. Customer Journey maps and Service blueprint). Stickdorn emphasized that all service moments shall be orchestrated in a way that maintains a consistent experience that meets the customer's expectation, across all channels of a service (Stickdorn & Schneider, 2011, p. 40)

Real

Services are intangible in nature, hardly can be seen or touched prior to purchase. Stickdorn highlights the importance of creating ways to make the services more tangible by being evidenced, as it influences the entire service experience. Service evidence must be designed depending on the service's inherent story and its sequence of touchpoints and interactions. Physical evidence can stimulate the memory of positive and pleasant service moments. This emotional association, in turn, improves the way customers perceive a service and makes a service experience last longer than only the actual service period (Stickdorn & Schneider 2011, p. 42).

Holistic

Stickdorn and Schnieder claim that working in a holistic manner is nearly impossible, as it is extremely hard to consider every single aspect of a service offering. However, what is important is to always look at the broader picture of the service design process (Stickdorn and Schnieder, 2012, p. 39).

At the level of the user's interaction with the service, the focus should be directed to the environment where the service happens.

At the level of the service sequence, more attention has to be given to considering alternative customer journeys. The sequence of the service touchpoints with the users always changes and need to be constantly re-evaluated from various angles to deliver a better customer experience.

At the level of the service provider, the organizational culture, values, norms and other organizational processes have to be re-designed and adjusted in a way to enable the organization to build a service mindset that always thinks in a holistic manner.

2.4.3 Service Design Process Models

Several service design process models were found in academic literature, which shows a lack of consensus on which process model is described as the most appropriate fit to follow or widely adopted by service design practitioners. Several differences were pointed out among the existing process models in contemporary literature, in terms of terminologies, or number and name of service design phases. Nonetheless, it is clear that they all have the same ideology in common, which is initiated by activities that involves gathering insights and in-depth *understanding* of the problem, followed by an *ideation* process

and development of innovative services, and ending with the *implementation* of the service (Kuosa and Westerlund, 2013; Meroni and Sangiorgi, 2011; Moritz, 2005; Schneider and Stickdorn, 2010). Some researchers stressed that although service design process models generally present the stages it goes through in a chronological order, this does not mean that service design is a linear process. However, it is highlighted that it can rather be iterative if required to take a step back to previous stages (Moritz, 2005; Schneider and Stickdorn, 2011). Below, two major models will be analysed, and additional models can be found in the Appendix.

Double Diamond Process Model by the British Design Council

The double diamond diagram came into life in 2005, as a result of an in-house research conducted at the Design Council. The diagram is shaped as a double diamond with the aim to visualize the service design process in a simple way, as shown in the Figure 3 below (Design Council, 2017, p. 6). The process entails four distinct phases, namely as *Discover, Define, Develop,* and *Deliver*. The first quarter of the double diamond model refers to the discovery phase and marks the initiation of the project with a divergent mode of thinking to allow for a wide range of initial ideas and influences.

In this phase, insights gathering is sourced by conducting secondary research that focuses on the interpretation of the market's current situation in terms of competition and future trends. Another source of information is approached by conducting primary research with the aim to identify users' needs, behaviour and experiences toward an offering. Moving to the define phase, in the second quarter, where it is characterised by a convergent mode of thinking. Recognition and analysis of a clear problem lies at the core of this phase. The aim is to address the well-defined problem through the rest of the process.

The third quarter is represented as the development phase, where it focuses on the generation and assessment of ideas that are tested by users in an iterative manner until reaching a refined service concept. This stage involves the working of multi-disciplinary teams along with the employment of visual management techniques and development methods in the pursuit of bringing the agreed product or service to fruition. At the delivery and final stage, the service or product offering is launched with the aim to fulfil user's needs which were identified during the discovery phase. This stage also deploys numerous feedback loops with the users to measure or report back on the success of the offering delivered to the market (Design Council, 2017, p. 23).

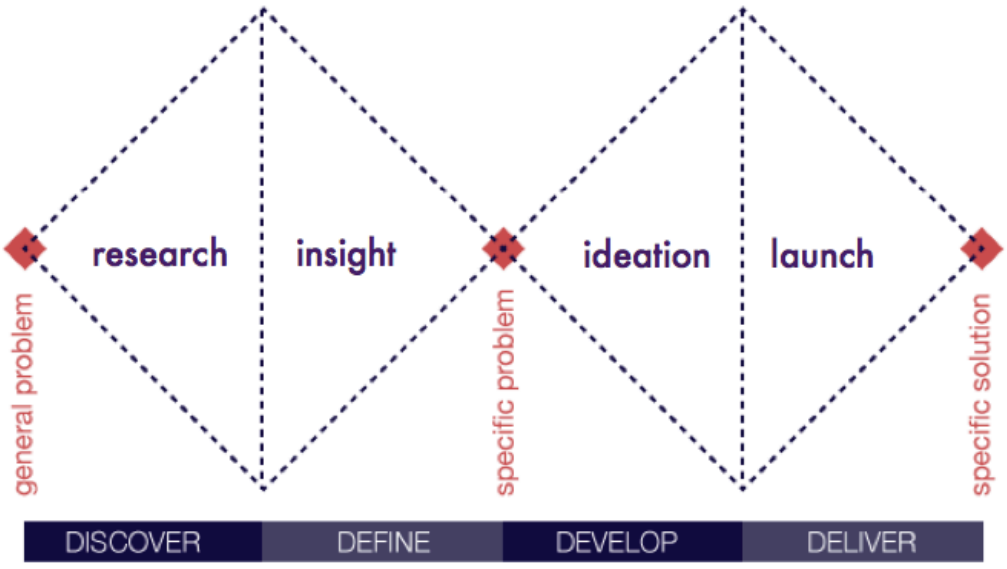

Figure 3. "Double Diamond" Framework, from: Design Council, (Design Council, 2017)

Service Design Process Model by Marc Stickdorn

Marc Stickdorn argues that there is not one rigid theoretical service design process that can be constantly replicated in any project. In Marc's opinion, a framework development for service design process is rather context dependent. In other words, the process may vary depending on the company, stakeholders involved, complexity of the challenge, and most importantly resource availability in terms of budget and time. "The best design processes are those that adapt to the problem you want to solve - and not the way around" (Stickdorn & Schneider, 2012, p. 128). Nonetheless, Stickdorn proposes a framework for a flexible service design process comprising four highly iterative phases, namely, exploration, creation, reflection, and implementation. Stickdorn put a lot of emphasis on the iterative aspect of the service design process, as this aspect serves as the main difference with other design processes that only follow a linear process. Service design process is non-linear, and it is highly essential to be explorative and iterative, in order to constantly move forward and adapt (shown in Figure 4).

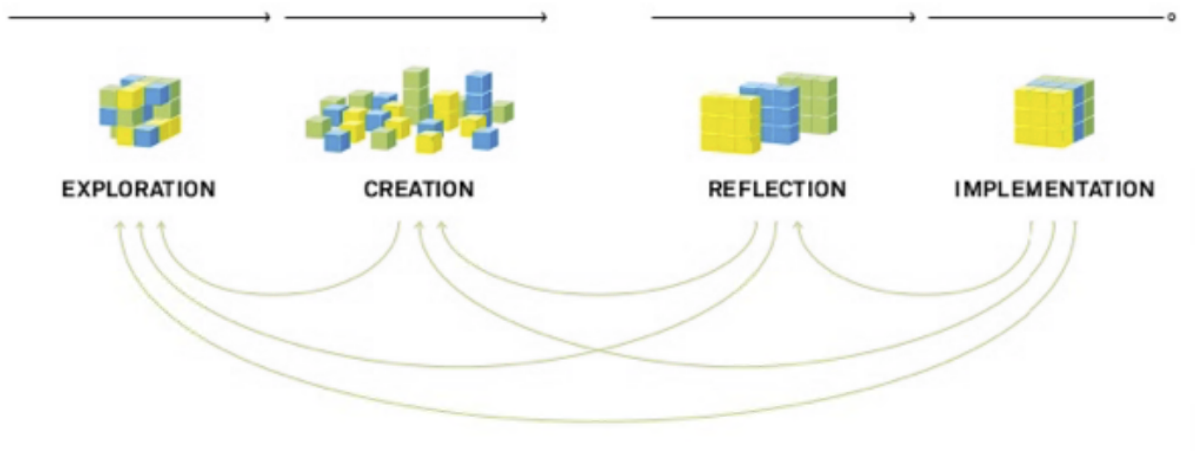

Figure 4. Service Design Framework Developed by Stickdorn (Stickdorn et al., 2012)

Exploration:

During this stage, the main goal is to obtain a clear understanding of the problem. Although service design always puts the customer at the centre of the process, in this stage the first step addresses the organization in terms of learning more about their goals and culture and comprehending their perspective on a certain problem. In the second step, the focus is more shifted towards gaining an in-depth understanding of the real problem from the perspective of existing and potential users towards an offering, by gathering insights about their context, mindset, and behaviours. Lastly, the aim is to make the gathered information less complex and more tangible for key stakeholders to visualize and share the same understanding of the problem.

Creation:

This stage is focused on generating and assessing ideas based on the problem defined in the previous stage. The aim of this stage is not to avoid mistakes, but rather to discover as many as possible mistakes by undergoing the needed iterations for testing and feedback gathering purposes prior to selecting the most promising idea and further proceeding with implementation. The cost of an additional iteration during this stage is much more affordable compared to the cost of failure after the concept is launched. It is important to work in a holistic manner by involving multidisciplinary teams and main stakeholders in the process to ensure developing a holistic and sustainable solution.

Reflection:

This stage is also characterized as being highly iterative as it focuses on prototyping the ideas with the greatest potential in order to test and get feedback accordingly. However, the main challenge is that unlike product design, services are difficult to prototype as they are intangible by nature. Service design offers a wide range of tools that aid in making the user visualize the future service concept at low cost with the opportunity to gather meaningful feedback as a result of the iterative improvements to the concepts.

Implementation:

The launch of a new service by necessity requires a change in process. In other words, a couple of principles in change management has to be considered at this stage. It is highly essential to ensure that employees are involved in the service design process from the start, in terms of considering their input and make them part

of the prototyping process to have a clear vision of the concept. This increases the chances of having a smooth transition to change implementation.

2.4.4 Service Design Tools

According to Moritz, service design brings together elements of management, marketing, research and design (Moritz, 2005, p.167). In other words, there is a wide range of tools derived from various fields and disciplines that can be employed with the purpose to achieve innovative outcomes. The utilization of such tools is context dependent (Moritz, 2005, p.19). Alves and Nunes identified more than 160 design thinking tools, which mapped them in six dimensions: who/what, how many, where, when, how, and why. (Alves & Nunes, 2013, p. 215). From Kumar's perspective, tools are classified into seven modes of activities for design innovation, namely, sense intent, know context, know people, frame insight, explore concepts, frame solutions, and realize offerings (Kumar, 2013, p.10).

Alves and Nunes created a compelling visualization of tools, and more specifically, the dimension that mirrors the activities in the design process. This dimension is displayed using a four-quadrant chart, where each quadrant consists of a word cloud that each tool font size is relative to frequency of usage. The set of tools that are frequently used were selected and presented in the order of the four phases of the service design process model developed by Stickdorn (Stickdorn & Schneider, 2012, p. 148). The tools are described in a detailed manner in the Appendix, and their descriptions are used as points of reference for the analysis. Major service design tools are presented in the Figure 5 below, according to Alves & Nunes (2014).

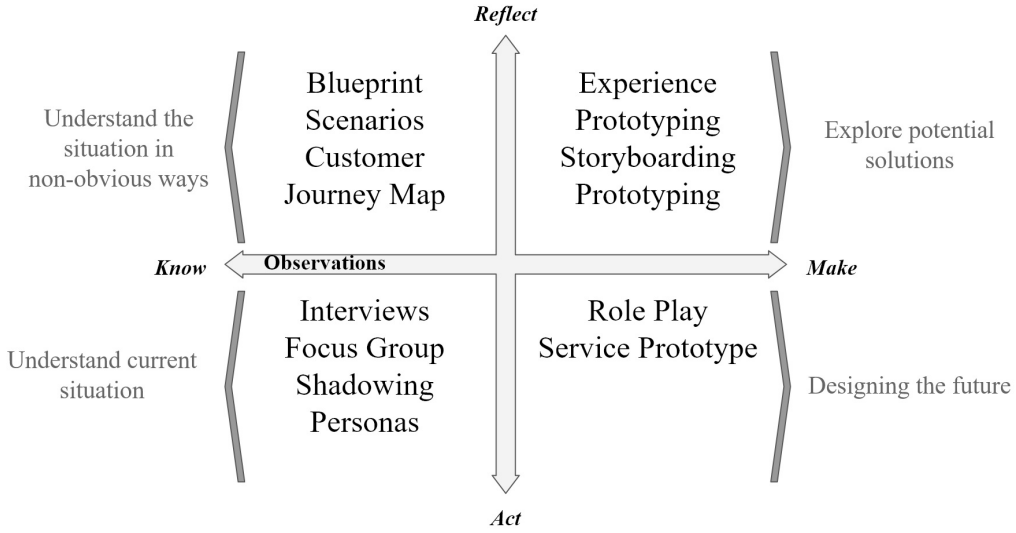

Figure 5. When: The Design Process Activities (adapted from: Alves & Nunes, 2014)

2.4.5 Service Design Team

According to IDEO design company "all of us are smarter than any of us" something that shows their emphasis on teamwork as an effective way to achieve creativity within an organization. Tim Brown, chairman of IDEO, highlights the importance of involving design team members in each stage of the design thinking process, rather than only sharing expert advice when needed among team members in relation to technical or non-technical topics (Brown & Katz, 2009, p. 26). The intangible nature of services, the uncertain and variable conditions of service environment, along with the engagement of various stakeholders makes the process a complex and challenging territory to deal with (Athavankar et al., 2016). In this sense, it is important for design team members to be open-minded, curious, collaborative, ready for challenges and adaptive to change (Dam & Siang, 2017), and in some cases where it is not possible to build the ideal team due to limited resources, like startup environments, building team culture in this case is needed to be able to proceed with the design process (Dam & Siang, 2017).

Jenkins (2010) argues that the adoption and application of design thinking at an organization demands a cultural transformation. And this transformation, in turn, requires an effective leadership that should deal with the organization itself as an object of design to be able to reform the cultural values embedded in a company along with redesigning some organizational systems and operations. This demands the design leadership to display a strategic vision of the cultural transformation coupled with commitment and courage (Jenkins, 2010, p. 26).

Service design needs to employ a multidisciplinary team that in most cases consists of user experience designers, product designers, business strategists, psychologists, ethnographers, domain specialists and project managers (Polaine et. al, 2013). Team members coming from different fields possess diverse knowledge, and different skill sets and experience levels, which can enhance creativity and innovation. It is also important to highlight that a team composed of members who are only equipped with general knowledge about various fields are less likely to contribute to the service design process (Stickdorn & Schneider, 2012, p. 113).

However, multidisciplinary teamwork has its fair share of challenges that could affect the progress of the design process when encountered. Brown points out that in the multidisciplinary team, members tend to stand for their arguments and views, more likely turning the project into a debate. While members in interdisciplinary teams are characterized by a common ownership of a concept or idea, showing more commitment and responsibility towards the team. The T-shaped people concept was originally proposed by McKinsey & Company, which later was adopted by Brown who integrated the concept into the areas of design and innovation (Brown & Katz, 2009, p. 27). This concept aims to demonstrate that as an interdisciplinary team the individuals engaged in the design team are highly specialised in a certain area, yet they also possess a holistic view of the process while connecting with others horizontally and establishing valuable collaborations (Dam & Siang, 2017). Thus, in order to overcome complex challenges within the process, design leadership has to take team composition more seriously by following a rigorous selection of team members, which besides working in an interdisciplinary manner, they also have to demonstrate qualities like strategic thinking, business acumen, user-centricity and proactiveness (Design Council, 2005, p. 35). The team composition is key to innovation success.

Moreover, leading-edge users, except for in-house professional designers, can provide unique insights about latent needs in the market and which can then be collaboratively transformed into feasible solutions with the use of internal expertise (Schreier et al., 2012). However, building such a team may be a challenging exercise. For instance, there might be significant differences between external users and firm-internal professionals, which can result in conflicts and poor outcomes due to communication barriers, or non-mutual interests and divergent goals (De Church et al., 2013).

Jakob Trischler (2018) conducted a research that addresses this challenge by exploring the conditions under which a co-design team made of firm-internal designers and external service users can successfully generate innovative service design outcomes; the research suggests that a co-design team is connected to the diversity aspect of a team as well as the capability to facilitate the process to collaboratively convert knowledge into innovation outcomes. Bringing a variety of knowledge and skills into the team can result in novel innovation outcomes. A high disparity between members' backgrounds (e.g. age, gender, nationality) demands extensive efforts to facilitate a collaborative process. Separation between users' motivations can lead to a user-driven process and outcomes that are very narrow for the broader market. Therefore, co-design teams that characterize minimum separation, maximum variety, and moderate disparity are most likely to generate the most feasible innovation solutions (Trischler et al., 2018).

2.4.6 Service Design Environment

In the book "The Power of Place, Gallagher argues that science acknowledges that an individual's thoughts, behaviour, emotions and actions are influenced not only by the past experiences, relationships and genes, but also by the surrounding (Gallagher, 2007, p. 12). According to Amabile, "physical environments that are engineered to be cognitively and perceptually stimulating, can enhance creativity" (Amabile, 1996, p.249). Brown also claims that a mixture of physical and psychological design space triggers an individual's creativity (Brown & Katz, 2009, p. 32). The first researcher to consider the interaction between workplace and workforce on team creativity was Tatsuno. His findings showed that workplace design has an impact with the ability to actively stimulate creativity and idea generation (Tatsuno, 1990), which has become today one of the key drivers of growth and performance for companies (Montag et al., 2012, p. 1362).

In order to successfully implement service design to create and develop innovative service solutions, an organization has to adapt design thinking not solely in projects and teams but also in the physical environment of the innovation (Brown & Katz, 2009, p. 35). To obtain a valuable outcome, the creative team should have the ability not only to share ideas only in a verbal manner but also be supported by a physical place that facilitates prototyping to visualize ideas. It is a place where individuals feel encouraged and motivated to discover, experiment and take risks (Brown & Katz, 2009, p. 32).

By conducting a literature review, it is observed that various physical features can support the team's creativity, such as furniture, indoor plants/flowers, calming colours, inspiring colours, privacy, window view to nature, any window view, quantity of light, daylight, indoor climate, sound and smell (Dul et al., 201´1; Dul and Ceylan, 2011). In addition to that, designers should be provided with the needed resources

that serve as the foundation to creativity (Warner & Myers, 2010, p.31). For example, IDEO design company equips designers with a special 'Toolbox' that contains a plenty of items that helps trigger designer's creativity to generate new ideas (Kelley et al., 2001, p. 144).

In his book, Design Thinking, Jenkins tackles the subject of the design environment from a broader perspective - the organizational culture of the work environment. The author argues that to adapt design thinking, the organization needs to undergo a cultural transformation (Jenkins, 2010, p. 24). Nine organization mindsets are defined in the book, which the author refers to as "cult", distinguishing the design-friendly cultural environment against the dysfunctional one as shown in Table 3 below.

Dysfunctional organisational cults	Design-friendly cultural environments
Cult of control and hierarchy	Culture of empowerment and authorization
Cult of performance and short-term success	Culture of learning from failure and looking for long term outcomes
Cult of efficiency and cost-cutting	Culture of effectiveness and value creation
Cult of productivity and busyness	Culture of reflection and focused action
Cult of competition and empire-building	Culture of collaboration and shared purpose
Cult of compliance and assurance	Culture of judgement and trust
Cult of risk avoidance	Culture of possibility and experimentation
Cult of blame-shifting and arse-covering	Culture of truth-telling, of honest critique
Cult of rigorous process as salvation	Culture of heuristics and agility

Table 3. Cults - Traditional Organization Environment Vs. Design Friendly Cultural Environment, (Jenkins, 2010)

2.5 Connecting Service Design, Service Theory & Lean Innovation

It is important to document the existing connections between Service-dominant Logic and design thinking, which implicitly connects Service-dominant Logic to service design. These connections can be found in the work of Katarina Wetter-Edman (2009) where she mentions that, whereas Service-dominant Logic is lacking in achieving in-business implementation, design thinking emerged from practice and experience, but does not reach managerial and strategic levels of implementation. This further justifies the motivation of this study, which is to bridge the gap between the two approaches.

According to her work, Design Thinking is everything that all the various design disciplines have in common, and it sums the way designers implement design, meaning an approach based in design practice and designerly ways of thinking (Wetter-Edman, Katarina, 2009; Cross, 2006; Rowe, 1987).

According to Edman (2009):

> "SDL and DT have similarities, the main one being the user's experience of value. The need to understand how user value is created is crucial in both DT and SDL. However, while DT stems from practice, SDL lacks practical methods and techniques, which has implications if the desired paradigm shift from goods dominant logic to Service-dominant Logic is to happen."

And in addition:

> "Design has often been added at the end and has thus been difficult to integrate into the management of the companies (Johansson & Woodilla, 2008). (...) The SDL perspective that takes the customer's position throughout may seem simple at first, but the managerial implications are quite large from a provider perspective. SDL demands that more people throughout the organization are involved and understand the customer. Designers, who take the customer as their starting point and are trained in understanding and solving "wicked problems" (Buchanan, 1992), might be a valuable resource for making this transition. (...) Designers in a service context constantly move between the design of a service and the business model, seeing the design of the service as intertwined with the business strategy (Kimbell, 2008)." (Wetter-Edman, Katarina, 2009)

This connection between service design and Service-dominant Logic further validates the motivation of this study in identifying ways of implementing service design in a business context that is not already used (startups), as a means to extend the transition towards a Service-dominant Logic. In addition, according to Trischler et.al. (2017), service design has the possibility to facilitate the Service-dominant Logic in a business context, since it can be the vehicle to the development of outcomes that act as a supporting configuration of resources that customers can then transform into value through use (Trischler et.al., 2017).

Finally, Ojasalo & Ojasalo (2018), strongly suggest that service design may assist in the facilitation of the Service-dominant Logic in a lean innovation context:

> "Since customer-experienced value is at the heart of service design, it has a great potential to facilitate the application of S-D logic in the managerial context. Moreover, service design has much to offer to lean innovation as well, because it includes many user-centric and experimental development tools that are also essential in lean innovation. However, so far, service design has mostly been a practitioner approach with little scientific theory development. Examining service design in the context of lean service innovation offers interesting possibilities for further research."
> (Ojasalo & Ojasalo, 2018)

The above suggestion further solidifies the intention of this study to explore the application of service design as the vehicle for the facilitation of Service-dominant logic in a lean startup context.

3 Research Methodology

In this chapter, a detailed description of the adopted research methodology is provided, in order to get a better understanding on how the researchers aim to answer the research question. It begins with an explanation of the background of the research and its adopted strategy, followed by the applied research design along with the considerations taken in choosing the most appropriate empirical method for the objectives of this study.

3.1 Research Background

According to Bryman (2012), a researcher's decision concerning the methodological choice has to be made depending on the extent of its suitability to answer the research question. In the case of this research, to be able to gain a deeper understanding of the potential benefits and challenges of service design application in a startup context and how can it possibly contribute to startup processes from a value co-creation perspective, there is one important matter that shall be taken into consideration when deciding the methodological choice for this study.

This matter pertains to a clear literature gap when examining the role and value of the service design practice within the context of startups - a context that is considered to be underexplored due to the lack of academic research extensively addressing it. While there are studies that have previously examined the role of service design in the public sector and large corporations context (Muratovki, 2015; Sangiorgi, 2011; Meroni & Sangiorgi, 2011; Steen et al., 2011), the role and value of service design in startups is not yet well documented. Numerous frameworks, methods and even philosophies - designed to help entrepreneurs develop products and ventures - were revealed in abundance within the Innovation and Entrepreneurship literature. Examples of such frameworks and methods are Customer Development (Blank, 2003), Lean Startup (Ries, 2011), Design Thinking (Brown, 2009), Pivot (Arteaga and Hyland, 2013), Business Model Canvas (Osterwalder and Pigneur, 2010), Entrepreneurial Operating System (Wickman, 2011), The $100 Startup (Guillebeau, 2012), Lean Canvas (Maurya 2012), Value Proposition Design (Osterwalder et al., 2014), Agile Development (Shore and Warden, 2008) and E-Myth (Gerber, 2001). Yet, there was not much interaction detected between the service design and startup entrepreneurship literature, except for Ojasalo's work (Ojasalo & Ojasalo 2015; Ojasalo & Ojasalo 2018).

This matter made the researchers of this thesis realize that this research can be considered as a pioneering study due to the very limited attention given from both academics and practitioners about the use of service design in the startup context or even by any of the other organizations in the startup ecosystem, which support their development like incubators, accelerators and venture capitals. This, in turn, raises the question of who can provide this study with a better and more reliable answer to the research questions of this thesis.

Approaching entrepreneurs or managers involved in working with a startup, business incubator or an accelerator, would not be the most appropriate source to obtain primary data to answer the research question at the time being, as it is still not very common to find startups investing in service design to improve their

offerings. It can be safely assumed that most startups lack or have limited knowledge and experience about service design. This assumption is supported by conducting informal pre-study interviews with business incubator managers and startup founders, who showed that they still lack a well-established understanding about the service design approach. This means approaching startup companies to answer the research question will in no doubt be long, complicated and require an enormous amount of research.

Having the above in mind, the researchers decided to limit this study to a practitioner perspective by interviewing experts and managers involved in service design projects. The ideal case to have for primary data collection is service designers working on projects in a startup context. However, very few service design firms have mentioned on their official websites to be involved in startup projects, as their portfolios are dominated by projects related to municipalities, corporations, and NGOs. The researchers think that service design practitioners can still be considered as a more appropriate data source for this study, as this limitation can be mitigated by ensuring that the selected service design practitioners for interviews should also possess startup knowledge or experience.

3.2 Research Strategy

The adopted research strategy for this study will be based on a qualitative approach. Denzin and Lincoln (2005) highlight that qualitative research gives more focus on the process of exploring how the social meaning is constructed. A qualitative study is designed in a better way to allow the possibility of obtaining complicated textual explanations regarding how an individual experiences a specific research topic (Trochim, 2016). Such methodology employs a set of techniques, like observation and interviews, to be able to discover subjective meanings, values and emotions (Clifford et al., 2013). Moreover, Sekaran and Bougie (2010) stress that a research with an exploratory nature is a better fit when little is known about a situation due to limited empirical studies in such areas, which is aligned with this underexplored research subject in the context of startups. This contrasts with quantitative studies that mostly rely on preconceptions or predetermined parameters with the potential to restrict the emergence of possible findings (Bryman and Bell, 2015). This is in addition to the tendency to overlook cultural and social effects due to its reliance on statistical data (Silverman, 2005).

The qualitative research strategy incorporates the practices of interpretivism as the basis for the researcher's epistemological position. This implies that the researcher does not aim to focus on giving any critical or judgmental actions as the intention is not to criticize any of the understudied concepts, but rather to explore and build an in-depth understanding about them. Thus, this research is distinguished from a positivistic approach in the sense that the adopted approach is more heuristic and associated with an open-ended research question (Bryman and Bell, 2015). Therefore, this study employs a qualitative approach, mainly due to the experience and insights of the people who are involved in innovative projects can be better understood through words and meanings rather than through numbers or frequencies.

3.3 Research Design

In this section, the research design that was followed is reviewed and analysed, and the selection behind the research method is motivated. Finally, the steps that were taken to ensure the highest possible research quality within the limitations of the study are discussed.

3.3.1 Case Study Research

Within a qualitative approach, a multiple case study research was considered adequate to address the research questions. Huberman and Miles (2002) highlight that a case study approach is suitable when there is "little known about a phenomenon", and when "current perspectives seem inadequate because they have little empirical substantiation" (p. 31). The aim of conducting case study research is to investigate a contemporary and complex social phenomenon in depth within a real-life context, over which the investigator has little or no control (Yin, 2009). Benbaset et al. (1987) notes that a case study approach's strength lies in its ability to answer the questions of what, why, and how along with a comprehensive understanding regarding the nature and complexity of the phenomenon. Since this study is based on the questions of what and how in relation to the role and value of service design in a startup context, along with a lack of academic research in relation to the context of the startup ecosystem, a case study approach is considered to be the best fit for this research.

Conducting case research has its challenges: it is time consuming, requires skilled interviewers and is well-known that the derived findings from a case study are difficult to generalize due to the selection of only a few samples out of the population (Yin, 2014). Yet, this does not make the gained insights any less valuable. A case study design enables the researcher to gather information in a detailed and comprehensive manner, which in turn, increases the chances of exploring new patterns that are less likely to be obtained from a quantitative study (Rice, 2013), leading to the development of new theory.

For this research, a multiple case study is chosen to be applied over a single case. This is due to the existing variation in contexts among service design projects that can better be captured using a multiple case approach. This approach is commonly used in qualitative research due to its ability to provide multiple sources of evidence rather than depending on only a single source (Yin, 2011). This will also allow the researcher to compare the outcomes derived from each of the cases in order to identify any commonalities or unique aspects (Bryman and Bell, 2015). The process of selecting the cases is further explained in the section of case selection.

3.3.2 Case Selection

Selecting the most appropriate cases is highly crucial to ensure a sense of credibility for a study (Rice, 2013; Yin, 2014). In this sense, various purposive non-probability sampling techniques were used. The strategy adopted had to fulfil the two appropriateness conditions, which are the fit to both research purpose and

phenomenon of inquiry (Kuzel, 1999; Miles and Huberman, 1994; Patton, 1990) in order to increase the research design quality. The established selection strategy includes the typical case and field based (opportunistic and snowball) strategies. Justification of these choices is explained below.

First, and because this study is exploratory and takes a multiple case study research design, the typical or ordinary case is found suitable to "describe and illustrate what is typical," (Patton, 1990, pp. 173). To understand the value of the service design practice in the context of the startup ecosystem, the most favourable case studies for this research shall involve service designers who worked with projects involving startups. However, as discussed earlier in the background research section, design projects with startups rarely exist, most probably because the adoption of service design is still not that common and widely spread in startup organizations like other methods (e.g. Lean Startup Method). In this case, typical cases are selected based on service designers that possess any experience or knowledge relevant to startups. Like most non-probability sampling methods, typical case sampling is less than ideal and is used in this study due to severe limitations on time and resources (Henry, 1990),where approaching startup companies involved in service design projects to answer the research question will in no doubt be long, complicated and require an enormous amount of research.

The second sampling strategy is field-determined cases, where both snowballing and the opportunistic strategies were pursued. Opportunistic strategies proved to be helpful by identifying and listing potential service designers via desk research, more specifically LinkedIn and official websites of external design agencies or freelancers. Furthermore, the snowballing strategies were also pursued during sending emails to potential interviewees, which included a request to recommend referrals that would possess relevant knowledge to the study purpose and research questions. Relevant cases were these that satisfied the criterions proposed by the strategy of "typical" explained earlier.

If this sampling strategy is followed, it is expected that the interviewee relevance is increased. Further, the goal is to adjust for researcher and interviewee bias while at the same time reducing the risk of missing out on crucial empirical findings.

3.4 Data Collection

3.4.1 Semi-Structured Interviews

Bryman and Bell (2015) notes that during the selection process of a data collection method, it is essential to first determine the type of information required for the study. For multiple case studies or any other type of study with a defined and clear topic to further explore, it is advised to adopt interviewing. Interviewing enables the researcher to build an in-depth understanding of the understudied topic and ensures comparability between the conducted interviews (Bryman & Bell, 2015). It allows the researcher to find out what questions are relevant or irrelevant, as well as expose patterns and connections that were not previously recognized in the literature (Dunn, 2005). Interviewing is mostly suited for this research,

especially because it makes comparability possible and reinforces the generalization of the population of the service design practitioners.

Semi-structured interviewing is used for this study. It is considered as a more suitable method since it maintains a balance between both structured and unstructured interviews. This method will give the interviewees the freedom and flexibility to respond and provide deeper and richer answers when compared to structured interviews, on the one hand (Bryman & Bell, 2015). While, on the other hand, it is still more controlled in comparison to unstructured interviews, meaning that it ensures that the researcher remains on track towards finding answers to the research question in a more efficient way (Bryman & Bell, 2015). Thus, semi-structured interviewing serves as a more favourable choice for this study, not only because it has the possibility to obtain answers with specific themes, but also offers a high level of flexibility in the data collection. An interview guide is developed for this reason, which can be found in Appendix B.

However, semi-structured interviews have some disadvantages in comparison to other data collection methods. Critics argue that the use of such a method could potentially deviate from the constructed interview guide leading to loss of focus on the research topic during discussions. This, in turn, will decrease the comparability between the interviews (Bryman and Bell, 2013). To overcome this issue, the researchers firstly ensure not to include many questions in the interview guide, in order to give some space for flexibility to discuss more thoroughly about the responses connected to the themes. Furthermore, the researchers managed to return to the themes when needed during the interview, in order to ensure that all questions are answered.

The interview guide is sent to the interviewees prior to conducting the interviews to have a brief idea about what is being investigated and what questions are required to be answered. The interview guide mainly uses the formulated research questions and the relevant themes derived from literature review as a framework. This is supported by Bryman and Bell's (2015) recommendation regarding the interview guide development, which suggests relying on the theoretical findings when determining the themes in order to ensure that the research question will be answered. Furthermore, the questions are formulated in an open-ended manner to allow for more detailed answers that are rich with insights regarding the different themes. This way will allow the interviewees to answer more freely about the subject, in order to ensure that all the different types of ideas and answers are captured and avoid the possibility of missing any data that can be valuable for this study.

This is also in line with Bryman and Bell' (2015) advice in regards to question formulation in an interview guide, where it suggests that such questions should not be very specific or influenced by the researcher's preconceptions about the research area, as this could potentially restrict the explorative aspect of the qualitative research. Interviewing is used here as the data collection method of choice. Interviewing enables the researchers to explore subjective meanings and reveal relationships in areas that are not thoroughly researched (Valentine, 2013a). It helps the researcher to discover what are relevant or irrelevant questions and reveals connections that were not identified in the literature. In particular, semi-structured interviews are chosen instead of structured and unstructured interviews. This interview style leaves flexibility for the participants to explore topics they consider important, while offering a structure that enables comparison across cases (Longhurst, 2013).

The average interview took 45 minutes, and they were conducted not only in presence but also over phone and video calls according to convenience and geographical constraints. Interview guides were developed based on recommendations from Dunn (2005) and Longhurst (2013). Developing the interview guide was regarded not as a linear process, rather, the questions and phrasing evolved based on past experiences. The questions were structured along various themes that came forward in the theoretical framework, guided with an introduction and conclusion. To ensure a conversational tone, follow-up questions were determined by the dialogue rather than the interview guide. Respondents were given the opportunity to talk freely, and interview questions were linked to the current topic of the conversation. At the end it was made sure that every question was covered.

3.4.2 Data Analysis

The use of thematic analysis to structure and analyse the derived findings from a multiple case study with multiple participants is well supported by Nowell et al. (2017), who claims that the thematic analysis is mostly valuable for the examination and comparison of the perception and contexts of different participants involved in a study, which could potentially produce new and unanticipated insights. This method is also useful for the identification of key components in a large set of data and reinforced by a well-structured approach to handle the data, which allows the researcher to generate a clear and organized outcome (Nowell et al., 2017).

In this method, the use of coding helps the research to convert unstructured data into structured one, as well as labelling the parts that are related to the theory or considered practically important for the study (Nowell et al, 2017, Bryman and Bell, 2015). The last stage of this method involves the process of organizing the codes into overarching themes which represents the key elements of the research question (ibid.). Despite that the thematic analysis is considered as an effective method for data analysis, it is argued that there are some disadvantages in regards to coding the data, in the sense that it leads to the de-contextualization and fragmentation of the material. This implies that the context of the material and the flow of the narration could potentially be lost. However, since this method is generally approved and considered important among researchers, coding is still advised as the initial step to take for a qualitative analysis (Bryman and Bell, 2013). The adoption of this approach enabled the researcher to structure the plenitude of gathered data into themes, making the data analysis process simplified.

3.5 Anonymization

For the research, a decision has been made previously to make all the interviews anonymous. The purpose for doing so is to allow the respondents to a larger extent and in more depth discuss and share their perspective about how service design application can contribute to the practice of entrepreneurial startups, whilst not jeopardizing that the gathered information will be negative or in any way harmful for the respondents. This is likely to give a more honest and transparent picture of the reality. Bryman and Bell (2011) explains how The Academy of Management (AoM) Code of Ethical Conduct demands the

researcher to tread carefully and reduce the potential harm that could be caused to the respondents. It is thus crucial to ensure that the empirical data that is obtained in no way can be traced back to the respondent nor the employing agency/firm, and information that can thus has to be discarded from the study. Refining the empirical findings and deleting associative information can be difficult, but still doable according to Bryman and Bell (2017).

In order to secure the anonymity of the respondents, each service designer has been given a codename. Furthermore, information related to gender, age and design agencies' names have been discarded to assure total anonymity. By doing so, the hope is that the respondents have provided thorough answers to the interview questions addressed to them, not factoring in that their opinions can harm them, hopefully leading to less self-censorship. From the interviews, the transcriptions also have been subject to anonymization, in which all information that could be specific or directly related to a service designer have been withdrawn.

3.6 Research Quality

No matter what methodological approach is employed, validity and reliability are key underpinning principles in research.

3.6.1 Reliability

In qualitative research, external reliability is concerned about the replication of the findings in a study (Bryman and Bell, 2015). Generally, it is known that external reliability in a qualitative research design is mostly low due to the difficulty of being able to replicate a particular social setting from which the findings were derived (ibid). Furthermore, the use of semi-structured interviews as a method to collect field data for this study, makes it even more difficult to replicate, which in turn, will negatively impact the external reliability. Thus, to overcome this issue of low external reliability, “dependability” is mostly used in this case. To achieve dependability, an auditing approach is employed to ensure that a comprehensive and accessible description of the research process is available (ibid). It also includes a detailed description of the decisions made and approaches or methods adopted in this research process. This way increases the dependability and external reliability of the research by allowing other researchers to implement a similar research study (ibid.).

3.6.2 Validity

In qualitative research, internal validity is defined as the consistency between the researcher’s empirical findings and theoretical work being developed (Bryman and Bell, 2013). This is referred as “credibility”, which entails that the research has been conducted based on existing rules, and also the findings have been shared with people who are involved in the social reality to acknowledge that such findings are comprehended by the researcher and avoid any misunderstanding (ibid.). To ensure internal validity,

transparency and accuracy in this research project, the research transcribed all the recorded interviews and word-by-word coded the collected data in order to facilitate the process of analysis of the empirical data in relation to the theoretical framework in a precise manner.

Regarding the external validity in qualitative research, it is represented as to what extent the derived findings can be generalized with respect to the social reality (Bryman and Bell, 2013). It is argued that a qualitative research suffers from a low external validity due to the small size of the samples studied in comparison to the research, which affects the ability to generalize the empirical findings of the study (Bryman and Bell, 2015). As discussed earlier, this study is based on only 6 interviews for the purpose of gathering data. While such conditions make it difficult to generalize the findings, the primary aim of this research is to conduct a study to further generalize the value of service design in the context of startups and what aspects of it may be integrated into startup development processes. For this reason, it can be argued that the interpretations made, and conclusions reached in this research should be viewed in the context of this particular setting. This argument aligns with (Bryman and Bell, 2015), who stated that findings derived from a case study should not be considered as directly applicable to other cases due to its contextualized nature, but instead as a guidance for further research in this study area.

4 Analysis

In the first part of the chapter the empirical findings are generally organised and overviewed, while in the second part the results of the thematic analysis are presented.

4.1 Empirical Findings

This chapter provides an overview of the data, generally grouping them in the way they emerged from the interviews, only serving as a general view. This is followed by introducing the themes created from the thematic analysis, in section 4.2. Six service design practitioners were interviewed, and accordingly the findings of the research are presented below per interview open-ended question.

4.1.1 Service Designers' Background and Relevance to Startups

In this section, the background of each service designer is presented. The purpose of this section is twofold. The first is to ensure that all service designers satisfy the researchers' set of criteria for data reliability purposes, which entails the ability to demonstrate having sufficient knowledge and experience in both areas of service design and startups. The second is related to the researcher's belief that having a good grasp about the respondents' (service designers') profiles have the potential to justify any differences in shared point of views, later in the data analysis.

Service Designer 1 (SD1)

(SD1) has a rich background in Service & Business Design. (SD1) is currently working as the head of the design studio at one of the world's leading design consultancies. (SD1) possesses sufficient amount of startup knowledge and experience for this study, which mainly was established when (SD1) was part of a startup team for two years, almost ten years ago. However, the startup did not manage to make its offering to the market, as (SD1) explained:

"We couldn't find the perfect product market fit to get away with, even though we had a good offering, but we couldn't find how to distribute that out. So, I went back to work as an employee" ***- Service Designer 1***

Service Designer 2 (SD2)

(SD 2) currently works as service design lead at a service design agency, which he/she co-founded with another partner. (SD2) applied service and business design to numerous corporate projects touching on Big Data, Artificial Intelligence (AI), Mobility, Smart homes, and other various fields. (SD2) possess sufficient knowledge about startup context along with a well-established understanding about the Lean startup method. However, (SD2) has very limited experience in startup projects.

Service Designer 3 (SD3)

(SD3) currently works as a freelance service designer. (SD3) applied service design in numerous projects that varies from corporate to public sector. (SD3) has a well-established understanding of startups and its unique characteristics. (SD3) worked on a project with similar context to a startup, as (SD3) described his/her experience as followed:

"W*e had, for example, a project that we were going to build a portal. But it was the only part of the company - where people that were involved with this project were completely independent and isolated from the rest of the company - and they were going to build the portal. There was no legacy, so it had the startup environment."* ***- Service Designer 3***

Otherwise, (SD3) has limited experience as being a part of a team in a startup.

Service Designer 4 (SD4)

(SD4) holds a degree in Business Management. (SD4) has worked as a UX Designer for several startups, around three to four years. (SD4) explained that the role of UX designer is limited to only focusing on specific and individual touch points rather than the holistic view of the business. For this reason, (SD4) decided to pursue a master's degree in service design in London, United Kingdom. For her thesis, (SD4) conducted research with the aim to explore the following:

"*How to bring service design as a management approach for rapidly scaling up startups to maintain their most valuable asset, people. This research states the connection between service design and people management in an organisation, generally known as HR in Business."* ***- Service Designer 4***

(SD4) demonstrates sufficient knowledge in the areas of both startups and service design. (SD4) started working as an independent service designer upon graduation, with the focus on startups.

Service Designer 5 (SD5)

(SD5) has worked as a service designer at a Research Institute for 7 years. (SD5) is mostly involved in healthcare and other projects within the public sector, with the aim to achieve better public services by involving different actors, users or citizens. in the development processes using mostly methods and tools from service design. (SD5), also, demonstrated having the startup knowledge and experience, as described below:

"*Together with a friend I started a business focusing on making life a little bit simpler through innovative services. Our first service focuses on the life of students at universities in Sweden by providing a platform where the student can manage all administrative tasks concerning courses, exams, grades or simply finding the right classroom. The platform also provides the student with information and offers about what the city he or she studies in can provide to create great student experiences. However, we failed with this startup as we could not find a right partner in achieving that. We wanted to partner up with the nightclubs that had a lot of money for ads, which we could funnel directly to students, which they cannot. But we could not find a good technical partner that believes that the nightclubs do pay for that. But we had a good MVP and we actually validated it, but we couldn't find the right partnerships - find the right interface with these different actors to co-create in providing the value of our startup offering."* ***- Service Designer 5***

Service Designer 6 (SD6)

(SD6) is a senior-level independent service designer, trainer and coach. (SD6) has over 20 years of international experience applying human-centred design approaches to a broad range of projects and platforms. (SD6) was involved with some of the largest corporate companies and public-sector organizations in the Netherlands, applying service design practices and techniques to a range of challenges. (SD6) is active in various global service design networks. (SD6) hosts and speaks at events on a regular basis and offers training in service design techniques.

When it comes to startup experience, (SD6) demonstrated how this experience is gained as described below:

"*Back in 2016, I started to work in an accelerator program for a bank in Amsterdam and as any accelerator, our concept was to provide the space and the resources for a startup team to essentially discover if they have enough potential for success. [...] The accelerator was a mix of internal initiatives, internal teams from within the bank as well as external startup teams who had gone through a process and were admitted into the accelerator. I was there for about a year and a half, and in that time, I was coaching people as a combined actually service designer and design thinker. [...] I had the opportunity to work with individual teams, then I made clear what my value was as a service designer, and the mindset that I have in the activities and deliverables that I do. And I supported teams throughout the process. [...] So, I helped startups through that, and that was from my perspective, having to do some things that were called service design and then some things that actually just fell within the world of lean startup."* ***- Service Designer 6***

In summary, the level of knowledge and experience in both areas of service design and startups might vary among the selected service designers. It is clear that some of them possess more startup or service design experiences than the others, due to various differences in terms of employment status, geographical locations, educational backgrounds, years of experience and various other different aspects. Although selected cases that are different can sometimes be recognized as a problem, this feature has the potential to increase the strength of the results (Patton, 1990, pp. 172). Patton further contends that "any common patterns that emerge from great variation are of particular interest and value in capturing the core experiences and central, shared aspects," of a case. However, all have demonstrated that they meet the minimum requirement set by the "typical case sampling" as explained earlier to answer the research question - a well-established understanding in both areas of service design and startups, in order to be able to share their opinion about how service design application can contribute to the Lean Startup Method, and further identify associated potential benefits and challenges to its application.

4.1.2 Overview of Service Design in Other Contexts

This section presents the data collected about service design process that is generally followed within projects in other contexts than startups. This mainly aims to find out to what extent the service design approach in practice is aligned to the various processes found in literature review. Moreover, the researchers intended to begin the interview with this question, as a way to help the service designers organize their thoughts and quickly review what service design processes that they usually implement in any general

context, to make it more convenient for them for later when sharing their views about how this approach can contribute to the existing methods adopted by startups.

About Service Design Process in Contexts Other than Startups:

Generally, several service designers mentioned they have mostly seen the 'Double Diamond' process model to be followed in contexts like corporate companies and the public sector. This process consists of four distinct phases, Discover, Define, Develop, and Deliver.

"Usually the consultant follows the methodology containing the Double Diamond process model." ***- Service Designer 1***

At a broader level, the service design process seems similar among different projects, however it greatly varies on a deeper level depending on the context of one project to another. Service Designer 2 explained that it is helpful to follow a general model like 'Double diamond' as it serves as a map or a high-level lens when planning or managing the service design process as it gets more complex at a more in-depth level, where at the core of each activity (research, ideation or prototyping) is the recurring pattern of the divergent and convergent mode of thinking and doing, while following a non-linear process due to the highly iterative nature of service design.

"The classic processes, for instance, the double diamond. I think it always tends to point out where you are in the double diamond, whether you're being expansive or whether you're convergent, I think often in practice you are doing many things at once. It's not a linear process, and so you are kind of both being expansive and kind of narrowing down at the same time." ***- Service Designer 2***

It is noticed that there is a consensus among all service designers that service design process is context dependent, meaning that there is no universal framework for service design application that can be replicated to any project. Several service designers mentioned that the service design process may vary depending on the level of qualification and complexity of the challenge within a project.

"It's very much depending at what level the client is - how down the road they are in the project if they have done their homework or research to understand the problem. So, sometimes we have to start reframing the problem as a question and sometimes actually it is right on spot. Then we start the execution mode at once." - ***Service Designer 1***

The availability of budget, time and other sources is another aspect that several service designers mentioned could affect the specific process to be adopted in a project. As Service Designer 3 elaborated more on this matter:

"Usually in service design project and whichever design project, the time, money and number of people needed is dictated by the project scope that has been defined, in which you have to deliver within a certain deadline [...] so you say with this time we have these human resources and funds, and you put out a plan for an MVP in this case. So, all of this has to be defined because you always have limitations especially with funding. I have not heard of many projects that had a lot of funding and they told you that you have the freedom to do what you want. So, there is always that in the beginning of a project" ***- Service Designer 3***

Lastly, several service designers also highlighted how the involved people in the project can affect the service design process to be followed, as Service Designer 4 said:

"So, depending whom you have, you choose the person you have, and you build the interface of the company, because that changes depending on your personnel. You look at what you have and how you can use it because service design has to be applicable to the people and capabilities you have." ***- Service Designer 4***

To sum up, service designers highlighted that the service design principles are always static when developing any framework or process model to follow in any project, where the process is dynamic and nonlinear, constantly changing according to the context. And, as Service Designer 5 puts it nicely:

"It is important to understand these kinds of aspects and how to circumvent them. I would say that the processes cannot be similar among projects, but then we use different tools in the process depending on the context and the actors we involve. But the general approach is always the same. It is always human centred. It is always co-created. It is always holistic. It always tries to make something that is what often makes them tangible." ***- Service Designer 5***

In summary, a framework development for service design process is rather context dependent. Service design process is non-linear, and it is highly essential to be explorative and iterative, in order to constantly move forward and adapt. Service design principles are always the same in any project, but the process may vary depending on the stakeholders involved, complexity of the challenge, and most importantly resource availability in terms of budget and time.

4.1.3 Service Design and Startups

This section is split into two parts. The first presents the service designers' view on the current situation of service design in relation to startups, as it highlights the reasons behind service design being less known in the startup world, followed with suggestions on how to spread more awareness of its value within the startup ecosystem. The second part demonstrates the service designers' perspective on how it is possible for service design to be integrated into lean startup methodology, along with sharing their views about the potential benefits associated with service design incorporation at the level of value co-creation.

About the current Situation of service design and startups

"The reason why you won't find many service design cases in a startup context is because it's costly. [...] I think for entrepreneurs, it would be very frustrating as they need to deal with money, investors, timelines, and they need to do the will of the customer all at the same time. They cannot just set apart one team that is just focused on service design for like 6 months. It will kill them. It is just out of business. "- ***Service Designer 5***

Startups can hardly afford outsourcing the expertise of service design due to lack of resources, mainly time and capital. This was agreed upon by all service designers as one of the main reasons behind service design not being widely adopted in the startup world.

Several service designers suggested that business incubators and accelerators would serve as the appropriate channel to initiate building the case of service design in the startup world. Regarding the financial aspect, accelerators and business incubators, in general, provide carefully selected and participating early stage startups the opportunity to get entrepreneurial training and mentorship services free of charge, with the aim to invest in and support their growth. Accordingly, service designers suggested to initially approach startups through business incubators and accelerators, as they are more likely capable of covering the financial costs if willing to adopt the service design expertise by hiring service designers, who can join the training team along with other mentors like business developers, growth hacker coaches and scrum masters. Service Designer 2 described them as:

"Service designers working with startups can be through incubators or innovation hubs providing funds. So, the mother will pay for this type of training. So, I think that is often the root in the mother, an umbrella organization pays." - ***Service Designer 2***

Besides the financial support, several service designers suggested that the adoption of service design by business incubators and accelerators may potentially maximize the productivity of both early stage startups and service designers by being able to manage time more effectively. Service Designer 6 elaborated more on this point:

"It is easier for service designers to work with startups in a setting such as an accelerator or an incubator [...] next to the growth hacker coach and scrum master, we can add a service designer as a coach. As a startup, they are doing a lot of activities which sometimes do not have any real effect on the service. Some of the startup team are out only seeking funding, others are only coding and designing the product, and you probably cannot be occupied full time as a service designer to only work at some stages of their business life cycle. Whereas if you are a service designer working in an environment like an accelerator, you can be supporting multiple startups, because none of them need you full time. And a service designer does not want to work for a client who only needs them for one or two days a week. Later, once startups grow into a big organization running things with a big set of complex services, you can keep one or more service designers constantly busy." - ***Service Designer 6***

Several service designers continued to explain why service design is still not very well-known in the startup scene. Service designer 4 thinks that startups may still have not realized the real value of service design and whether it is worth investing their minimal resources to get access to service design expertise. Service Designer 2 explained that service design approach is more popular and widely adopted in other contexts than startups like the corporate world and public institutions. As a result, the general understanding of service design value is mostly built on cases with different contexts than startups. Most service design agencies and practitioners promote the benefits and the positive outcomes of service design application achieved in corporate and public cases. However, it is clear that startups and corporates are fundamentally different, especially, in terms of market threats and opportunities. Accordingly, it is important for service designers to heed caution from promoting the value of service design in the same way. The value of service design has to be translated in a way that satisfies the needs of early stage startups. Service Designer 2, also added that service design can be presented in a better way, as he/she said:

"I think service design has been notoriously bad in talking too much about explaining the process. Most people are not interested in the process. They're interested in the outcome." ***- Service designer 2***

Service Designer 2, also, pointed out that a lot of startups think that they are already applying service design or other approaches that are similar to service design, as service design overlaps with some areas in other methods and practices adopted by startups. Service Designer 2 thinks that this confusion may be the result of startups not recognizing the role of service design and its unique value for startups.

"I think the other thing is that if you talk to a lot of startups, they'd say we are doing it. We are just not calling it service design, like the best of startups would say they are passionate about understanding the underlying needs of that customer, meeting their customer, acting nimble and being so close to their customer. I think they would say that they're doing it." ***- Service Designer 2***

To be able to expose the service design value to startups and distinguish it from other existing startup methods, Service Designer 6 that service designers should initially start learning more about startup practices in terms of gaining knowledge about the innovation and development methods, tools, and terminologies that are widely adopted in the startup world, which some can be relatively familiar to service designers and others are completely unique. Understanding the startup context will enable service designers to blend in and find success more easily in the sense of adapting their language, tools, and skills to the new environment of startups. In other words, service design toolkit alone is not sufficient, it has to be a combination of both. Service Designer 6, then, demonstrated how to gradually reveal the value of service design, referring to his/her past experience with startups, as he/she said:

"They do not know that they need a service designer, and in some cases, they may not need one yet at all. So, I started learning how to run experiments, doing customer development work, filling out canvases, understanding business models, value propositions and platform design and other practices that are really directly relevant for a startup, and at the same time get them to understand how I think as a service designer and reminding them that they are not just building an application or a product, but for example they have to think about the different places that customers want to go to use their service and get a much better understanding of their customers rather than just speaking to a few of their friends; those are the kind of doing activities like a customer journey, which is really underappreciated or underdone in some startups. Another tool can be the service ecosystem, an exercise that I have been doing for many years. I would just introduce these little techniques and never make a big deal of saying that this comes from the world of service design or not. I would just say that this is something that is important, and I found it pretty much universal. They really saw the value of those activities and it did not really matter how much I told them where they come from and whether this is service design or not. But they saw the value and that was to me the most important thing." ***- Service Designer 6***

Promoting service design value to the startup ecosystem may be challenging as there are not so many previous cases or examples of successful application of service design in startups, which can serve as a proof of concept when persuading its benefits to startups. Service designers proposed that it is important to initially hold and facilitate workshops with startups as means to share the service perspective by introducing them to activities such as mapping the service ecosystem and customer journey, and ultimately show them the need or urge to adopt service design principles and tools for increasing their chances of success, instead of only bragging about its success in other contexts than startups.

"Make them see the value of doing a customer journey map through one workshop, so that they can really see how customers will use their new service over time. I can make much better arguments for a startup on the value of the work with examples, rather than saying that service design has been around for 15 years, and all the big corporations use it. And it's very important because they do not care about that." - ***Service Designer 6***

Another reason that can be challenging for service designers to work with startups is described by several service designers as the significant barrier in mindset and language between service designers and startups. Service Designer 2 expressed his/her view as:

"That type of work (with startups) won't be particularly attractive to a lot of service designers. Maybe it is exciting in the sense that you can make an impact and you can see progress more quickly with a startup, but often it will be fairly basic. For instance, I was chatting with someone who is working with a startup through a business incubator, and she was saying, like I forgot that some people just do not even know what persona is. And, so from that perspective, it can be kind of a bit of a step back in that sense." - ***Service Designer 2***

Service Designer 5 shared his/her view about the importance of developing the service mindset for service design implementation to be more effective for startups:

"Of course, they can hire a service designer to do it. But, in order to understand why you should spend those resources on a service designer, you need to have the mindset of it already. And I think you need to educate startups through incubators or accelerators more about it. When I speak to managers of incubators and investors, they never invest in the idea, they invest in the team. That is what they all say. And I think that has to do with the reason why do they want to be a team and what to do? Because the idea always changes to fit in the market. But the team is what is the value of a company, not the idea."- ***Service Designer 5***

Service Designer 2 provided an example to demonstrate how bringing the service design mindset to the startup organisational culture can potentially make a difference in the outcome:

"Another value of service design is bringing that capacity through culture and type of policy coating to different roles within the organization. Because I will give another example - We're looking at setting up this new store. It is going to be involved in the second hand business. You can hire a service design and then tell the store what to do and then move on. But instead what they are doing is working with the customers who will be in the store, so that they can be doing that constantly as normal day to day practice. So, they are going to be like on the fly every week developing personas, they are going to be like testing new services. And this then becomes baked into the culture of the staff who were there working for months or years, rather than having service designers who are just there for a few weeks and then go. This can tell us how to develop services, which often keep living, because the service is constantly having to adapt to changing customer needs and marketplaces. So that gadget is what delivers the most value." - ***Service Designer 2***

Service Designer 3 also highlighted the importance of developing the service mindset at an early stage, as he/she explained:

"It is particularly important to do so in a startup, so that silos do not get a chance to be created, and if they do, they are not so deeply rooted and difficult to change afterwards - every time you have onboarding new people, they come into the culture. This is very important." - ***Service Designer 3***

Service designer 4 added that for startups this can be much easier to adopt when compared to large corporations, as she explained:

"Of course, in a start-up this might not be a big issue, but in big companies this is a huge problem and service design is pure gold to communicate goals and do prioritising. In start-ups it might be easier, because you do not have an established culture [...] it is very important, because through culture your team becomes more effective and value oriented [...] they do value added activities and you build a way to tackle problems that increases effectiveness when everyone learns to work like that." - ***Service Designer 3***

To summarize how service designers view the current situation of service design and early stage startups, it starts with the reasons that service designers think it is behind the lower popularity of service design in the startup scene. The first reason is that startups lack sufficient resources to outsource service design expertise or even provide service design training for the startup team. Another reason that service designers shared is that startups may still have not realized the real value of service design as a result of poor promotion towards startups. The last reason, in service designers' opinion, is related to the significant barrier in mindset and language existing between service designers and early stage startups.

Service design made some suggestions that they think may address the abovementioned challenges to spread the awareness of service design value and increase its adoption in the startup ecosystem. First, service suggested that business incubators and accelerators would serve as the appropriate channel to initiate building the case of service design in the startup world, as with their support the financial and time restrictions can be resolved for both startups and service designers to work together. Secondly, service designers expressed that it is crucial to heed the caution from promoting the value of service design in the same way as in other contexts, and ensure to be translated in a way that satisfies the needs of early stage startups. Finally, they suggested that it is important that service designers learn more about the startups characteristics, mindset, culture and existing practices in order to be able to adapt service design mindset and principles more successfully into their context, which in turn, can potentially overcome the existing barriers between them and allow for service design mindset and culture to stay rooted within startups in the long term.

Service Designers' views on how to implement service design on an LSM context

There is a consensus of opinion, from the beginning, among all service designers that both lean startup and service design share a lot of aspects in common, suggesting the potential of the existing differences to serve as an opportunity for startups to improve at the level of value co-creation.

"I'm a big fan of lean startups and I think there's a lot of proximity between service design and lean startup. There is a lot of overlap. I think what I would be saying is that there are differences but uplift also can be applied to any sort of startup. Diverse steps designed specifically for services." - ***Service Designer 2***

It is agreed by all the service designers that service design, as a holistic approach, is not qualified to solely lead early stage startup development processes. Service design can serve as a better fit to complement the lean startup method rather than replacing it as a holistic approach during the early stage of a startup. Service Designer 1 said:

"I believe service design approach is to some extent included in lean methodology and vice versa. And, it is encouraged to have it as a pendulum between both all the time, while still moving at a fast pace. So, there is no need to penetrate very deep with service design during the early stage." - ***Service Designer 1***

Several service designers continued to argue why it is less favourable to merely implement service design, during the early stage of startups. Some service Designers viewed that the lean startup methodology is more strategic in the sense that it gives much attention to business model testing, whereas service design is more operational by focusing testing the visualization of the solution. In other words, service design does not suggest much focus on the business model of the idea. Service Designer 1 amongst the others elaborated on this issue and further suggesting that it is more favourable to start with business design that can be followed at later stages with service design application:

"I understand that lean startup methodology does not have this holistic vision of the customer experience. But it is very iterative and works at a very fast pace with hypothesis testing. That is because they do not have time. It is often about validating hypotheses through iterations. So, I believe that maybe when you take lean Startup methodology, it is similar to business design because you are working with the business canvas. So, from my point of view, I believe it is just a good way to start with the lean startup, because sometimes the service design approach does not provide a strategic product-market fit for insight. Service design is more like further down the road when a new challenge is encountered. I would say that lean business is on a very strategic level to find a viable business model for the initial business idea that we need in time.[...] Service design does not usually start with an idea, but instead with a challenge. Then, service design is good to find you a new offering. Because service design is not business design." - ***Service Designer 1***

Service Designer 3 elaborated more about the most favourable timing or stage for service design to be applied in a holistic manner.

"It is always for a service designer to be present there for continuation. It is a bit like programming, you need experience and to build on it, that is where consultancies come in. Well, mostly it all starts when there is anticipation. You do not suddenly have a problem and you need a service designer. If you have a problem and then you engage a service designer, then it might be too late. The point is to have anticipation, so that you do some research before the problem emerges and it does not manifest. Because this is an indicator of the road and the systems that you will use depending on your people and what kind of service you have to do." - ***Service Designer 3***

Service Designer 6 made another suggestion that is also in line with having business design as a prerequisite to the use of service design approach in early stage startups:

"I think if you drop a service designer who only knows the typical tools of a service designer into a startup, they are not going to be as useful as they could be if they also do not learn about techniques from the world of startups and from innovation." - ***Service Designer 6***

Service designers moved on to discuss what aspects of service design can be implemented to complement the lean startup strategy. Among others Service Designer 2 said:

"If you take Service-dominant Logic, for example, you could say that everything can be a service. So, I guess you could knock down a couple of levels there. You can say, okay, if you keep the Service-dominant Logic points of view, what does service design offer that lean startup does not? [...] It is a specialist approach to services, while Lean Startup Method applies to other things. What service design brings is this holistic vision, saying how your product or service should be delivered through an ecosystem of other services." - ***Service Designer 2***

One aspect of service design, which is viewed by the service designers as highly essential to be integrated with the existing startup processes, is working in a holistic manner. Service designers explained that startups have to employ a set of techniques that enable them to map their service ecosystem. Service Designer 6 shared his/her experience with startups in this specific area.

"Service ecosystem is a visualization that shows from a customer's perspective, the life cycle of how they interact with the service over time, the touch points that they have and the activities that they're carrying out. It's the first activity that I do with startups because within one workshop of about 90 minutes or two hours, you can very quickly build this understanding within a startup team about what a service perspective means, what a holistic perspective means, and then you create the awareness amongst the team about how complex is what they're building and the whole context in which their users use. [...] The startup typically has the owners or the founders, and then someone like their product owner who has a pretty narrow view on who the users are and what it will be like for them to use the service. But, as soon as you do service ecosystem technique and you show them that there are actually a whole bunch of external touch touchpoints that someone may be using their service while having no explicit relation to the startup, but are still a part of the whole experience. Also, you think about all the different activities over time that people are doing, and not just this focus on onboarding and using it, but what happens when there are problems and what happens when people learn about the service, that little activity to create that visualization is in my opinion the best way to build a case for what I do and for what service designers stand." - ***Service Designer 6***

Service Designer 5 highlighted the potential value of working in a holistic manner for startups, as he/she said:

"*Well, service design would help you understand who your customer is, but also who you need to collaborate with to become sustainable. You need to understand the ecosystem of that you will provide a product or service or offering, whatever it is, if it's a new sort of system or software as a service, or an electrical scooter or whatever, you need to understand what is the game, what is the playing field. And through service design you can understand it."* - ***Service Designer 5***

"I think service design, if you look at it that way, it's much more relevant. We will help you design different interfaces for different actors and users that you can provide value for and where and how to create different MVPs for those different interfaces. Because I think nowadays, it is very hard to just provide one solution for one customer. You need to have added things all over and diversify and to become like a relevant citizen. If you just go on with one solution for one customer, you won't scale." - ***Service Designer 5***

Service Designer 5, also, added that to have a greater impact of this value on the long term, it is essential for startups to develop the service mindset, as he/she said:

"I think for applying service design, they need to first start with a mindset of what it is. How do we approach a problem and approach our clients and partners? I think that's the main value for them to understand that the client or partner can be co-creators in their offering and how to orchestrate, in that service design can apply." - ***Service Designer 5***

Service designers pointed out that the service design approach tends to be more problem focused unlike lean startup, which is described as more solution focused. Service Designer 6 explained service designers thoroughly immerse themselves in understanding problems, before looking to design appropriate solutions, which is the opposite to startups that came into life due to the recognition of a new business idea. Among other service designers, Service Designer 2 shared an example to demonstrate the difference with lean startup methods:

"For instance, with Ikea, we went out and we were researching circular business models for these new services that they want to bring to market. But what we actually did was spend an hour and a half deep into interviews just trying to understand people's home lives. So, we were not asked, and we were not in any way testing an execution or an implementation. We were simply trying to get a deep understanding of what these people's motivators work. I think that is maybe a deeper human centred approach, possibly not with Lean Startup Method." - ***Service Designer 2***

Moreover, there is consensus among all service designers about service design using a wide range of qualitative evaluation techniques, which are more elaborated and advanced to the ones employed by the lean startup method. Service Designer 4 explained that service design tends to be more explicitly human centred and touch more on ethnography and human behaviour. Service Designer 5 further suggests that this has the potential to help the startups become more human-centred in understanding their targeted customers. Service designer 1 highlighted that startups are more oriented towards quantitative methods as it provides validation at scale. Service Designer 3 expressed that quantitative methods are highly essential, especially at an early stage of a startup as it communicates very well to executives for decision making, but also suggested that once obtaining the required statistics, it would be very valuable to give more attention at the qualitative level. Service Designer 2 explained that qualitative research can also be applied within a short period for startups without the need for many resources, and demonstrated that argument with an example, as Service Designer 2 said:

"I'm always telling people it does not have to take as long as you think. And there's obviously always things to dial up and dial down. But, to give you an example with this pin, we had an intense week with a client in Moscow, where they go to different markets and spaces for a week. They have like three to four people doing interviews - three or four interviews a day in depth - and then you can get around 20-25 in-depth interviews in the pace of a week. I think it is not about reaching a target where you have to hit when it comes to the quantity of interviews. I would say it is more about credibility than evidence. So, we did just the easiest example that we did 24 interviews in a week. I always say by the time you have done half, that is equivalent to probably about 70 or 80% of the story. And then really the other half of that is credibility and validation. But that implies that actually you could get very useful insights from just 10 or 12 interviews and that could be done in three days." - ***Service Designer 2***

However, Service Designer 2 shared from his/her coaching experience that many clients think that they possess the skills required for qualitative work, but it turns out they need more practicing to achieve better results at the qualitative level. Service Designer 2 explained that qualitative work is mainly divided into three parts (data collection, data synthesis and data transformation into actionable knowledge). In his/her opinion, it is very difficult to be skilled at the three parts, but it is very essential to undergo training sessions that can be provided by business incubators or accelerators.

"I've been with clients and watch them interview while coaching them, they make the mistakes. For instance, it is open questions, not leading questions, or being comfortable with pauses - it is amazing what happens when you just relieve that question and let people come forward. Also, thinking about the next question, but actually listening to what people are saying and then unfolding what they are saying. So, these things that sound quite simple, they might need some more effort. Actually, I've seen lots of very good business people who are super smart and you'd think, they've got job titles like product owner or business development, or you'd think that they'd be good, but they go and they're really not good at interviews." ***- Service Designer 2***

Moving on, service designers discussed how service design can potentially help startups build a prototyping-led culture. Service Designer 4 and 6 described how the use of low to medium fidelity prototypes can be simple, rapid and inexpensive for startups. Service Designer 5 also shared how it can allow startups to obtain more frequent and valuable feedback about their offerings, at various stages within the process (e.g. ideation, design and development), by providing potential customers and stakeholders with visual presentations that can vary from being very simple to more complex versions of prototypes. Service Designer 2 shared his/her view on service design's prototyping culture and its values, as he/she said:

"*At first, you are really just trying to understand the lesson, but then the next phase would be around ideation, and often then you would have the material to show people. [...] It might be a scenario or some other kind of emotional trigger or some kind of prompt. [...] There's this whole attitude to everything you do. Let us not get lost in trying to make something perfect. Let us prototype that and see. What happens and improve it. So, I think there is this culture of prototyping everything, which I think is healthy for startups as well. […] I think actually you can apply prototyping to things beyond the actual product or service. […] It can just be pieces of paper and really rough prototypes of an entire kind of experience beyond just the prototype of the actual digital interface [...] I think the value of this type of prototyping, are these things in between, what you learned by doing it [...] A structured way for hypothesis driven development [...] Actually it's the process, it's what you learn. And it's a bit of that John Lennon quote - Life is what happens to you while you're busy making other plans - It's actually the things that you learn on the journey."* ***- Service Designer 2***

Following the identification of service designers' view about the important aspects in service design that can be incorporated into the lean startup method with the potential to improve startup development processes at the value co-creation level, several service designers ended with the emphasis that service design approach does not rely on an individual framework that can be replicated to any context. There is a consensus of opinion that frameworks to be developed will vary from one context to another, or one startup to another, as service design depends on the context given that its principles are merely static. Service Designer 5 elaborated on this view, as he/she said:

"There are many tools. Well this is the power of the service designer, to identify and recognise which tools are applicable in what time. For example, it's wrong to say I have worked on something similar before, I will use a similar tool as well, depending on the context you have, you got to use the appropriate tool. A service designer is like a guy who has a toolbox and depending on the case you pick a tool. And it is very context dependent and for what purpose. Do you want to do something to create value for the customer? You have some specific goals and tools. Do you want to create a goal map for the company? Of course, sometimes it is something in between, you solve both problems at the same time and do a combination of the tools or a mix. So, it's very much context dependent."

Service Designer 4 shared that thinking and working in a context dependent manner is embedded in a service designer's mindset, as she said:

"Service design is all about understanding the context and then understanding who we are and what we are doing, then it will help startups to become better at every iteration. And then like quickly, readjusting their mindset and process or direction." - ***Service Designer 4***

Service Designer 5 highlighted the importance of adapting the service design thinking and doing to the context of startups in order to achieve effective results, and further provided an elaboration on this matter by saying:

"One way to look at it is how do we apply contextual research to a startup context rather than see how we fit contextual research in startups? So, rather redefining contextual research for startups could be an easy way of going in. [...]For a startup, you have a very short time to come to market and become valuable, get money in your account. Many restrictions on what we can do. And I think one way of looking at how to affect service design methodology to start with is, how do we adapt the methodology for startup, that comes from service design. And that might be to kind of re-tweak the approach like, well, if they want to do MVPs, we will do MVPs of processes regarding user needs and try to test them rather than MVPs of solutions. And how could work with it as material in your startup." - ***Service Designer 5***

In the end, several service designers recommended and promoted the use of the concept of google design sprint, which is initiated by Google Ventures (GV). This concept combines aspects of service design and business design together and it is suggested to serve as a suitable fit for early stage startups, as it can be applied with minimal resources. Among other service designers, service designer 1 discussed about what potential value google design sprint can bring to startups, as he/she said:

"I would say that that would be a great way to blend the best of lean methodology and service design. Because, if there is a grey area between lean and service design – that would be the design sprint methodology. A design sprint eliminates the endless-debate cycle and condenses months of time and energy into only 5 days. A design sprint could just help you realize that your startup is going nowhere, or maybe you find some kind of a conceptual approach that you can further refine, or sometimes in one week you can develop hypotheses that you need to validate" - ***Service Designer 1***

In summary, service designers view that service design and lean startup methodology overlap in some areas, suggesting the potential for service design to improve the lean startup method at the level of value co-creation. Service designers shared that during the early stages of a startup, service design approach is

more recommended to be adapted in a way to complement the lean startup method to become more effective, rather than applying service design independently from any other existing methods. Several service designers then expressed that it may be more favourable for startups to initiate with business design as it functions more at a strategic level which is highly crucial during the early stages to identify a viable business model, whereas service design can be introduced at a later stage when new challenges or threats are anticipated.

Then service designers shared the important aspects of service design to consider in a startup context. One aspect is to employ service design principles and tools that allow startups to work in a holistic manner to get a better understanding of the entire service ecosystem. Another aspect that is mentioned is for startups to develop the service mindset in order to allow them to work more effectively at the level of value co-creation while applying the lean startup method. Moreover, service designers suggested that service design tools may be utilized to improve the qualitative part of their user research during the value co-creation process. Service designers lastly suggested to use service design to help startups build a prototyping-led culture.

4.2 Results of Thematic Analysis

This chapter analyses the data collected through the six semi-structured interviews via the thematic analysis process. The chapter consists of the patterns identified during the manual coding and categorizing part of the thematic analysis process, and how those patterns created themes that are subsequently discussed throughout the chapter.

The thematic analysis process is central to understanding and being able to draw conclusions from the collected data. When the data was collected and transcribed, the thematic analysis was conducted in four distinct steps. The authors divided the data, subsequently creating a mind-map of codes to condense important parts of the interviews. The resulting clusters were organised into categories, signifying groups of connected codes through a common abstract meaning. These categories were labelled in what the authors considered to be an appropriate title to summarize the underlying meaning of the codes, resulting in the themes of the process. The process is visualised in the Figure 6 below, while the detailed tables of the coding for every step can be found in the Appendix.

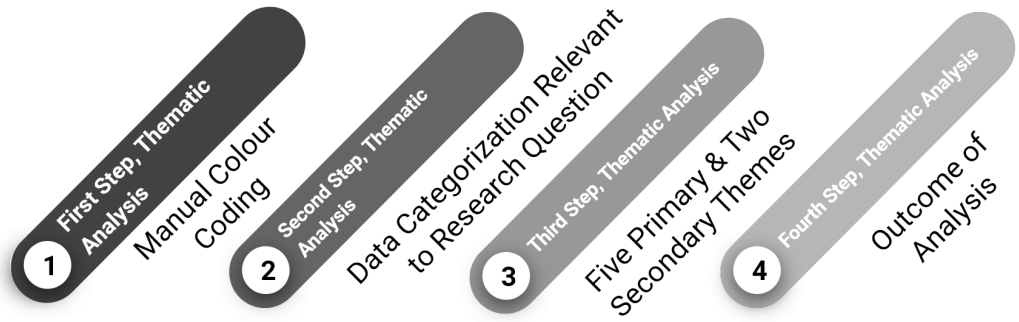

Figure 6. Thematic Analysis Process Model

Below, the themes are presented. Primary themes refer to themes that directly impact the conclusions of the study. Secondary themes are not crucial for the study outcomes but reveal important background details and act as the connection between the theoretical background and the quality of the study.

4.2.1 Primary Themes

1. **Importance of Context**

It has to be noted that all interviewees mentioned the importance of context for the application of SD. Process formation, tool selection, design research all depend on the context of application and for that, service design is very case sensitive. For example, the application of service design could very closely resemble the Lean Startup Method within certain contexts. That makes the identification of general processes and the generalization of the results particularly difficult, and inevitably forms one of the limitations of the study.

2. **Incorporating Service Design in the LSM**

There is no consensus amongst interviewees regarding the way parts of service design or service design as a whole process could be integrated within the Lean Startup Method process. While interviewees make arguments for the implementation of SD, one mentions it should be applied at a later stage, when the business concept is solidified, two suggest that it is implemented throughout the process, the rest choose to not take a position on this subject. The outcome is the importance of context for the application of SD, especially given the chaotic environment within which the Lean Startup Method takes place. That makes the creation of a general framework difficult.

On the contrary, there were clear suggestions on the service design aspects that a service designer should take into account in order to successfully assist in a context where startups apply the Lean Startup Method. These are shown as followed:

1. Application of SD methods that are short in period (90 minutes to 5 days) and follow the iterative circle of LSM
2. Selection of tools that are efficient in clearly defining and communicating goals
3. The service designer has to be well familiar with LSM structure and tools
4. The time and selection of SD tools is crucial to prevent the creation of bottlenecks in the LSM process
5. It may be challenging for the untrained entrepreneur to implement SD, training and mentorship of service design-related topics are require
6. The service designer should be proactive and anticipate problems
7. Affordable and quick to build SD MVPs should be utilised

Finally, it is suggested that service design can be more impactful when on Lean Startup Method application context if it is not paid for, implying the consultation of an accelerator and/or incubator. This is because of the funds-restricted environment of startups. In line with this, startups cannot employ a full-time service designer, something that makes the opportunity to work for a startup less attractive to them, further suggesting engagement through an accelerator or incubator. Also, it was explicitly stated that service design consultancy can be beneficial.

3. Tools for Incorporating Service Design into the LSM

The tools that service designers suggested for the application of service design on a Lean Startup Method application context were the following:

Ideation workshops (90 minutes - a few days)
Journey Map workshops (90 minutes - a few days)
10-12 customer interviews (within three days)
Blueprint to make the goal visible to everyone (90 minutes - a few days)
Google design sprint (five days)
Role Play (90 minutes - one day)
Walkthrough of Service Flow (90 minutes)

As has been mentioned before, the timing and the duration of the tools are dependent on the context of application and the intuition of the designer, but it was repeatedly mentioned that the tools should be chosen based on speed, low cost and the ability to clearly communicate goals and customer insights in a qualitative way. Special mention was given for the Google Design Sprint by an interviewee, as being in the middle ground of service design and Lean Startup Method in terms of customer development perspective.

4. Potential Benefits of Incorporating Service Design into the LSM

Great attention was given by the interviewees to the term of co-creation and how service design can assist Lean Startup Method into building sustainable co-creation platforms. It was repeatedly mentioned that service design is aiming to create long term customer relationships to foster co-creation both at an individual and at a systemic level. It was mentioned that this is a particular point where Lean Startup Method can

benefit from, taking into account the whole stakeholder ecosystem into creating co-creation platforms and ultimately offerings. This will lead to creating a sustainable business with a company-wide silo-free empathetic marketing culture that is greatly adaptable and innovative.

While the above consist part of the core role of service design according to the interviewees, the methods that were suggested to achieve the above and improve Lean Startup Method were gravitating around qualitative customer research. More specifically, customer research should focus on how people talk, feel, see, do, present needs and get involved. This will help frame problems for various user cases and will assist in giving Lean Startup Method insight about who the customer is, as well create urgency to better understand them and the whole stakeholder ecosystem.

5. Potential Challenges of incorporating Service Design into the LSM

The ideas of the interviewees regarding the challenges of applying service design within a Lean Startup Method context can be divided in those that rest within the startup sphere and those that relate to limitations of service design itself.

Regarding the startup context, it was mentioned that startup entrepreneurs tend to be young and therefore lack experience and patience, something that can hinder the application of qualitative research and design methods that can initially seem more involved and time consuming than they are. This is directly connected with the view that the service design process can be complicated to communicate. In addition, both Service-dominant Logic and service design are not well known within startups and lack awareness in combination with the high cost of hiring service design consultants can be an obstacle. Finally, a fluid company organisational culture is needed, and the involvement of the entrepreneurs is necessary, and this is dependent on the company history as well as the availability of the entrepreneurs and their willingness to change and participate.

Furthermore, service design intrinsically requires a level of experience to be performed for the timing and selection of tools is crucial, while diverse skills are required as well as anticipating problems as well as the lack of theoretical background of its application within startups. Lastly, its application may prove difficult based on the company's people and capabilities (which are particularly limiting for a startup) as well as the willingness of a service designer to work for a startup.

On the service design sphere, service design as a practice, lacks the strategic business aspect, and therefore its application has to be selective and the time and extent of it can be challenging. In addition, it requires a level of experience and therefore the entrepreneurs have to be either trained in it, or seek consulting help, which is costly. Lastly, it is mentioned that startups are not an attractive workplace for service designers, due to the basic needs of the project in terms of design, lack of ability to employ full time, and difficulty to communicate service design principles due to lack of awareness of service design within the startup world.

4.2.2 Secondary Themes

Secondary themes may not be crucial for answering the research questions, but they may have an assisting role or are important for measuring the validity, reliability and consistency of the research.

6. SD Process in Other Contexts

Throughout the description of the service design application in regular contexts, the double diamond process was mentioned by all of the interviewees. service design was described as human centred, holistic, co-created, nonlinear, goal bounded and contextual.

It can be created as a system based on company capabilities or a general system to be applied regardless of capabilities. It is focused on facilitating collaborations, sense and understanding people, co-create and discuss solutions, communicate and define goals, and iterative, going through cycles of research-ideation-prototyping.

The first wave of service design theory was focused on the design process and tools, while the second wave is focused on the organizational culture and breaking the silos of the company to build an organization-wide customer empathetic marketing philosophy via teaching and onboarding people in the Service-dominant Logic.

7. SD vs LSM

The differences and similarities identified within the data, can be summarised in Table 4 below.

No strategic BM insight	Strategic BM insight
SD methods build human empathy	LSM methods builds human sensitiveness
Problem focused - can be solution focused too	Solution focused
SD provides better tools for human understanding	LSM more quantitative
SD builds a service	LSM builds a BM
Holistic customer view	Limited customer view
Development of MVPs	Development of MVPs
Fluid organisational culture is important	Fluid organisational culture is important
Iterative process	Iterative process

Table 4. SD vs. LSM

5 Discussion

In this part of the study, the results in connection with the literature are discussed in a more abstract level to produce the theoretical and managerial implications and suggestions of the study. In the first part, Summary of Findings, an effort to answer the research questions takes place, while in the Theoretical Implications and Managerial Implications parts a discussion of the results against existing literature is presented, with practical recommendations following, respectively.

5.1 Summary of Findings

Generally, the evidence of this study suggests that the application of service design in an early stage startup context by service design specialists is possible, can be beneficial, but may prove challenging. In particular, the service design application is heavily depended on the context (as this is described by our Context theme) and thus the resources of the company, as well as its ability to create co-design teams that will be successful in their design roles, which ideally should have the characteristics described by Trischler et al. (2018) with minimum separation, maximum variety, and moderate disparity amongst the members (Trischler et al., 2018). Within the Context theme fall the specific parameters of the environment of the company as well.

In order to successfully implement service design to create and develop innovative solutions, an organization has to adapt service design thinking not solely in projects and teams but also in the physical environment of the innovation (Brown & Katz, 2009, p. 35); to adapt service design thinking, the organization needs to undergo a cultural transformation (Jenkins, 2010, p. 24). Organisational culture fluidity is expected to be higher for a startup than it is for a larger venture, but this transformation may demand specific resources (funding, human resources, time, experience, etc.) that may limit the benefits or even the feasibility of applying service design extensively or effectively.

The original contribution of the study suggests that according to service designers, the application of service design by service designers may take place by employing two approaches, which have to be heavily adapted to the business context. One is via the selective application of service design tools and the second via developing a customer-centred organisational culture within the startup, by training the entrepreneurs to employ a service design thinking and problematization mindset without necessarily employing service design tools, but by learning to develop organisational processes influenced by said mindset. The emergence of a customer-centred culture may also take place (in a less effective way) merely as a result of the application of service design tools, or in a combination of the two approaches.

Employing a service design mindset may result in the major benefit of creating long-term customer relationships by fostering co-design and value co-creation both at an organisational and at a systemic level (business-stakeholders), taking into account the whole stakeholder ecosystem into creating co-creation platforms and ultimately co-designed offerings. This may lead to creating a sustainable business with a

company-wide silo-free culture and an empathetic marketing mentality that is greatly adaptable and innovative.

More specifically, the further benefits that Lean Startup Method can have from the application of service design can be seen on the below Table 5:

Revealing underlying business problems
Minimising the risk of targeting the wrong customer
Using tools for better customer understanding
Breaking company silos
Preventing company silos from being created
Better stakeholder ecosystem understanding
Creating sustainable collaborations
Experimenting with various service interfaces
Creating diverse solutions
Reducing costs and risks of innovation
Future proofing offerings by making them adaptable
Building empathy-based organisational culture
Increasing organizational effectiveness

Table 5. Potential Benefits of SD Application

Regarding the challenges of applying service design in a startup, a major one is that the process itself can be complicated to communicate. In addition, both Service-dominant Logic and service design are not well known within startups and the lack of awareness in combination with the high cost of hiring service design specialists and/or consultants can be an obstacle. Additionally, a fluid organisational culture is needed, and the involvement of the entrepreneurs is necessary, but this is dependent on the company legacy as well as the availability of the entrepreneurs and their willingness to adapt and participate.

Additionally, as mentioned before, service design intrinsically requires a high level of experience as the timing and selection of tools is crucial while diverse skills are required for anticipating problems; considering the evident lack of prior history of its application within startups, the absence of an existing knowledge base to assist with implementation also has to be considered. Furthermore, its application may prove difficult as it has to be adjusted to the entrepreneur's capabilities and resources (which tend to be particularly limiting for a startup).

The above challenges directly connect with the fact that hiring experienced consultants is particularly expensive for startups. Lastly, according to the study's data startups are not considered as an attractive workplace for service designers due to the basic needs of the project in terms of design, their inability to employ service designers full time, and the inherent difficulty to communicate service design processes, methods, principles, outcomes and risks due to lack of awareness of service design within the startup world. The challenges are summarised on Table 6 below.

Difficulty to communicate the SD process
Lack of SD awareness in startups
High cost of consulting for SD
Willingness and availability of the entrepreneur
Its application requires experience
Its effectiveness can be limited due to the capabilities of the team
SD lacks the strategic business aspect
Training in SD requires time
Service designers do not consider working for a startup as an attractive opportunity

Table 6. Potential Challenges of SD Application

5.2 Theoretical Implications

Since the Industrial Revolution, scholars have been witnessing the development of a business logic, which is more than a century in the making; that is from the manufacturing focus, to quality control, lean manufacturing, administrative organization, marketing and finally to viewing all of the above as business dimensions of a Goods-dominant Logic (Vargo & Lusch, 2012). During approximately the past twenty years, a paradigm shift has been observed by researchers from a Goods-dominant Logic to a Service-dominant Logic employed by business strategists, developers and practitioners (Ojasalo & Ojasalo, 2018).

This shift is placing at the centre of the business activity the customer-human dimension instead of the product/service-provider, and changes the perspective from an inside-out to an outside-in view in the way businesses develop and interact with their stakeholders (Vargo & Lusch, 2012). During the past decade, driven by design-based methods for innovation and new perspectives on the nature of value, business managers have started taking a holistic approach to viewing ventures as customer problem solving organisations, creating customer-human centred services, including in that term product offerings as well (Wetter-Edman, 2009).

The Lean Startup Method for startup businesses was initially established by nascent technology firms of Silicon Valley and quickly became the standard by which new high-growth ventures validate their business

models in the most efficient way (Ries, 2011). While the Lean Startup Method was and is being successfully utilised by technology startups, new service design methods and tools were being developed for the corporate world, initiated by the wave of 'servitization' of the business models towards a customer-human centred approach, as is described before (Stickdorn & Schneider, 2010). While this approach can mostly be found in larger corporations, as of now it is not widespread in the startup world as part of a lean launching practice. The reasons for that have not yet been identified by the existing academic research.

In the spirit of attempting to partially cover this research gap, the evidence of this research suggests that there is indeed a widespread adoption of service design as a practise within larger corporations but not so amongst startups. This is evident from the SD Process in Other Contexts secondary theme, where a homogenous approach of application is evident (Double Diamond), something that suggests a well-established theory of service design amongst professionals, a sign of field maturity. Startups as nascent organisations are struggling with surviving the challenges of the highly competitive environment they are active in (Ries, 2011).

Thus, the Lean Startup Method has been developed as a multidimensional practitioner-friendly strategic business development approach with all the general business dimensions that this entails (business model validation, customer development, offering development, funding, growth, etc.), and as such the service design application is expected to have an assisting and not central role. This is supported by explicit interview abstracts as well as the second theme, Incorporating SD into the Lean Startup Method, as the data clearly suggests the Lean Startup Method and the company's limited resources have to be acknowledged for service design to positively contribute and therefore it cannot replace as a whole the Lean Startup Method. This view is further reinforced by the LSM vs SD secondary theme which suggests that while the two practices have much in common, they also overlap in many areas; explicit mention is given for the lack of a strategic business perspective of service design.

Startups often fail within a couple of years from starting their operations because of building products and services customers do not want to use (CBInsights, 2016). Service design's (and -designer's) role can therefore be to assist in reducing the probability for this gap to be created, with the benefits of that being described by the Benefits of Applying SD on LSM theme. In particular, these are: revealing underlying business problems, minimising the risk of targeting the wrong customer, providing tools for better customer understanding, better stakeholder ecosystem understanding, reducing costs and risks of innovation and future proofing offerings; all of which directly relate to the market-product fit that startups so often face. With that in mind, a selection of service design tools (that are mentioned in the Tools theme) may be used to lead to a better qualitative understanding of the problem the customer faces and to build greater empathy from the startup managers' point of view. That ultimately may result in an offering that is co-designed and the development of interaction platforms that will allow for continuous value co-creation, minimising the risk of a market-offering gap and the costs associated with solving this problem by transitioning / adjusting at a later stage.

According to the study's evidence (Benefits of SD application on LSM theme, Tools theme), the Lean Startup Method can become more effective in the above-mentioned area, via both the utilization of service design tools, as well as the adoption of the human-centred empathic service design mindset. The challenges of doing so are related to that sufficient experience is needed as it is a process adapted to the company's

context (Context theme, Challenges of applying SD on LSM theme). The original implication of the study is that, by employing service designers and with training in qualitative service design tools and service design thinking from service designers, managers can possibly develop a customer centred organisational culture. This falls in line with suggestions made by Grönroos (2011) for the facilitation of Service-dominant Logic by building a particular organisational culture, and also acts as a first step to answering the research suggestion made by Ojasalo & Ojasalo to explore the potential of service design to facilitate the application of Service-dominant Logic in managerial contexts (Ojasalo & Ojasalo, 2018).

The evidence of the study supports the idea that should this organizational culture be built at an early stage, company silos may not be created, thus increasing processes related effectiveness and reducing the costs and risks of solving market-offering fit problems that may rise further down the road (Benefits of applying SD on LSM theme). In addition, the process of creating a customer-centred organizational culture is a continuous one and therefore it cannot be placed within a specific timeframe (Challenges of applying SD on LSM theme); thus it cannot be attached to a process with specific timeframe such as the Lean Startup Method. Service design as a customer development and offering innovation process is meant to be applied throughout the organisation's lifetime.

To summarise the views mentioned so far, the practice of service design may ultimately lead to the development of an organisation in accordance with the Service-dominant Logic marketing theory. According to Service Logic, the solution for the actual facilitation of the Service-dominant Logic is the deployment of an internal marketing strategy, for the employees to be offered a knowledge base with meaningful tasks from their perspective to empower their performance and increase their interest in the customer focus aspect of their jobs (Grönroos, Christian & Ravald, Annika, 2011). The original evidence of this study suggests that selectively applying service design tools and deploying a design-led customer centred mindset, service design may assist startups as well as the Lean Startup Method as a business development process to facilitate Service-dominant Logic in this specific managerial context.

As a secondary implication, Figure 7 (SD Application Intensity in an LSM Process Context) summarises how the service design application intensity within a startup may be observed (at a conceptual level) over time. This may be helpful for the purpose of laying out a cognitive map of how service design application and general outcomes can be expected to unfold within an early stage startup context, something that may lead to a better implementation and planning. It also summarizes the thoughts of the interviewees on the extent to which service design may be applied over time in said context (Service Design Tools Application Intensity - Figure 7), and in an abstract, implicit way connects that to the literature suggestions for the facilitation of the Service-dominant Logic within the organisational culture (Organisational Culture Transformation - Figure 7).

Below, an analysis of how these two concepts relate to each other follows, which sheds light into how service design may assist in transitioning the organisation towards a Service-dominant Logic view, according to the suggestions made by Vargo & Lusch (2012) and Grönroos (2011), something that was a primary motivation for this research in the first place.

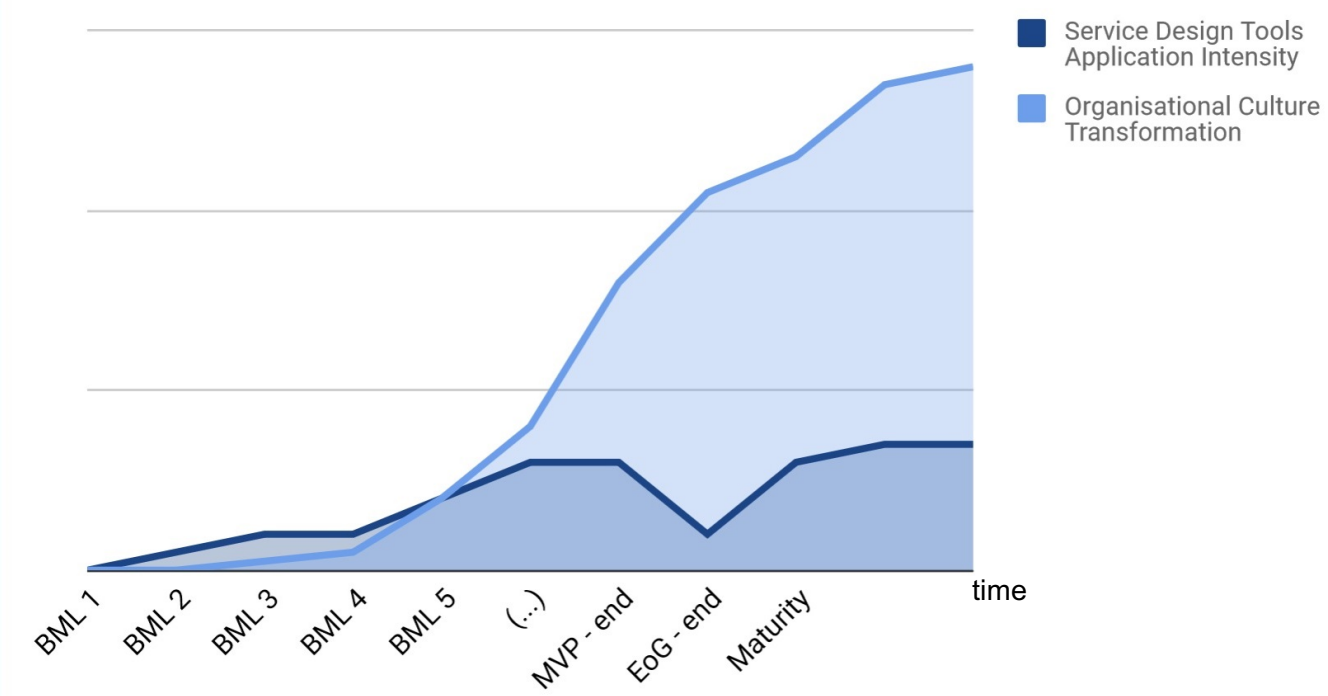

Figure 7. SD Application Intensity in an LSM Process Context

SD Application Intensity in an LSM Process Context Figure - Analysis

The horizontal axis denotes the passage of time (nonlinear) throughout the development of the Lean Startup Method process, with 'BLM' indicating consecutive Build-Measure-Learn cycles that will lead to the eventual development of a final Minimum Viable Product and consequently to the deployment of the viral engines of growth as described by Ries (2011) and the road towards a mature venture. The vertical axis indicates the intensity level of the service design application as this is measured by the Service Design Tools Application Intensity (SDTAI) line, denoting a quantitative example of the potential number of service design tools applied in each phase. The area below the Organisational Culture Transformation (OCT) line, indicates the development of a design-led customer centred culture transformation within the company, due to the impact of service design in the respective time.

The logic behind the level of intensity of the service design application is based on the evidence of the study's data, which suggests that service design should preferably not be applied in the beginning of the Lean Startup Method process, and its application should respect and be adjusted in line with the context and needs of the business. Figure 7 may be an indication of how service design could be utilised, but it should certainly not be taken as a standard as the application of service design is heavily contextual.

Service Design Tools Application Intensity (SDTAI) Line

The study's evidence suggests that in the beginning of the Lean Startup Method process, the application of service design methods should be minimal, in order to allow for high efficiency levels, therefore focusing on applying existing Lean Startup Method customer development quantitative methods. As time progresses through the BML cycles, the vision, business concept and offering prototyping process solidifies and the need to acquire deeper knowledge to verify customer hypotheses intensifies, indicated in the figure by an increased number of service design tools applied (BML 5 + cycles). The progress up to this point is constant and climaxes just before the finalisation of the Minimum Viable Product, for at this point the company needs to acquire as much information as possible before freezing the offering development (MVP - end point). From that point onwards, the intensity of service design tools application decreases, for the company allocates its resources (time, funds, human resources) to the viral growth process and other business activities. Upon the completion of that phase (EoG - end point), the SDTAI line gradually increases as company resources increase due to the company increasing in size and more of them can be allocated for innovation purposes, to stabilise at some point in the future where the company has a fully developed service design system in place.

Organisational Culture Transformation (OCT) Line

The area below the OCT line, denotes the development of the design-led culture transformation within the organisation throughout time. The effect of the service design tools application is initially expected to be lagging as people need time to absorb and act on the new information. After the initial growth during the BML 1-2-3 cycles, a great increase of the OCT line is expected, as the company gains deeper information about the customer and familiarizes with the service design problematization thinking process itself, which results in a transformation taking place in its organisational culture.

The potentially (speculated and according to the study's data) nearly exponential development of the in-company design-led culture stops at the point of the MVP development, when the venture is freezing the offering development and therefore assumes it possesses a concrete idea of the customer value creation process. However, gradual growth continues, as more knowledge is amassed through minimal application of service design methods, which further diffuses within the organisation and continues to affect the OCT impact. At some point in the business development timeline, the company eventually matures and gaining new customer knowledge only becomes incremental as there is an already satisfactory value co-creation platform in place to interact with the customer, but it continues as the company has established its in-house service design processes.

5.3 Managerial & Practical Implications

According to the data, the lack of service design awareness from the entrepreneurs' side can compromise its effectiveness. It is only natural that the lack of knowledge about (or experience with) service design from the managers' side can limit the integration of service design as well as its outcomes. Suggesting though that the founder / entrepreneur should gain more design knowledge is trivial; the same suggestion can be made for any kind of business-related knowledge: accounting, management, marketing, etc. In

addition, comparing the impact of service design knowledge to that of other business fields to make an argument for or against it, would be challenging as this would depend on the context of application. Therefore, the managerial suggestions for this study as well as the primary research question revolve around the concept of exploring the application of service design in startups by *service designers themselves*.

In that sense, the managerial/ practical suggestions concern either freelance service designers or service designers employed by consultancy companies and/or business accelerators/incubators, or corporate service designers that are engaged with entrepreneurial spin offs.

The application of service design in an early stage startup would result in a rich customer knowledge base to be built from the beginning of the company, assisting it in avoiding some of the early entrepreneurial challenges. The methods that will allow this knowledge base and consequently organisational culture to be built, are the service design thinking holistic approach in general business development problematization, as well as practical tools that can be placed alongside the Lean Startup Method's framework, at the time and to the extent that is considered appropriate by the practitioner.

While focus should be placed in teaching the entrepreneurs of the empathic, human-centred and holistic thinking of service design, the application of the tools poses a unique challenge for the service designer. These have to be applied with sensitivity and awareness for the resources of the startup company, the general context of which suggests they have to be selected with a low cost and a quick time frame in mind. Derived from the study's data, the following tools are suggested, which according to the data have the potential to maximise the amount of knowledge gained per resources spent for the company:

Ideation workshops (90 minutes - a few days)
Journey Map workshops (90 minutes - a few days)
10-12 customer interviews (within three days)
Service Blueprint (90 minutes - a few days)
Google Design Sprint (five days)
Role Playing (90 minutes - one day)
Walkthrough of Service Flow (90 minutes)

Regarding freelancers / consultancies / incubators / accelerators, it is necessary to mention that it is recommended for a single service designer to work with multiple startup projects. The data strongly indicate that this may make the opportunity to engage with such organisations more appealing and may lead to a lower cost of consulting for the startups due to distributing the consulting costs involved.

6 Conclusions

6.1 Concluding Remarks

This study aimed at exploring ways of integrating service design partially or as a set of tools, processes, methods and mindset in early stage startups, motivated by an evident lack of a Service-dominant Logic perspective within startup development methods. By interviewing service designers that are aware of the startup context and analysing the data according to the thematic analysis process, it was identified that service design could be utilised by startups that use the Lean Startup Method in two levels (separately or in combination): one being as a set of tools to be selectively applied, and the other as a mindset of problem solving and solution generating that employs a customer-centred approach. Considerable benefits and challenges were identified for the implementation of service design in this context. In addition, it is concluded that service design can assist in facilitating the Service-dominant logic in startup contexts and a selection of particular service design tools are identified as optimal for its application.

6.2 Study Limitations

This is a pioneering study, aiming to contribute and initiate further research to enrich academic knowledge about the impact that Service-dominant Logic can have on startups; as such, it has to be acknowledged that the findings of the study are compromised by its limitations. The interviews were limited by number, available time as well as the selected sample, which was one of convenience. Efforts were taken to improve the internal and external reliability of the study, by having an interview guide and a transparent and well documented analysis methodology, as well as two researchers participating to increase the internal reliability of the study. Despite that, it was not possible to attract more than six interviewees during the time constraints of the study which limits its validity.

Efforts were taken to increase the generalizability of the research by having an in-depth strict research method, but the interviewees were from different countries and employed by various ventures with different backgrounds meaning the results have low transferability and credibility across specific social settings (regional or global). Therefore, the results of the study should not be seen as generalizable, rather as a benchmark and indication for future research of the subject. It has to also be mentioned that a case study is not considered a sample of a population, and therefore the results do not aim to reflect the views of service designers as a whole.

6.2 Suggestions for Future Research

Future research may focus on conducting further case studies with service designers and entrepreneurs to further validate the results of this study. In addition, case studies of workshops can be conducted, aiming

to document service design application in real startup environments with service designers and entrepreneurs participating, to potentially result in a general framework of service design application in startups. In particular, it is strongly recommended to further explore the potential of the application of the Lean Service Innovation conceptual model proposed by Ojasalo & Ojasalo (2018), within startups.

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Appendix

Appendix A: Service Design Theory

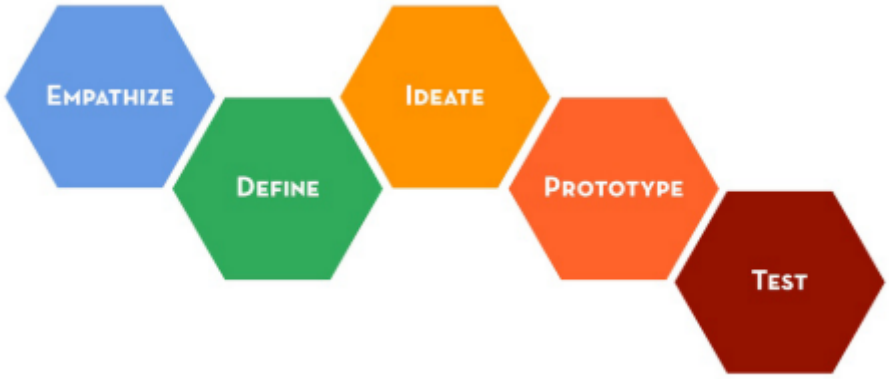

Figure: Service Design Framework Developed by Institute of Design at Stanford

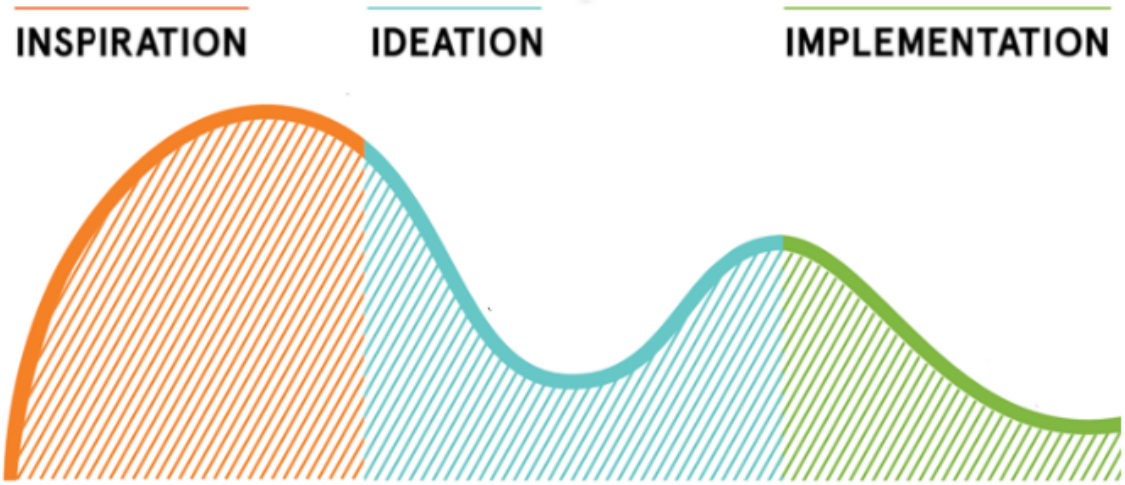

Figure: Service Design Framework Developed by Institute of Design by IDEO

Service Design Principles by Stickdorn (2018):
Service Design Process Model by Stefan Moritz

In Moritz's opinion, the concept of four D's is seen as similar to the four P's of Marketing in the sense that both provide the fundamental steps, but do not give much attention to the extended areas of service design beyond the conventional design (Moritz, 2005, p. 119). In other words, the latter concept is thought of as having a significant weakness in the sense that the grouping of the four segments are basic and not sufficient to cover all the essential aspects of service design, while at the same time the presence of many segments would make it difficult to oversee or remember the process. As a result, Moritz extended the process model into six categories, arguing that this way it provides a better overview of service design's important aspects while is still presented in a simplified manner (Moritz, 2005, p. 120). The model is shown in (Appendix A). The six categories are as followed: understanding, thinking, generating, filtering, exploring and realizing.

The understanding phase involves data collection about the users' pains, attitudes, motivations and desires. This phase also entails an in-depth understanding of the context in a holistic manner, including any internal or external stakeholder. Moving next to the thinking phase, where it focuses on transforming the learned lessons and insights collected from the previous stage into actionable knowledge. This phase provides the project with direction, for instance, by defining the project scope, specifications and other planning and managerial matters. Then comes the generation stage with the aim to generate ideas with the potential to be converted into concepts, with the focus on employing a broad range of creative techniques. This is followed

by the filtering stage, which involves refining the generated ideas in the previous stage, by building prototypes to allow for testing its quality or performance, and accordingly the most promising idea is selected by experts. The fifth stage is SD explaining, which involves the visualization of ideas and concepts in order to create a shared understanding among the multi-disciplinary team, this stage serves as a connection between the generating phase and the realization phase in the end. The realizing phase, which comes last, takes into consideration all activities that allow for delivering the service to the market. This involves the development of a business plan and providing staff with the needed training to ensure that the offering is implemented successfully.

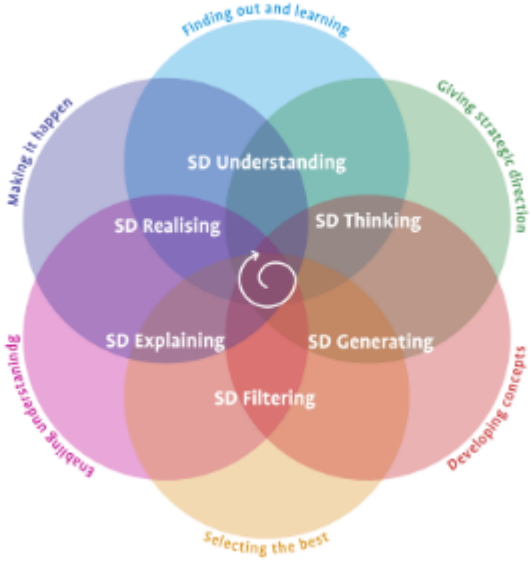

Figure: Service Design Framework Developed by Moritz (Moritz, 2005)

Spirit of Creation Process Model

Spirit of Creation established a framework that presents the service design process model consisting of four phases, namely, discovery, generation, synthesis and enterprises (Moritz, 2005, p. 119). They are similar to the phases included in Stickdorn's service design process model. However, there is an emphasis on the implementation phase referred to as enterprise in the Spirit of Creation model. At this stage, the most promising solution is selected to be transformed into a service offering. This stage also involves the development of a detailed business plan to ensure a successful commercialization of the concept. The business plan is made of 6 P's: "*Proposition includes a description of service ideas by one sentence. People and partnership display what kind of people and with what skills are needed. Processes and prototypes manifest what processes and systems are requested. Place indicates where service will be delivered. Promotion reveals how service will be communicated. Performance points out what are the measurements of success*". (Gavaghan, 2017).

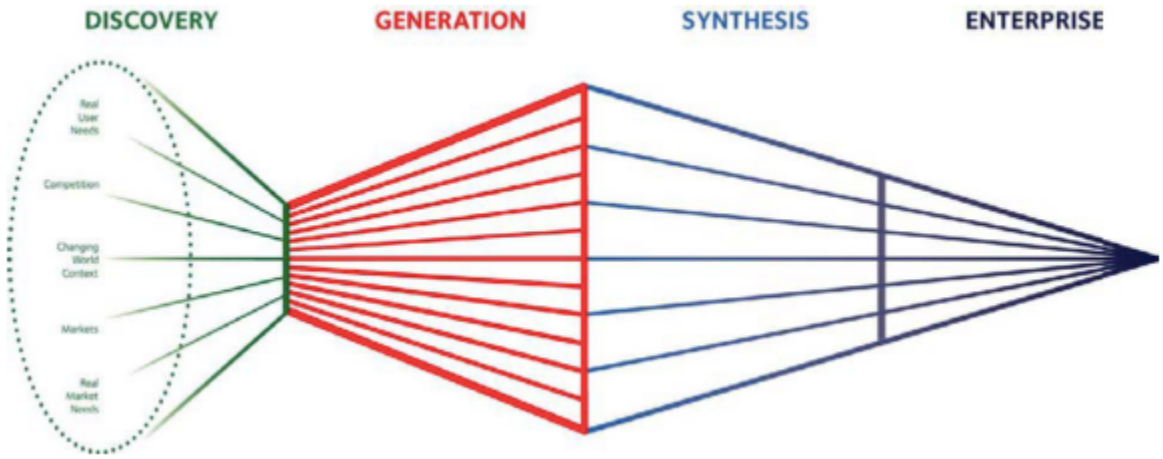

Figure: A service design framework developed by Spirit of Creation (Moritz, 2005, p. 119)

Service Design Process Model by IDEO and Stanford

While previous process models mostly consist of four steps frameworks, designers working at the institute of design at Stanford introduced a more extended framework composed of five phases, namely, emphasize, define, ideate, prototype, and test (Rauth et al., 2010, p. 5). Activities and tasks applied in each stage are similar to those in previous models. The entire process for this process model, and particularly the two stages in the end, function in a very iterative manner that aids in constantly improving the concept, along with a moving from an abstract concept to nuanced details of solution (Rauth et al., 2010, p. 5). IDEO designers also developed a service design process model with the purpose to create or improve existing service offerings mainly at the level of human centricity. This process model is also closely overlapped with the previously presented models. It is made of three stages, namely, inspiration, ideation, and implementation (Brown, 2009, p. 64). Both institutions have established a strategic collaboration together, which resulted in an extended framework for service designers to adopt while providing a holistic overview highlighting important details of the service design process (Elmansy, 2017).

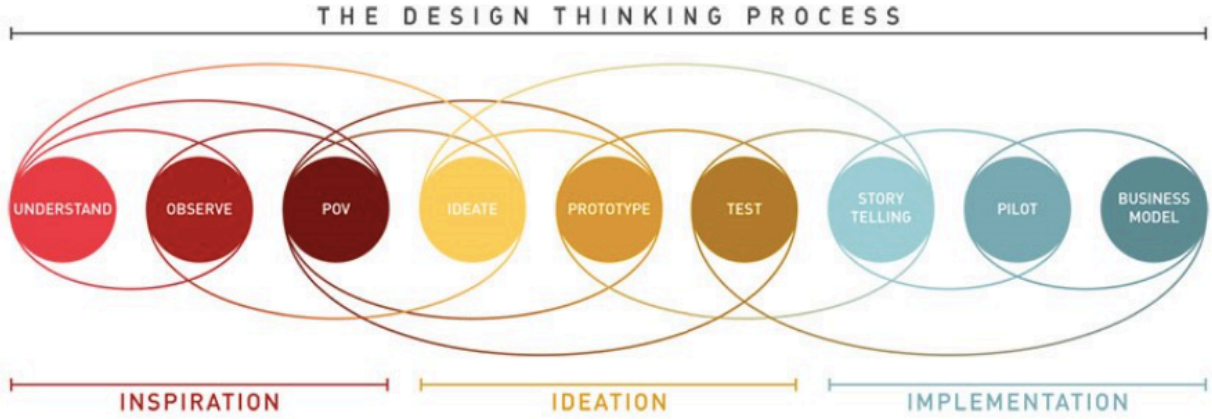

Figure: A service design framework developed by IDEO and Stanford Design school (Elmansy, 2017)

Literature review of service design process shows that the frameworks adopted by service designers often share the same fundamental stages such as initiating with the exploratory stage by gathering insights and

defining the problem, followed by idea generation and prototyping, and ending with implementation. However, it is clear that the existing differences are in terms of how much detail is associated with the service design process overview, as some models aim to present the process beyond only the basic phases by, for instance, including additional number of stages or named differently for more elaboration about the process. Moritz aimed to provide more details in the service design process model to ensure that service designers would find it more practical rather than conceptual in the sense that it demands less imagination from designers to interpret the model (Moritz, 2005, p. 149). Whereas, Stickdorn proposed a flexible service design framework with less number of stages, arguing that service design process is context dependent varying from one project to another, while highlighting the importance of being non-linear and a highly iterative process (Stickdorn & Schneider, 2012). Therefore, following a rigid process model is not that essential in service design, rather than that all phases are passed as many times as required with the goal to reach a refined concept, where no new concerns or questions arise.

Service Design Tools

Exploration

In-depth Interviews

An in-depth interview is widely used as a qualitative research technique, which is mostly conducted with relevant stakeholders with the aim to aid researchers gather insights about certain expectations, experiences, attitudes, motivation, and needs (Stickdorn et al., 2018). In-depth interviews are mostly designed in a semi-structured way and done face to face to observe body language and create an intimate environment. Boundary objects can be co-created during interviews to help in unfolding user needs and motivation, for instance, mind maps, journey maps and personas (Stickdorn et al., 2018). Also, designers can employ techniques like the "5 whys technique", which aims to ask and re-ask the question of "Why" at least five times until the real motivation is revealed by the user (Eyal, 2014, p. 54). Another technique that can be applied is "Ask the Experts", which refers to a series of one-at-a-time interviews. The aim is to gain knowledge from experts in a specific area when defining the problem. The experts are only approached during defining the problem phases when their expertise is needed the most (Knapp et al., 2016, p. 68). The expected output of the interviews can be in the form of text, audio recordings, videos, pictures, or artifacts that can be used for further analysis.

Participant Observation

Observation is another widely used method in qualitative research, where designers immerse themselves in the lives of the users. This means they usually take part in their daily activities, rituals and interactions with others as a way to gather insights in a naturalistic context that reveals the tacit and explicit aspects of their behaviours and culture (DeWalt et al., 2011). Observation sometimes aids in revealing contradictions between what people say against what they actually do. It is important not only to observe what the users are doing via interpreting their body language, but also to give attention to what they are not doing (Stickdorn et al., 2018). According to (Meroni, 2011), observation of users' behaviour while noting down their sophisticated requirements has the potential to recognize new opportunities for innovation, transforming the way of thinking towards addressing a challenge, and creating new forms of collaborations.

Shadowing

One of the forms of observation is shadowing, where a researcher aims to observe the users while trying to be unnoticed and avoiding any interaction. It is documented by the use pictures, video or field notes (Stickdorn & Schneider, 2012). To gain more of an in-depth understanding about a user's behaviour, a researcher can also combine the use of the "Thinking aloud" tool with observation. In this method, users are requested to voice what they are thinking while experiencing a certain part of the service, which helps to point out problems and expectations in relation to the service (Moritz, 2005, p. 197).

Contextual Interview

Interviews are conducted in a "situational context" that is relevant to the research question, which allows the researcher to observe the surrounding while the users can easily demonstrate their experiences by providing detailed examples in reference to elements within the environment they are present in. This practice brings the best of observation and interviews together, with the aim to obtain a deeper insight (Stickdorn & Schneider, 2012, p. 162).

Probe Packs

Design probes is a user-centred design tool with the purpose to obtain authentic data about human phenomena and discovering design opportunities (Mattelmäki, 2006, p.36). The users are given the task to self-document their experiences and express their thoughts and ideas during their daily lives, with the use of a camera or diaries. One of its benefits is that it allows the research to gather insights about specific areas that are difficult to access during interviews and observation. Another benefit is that the observer's influence is reduced.

Personas

A persona is a tool that is widely adopted in marketing and was successfully adapted to the design process (Chasanidou et al., 2015, p. 15). The idea of a persona is to create a rich description of a particular fictional profile that reflects the character and personality of a target group of users. Data is derived from interviews and research with relevant stakeholders (Kumar, 2013, p. 211). The purpose of building personas is to achieve empathy with a specific group of people to generate ideas that target real problems (Stickdorn et al., 2018).

Customer Journey

A journey map visualized the whole experience of a user towards a service. As a human-centred tool, it provides a step-by-step description of the user's path as he or she interacts with the service provider. It aims to point out gaps in user experiences and seek for potential solutions. Journey maps can be used at various levels; at a macro level showing the end to end experience towards a service, or at a micro level where designers can zoom in through the map to only focus on one step within the journey (Stickdorn et al., 2018). The user experience can be demonstrated through a journey with various forms such as LEGO, video, drawings, as well as in story format with the help of a scenario technique (Moritz, 2005, p. 205, 231).

Service Blueprint

Service blueprint is considered as an extension of customer journey maps. It builds on the visualized experience derived from the journey map that is mainly focused on the frontstage processes, by adding layers of depth that reveals the relationship and dependencies with the backstage processes. In other words, it shows how internal processes can stimulate customer activities and vice versa (Stickdorn et al., 2018).

By this way, the service blueprint provides a holistic view from the customer's perspective before, during, and after his/her interaction with the service and its underlying support processes (Reason et al., 2016, p. 12), "providing common ground from which critical points of customer contact, physical evidence, and other key functional and emotional experience clues can be orchestrated"(Bitner, 2008, 69).

Stakeholder Map

A stakeholder map is a visualization of relevant stakeholders, such as customers, partners, distributors, employees and others who are part of the service process. At the same time, it is essential to consider all stakeholders, even the external ones who are indirectly affected or affect others (Walker et al., 2008, p. 652). A designer has to determine the motivation of involved stakeholders in order to understand the relationship between each other and to what extent they can influence each other, in order to be able to redesign the entire map by making adjustments in terms of eliminating or adding stakeholders to the network, or strengthening or weakening any existing relationship (Stickdorn & Schneider, 2012, p. 150). Additionally, it is necessary to comprehend how various stakeholders capture value from a service process as well as how they can be affected if any change in the process arises (Kumar, 2013, p. 56).

Empathy Map

The empathy map is employed to provide more authentic data about a user's experience. The findings are divided into four parts like quotes and defining words, actions and behaviours, thoughts and beliefs, and feelings and emotions. The benefit of applying an empathy map is that it helps in bringing out the emotion's aspect in a customer experience (Candall, 2010).

Creation

Brainstorming, Brainwriting, Brain Shaping and Brute Thinking

Brainstorming is considered one of the most popular and widely adopted tools while in divergent mode to generate ideas quickly. In an idea generation session or workshop, a group of participants are encouraged to be open to wild and unrealistic ideas, while being reminded not to refrain from criticism and build on it instead, as the focus is on quantity rather than quality in brainstorming sessions (Brown & Katz, 2009, p. 78). Having a diverse and multi-disciplinary team or any relevant stakeholder as participants is key to brainstorming to increase the diversification of ideas (Stickdorn & Schneider, 2012, p. 131). In addition to the conventional process of brainstorming, this tool can also be adjusted depending on the context of a project and function in the form of brainwriting, brain shaping or brute thinking. The main idea of brainwriting is that one participant notes down five ideas and passes to the next participant to choose one idea out of the five and build on it with another five ideas. As for brain shaping, the participants are asked to present and explain their ideas in a more visual manner by building a rough prototype Moritz, 2005, p. 211). Lastly, brute thinking aims to improve the idea generation process by asking participants to pick a product catalogue and select randomly and product within the catalogue, and accordingly raise the following questions: "What does this product have to do with the problem that I want to solve?" "Can the way this product solves a problem for customers be employed to solve my problem?" (Dyer et al., 2011, p. 60).

Concept Evaluation Tool and Affinity Diagram

The concept evaluation tool is employed to determine the most promising idea in relevance to the research question or defined problem. Prior to assessment, all ideas are encouraged to be discussed to share a common understanding of the ideas among the team. And accordingly, the members of the team vote with the use of sticky notes for the most promising solution (Moritz, 2005, p. 223). Affinity diagram is another tool used by a team for idea assessment based on two criteria - how much value does a solution bring to the user and provider. This tool enables participants to look into ideas from different angles, compare and assess, and select the best idea accordingly (Kumar, 2013, p. 259).

Reflection

Prototyping, Storytelling and Storyboard

Prototyping is one of the very popular tools that is used as a visual aid to simplify the presentation of complex ideas by minimizing the need for imagination from target users, in order to get a better understanding and receive faster and more valuable feedback accordingly (Brown & Katz, 2009, p. 91). Micheal Scharge (author of the book Serious Play) says, " the value of prototypes resides less in the models themselves than in the interactions they invite", emphasizing that prototyping's prominent value lies in researching future situations (Stickdorn et al., 2018). Moreover, service prototyping can be challenging in sense that a service offering can have both tangible and intangible aspects. This in turn, led Kumar to categorize prototypes into two types; those that present the tangible elements of a service offering and those that provide insight into functionality (Kumar, 2013, p. 273). Tools such as storytelling and storyboard play an important role by providing insights in a holistic manner to visualize the solution in question (Brown & Katz, 2009, p. 93). This is in addition to role playing that can involve users and designers to visualize the future service concept (Moritz, 2005, p. 229).

Implementation

Business Plan

A business plan is mostly employed as a method to deliver a service offering to the market (Design Council, 2005, p. 73). The plan determines the essential elements that are needed to ensure successful operations. The business plan document includes explaining the marketing strategy of the service and what systems and processes are required to promote the service to the market. The plan also determines what kind people and skill sets are needed to launch the service (Moritz, 2005, p. 235). A guideline has to be established regarding to systems, setting and staff, in a sense that can serve as a communication tool between design and execution personnel to ensure consistency (Moritz, 2005, p. 235).

Appendix B: Interview Guide

Interview Section	Semi-Structured Questions	Values
1. Service Design Application (For each SD Stage)	How would you describe Service Design (SD) implementation process? What were the steps you followed in a startup project? Can you comment further on your reasons for adopting the SD approach in a startup project? How extensively did you use SD concepts, tools and models? Is there any particular element of the SD practice that you mostly used/mostly did not use? Why?	Open - Ended
2. Service Design Results, if any	Can you describe or justify the reasons that determined the length of your SD implementation process? Can you describe or justify the reasons that determined the cost of your SD implementation process? Can you further comment on the results you obtained from the adoption and implementation of SD approaches as a whole? And of the results related to specific SD concepts, tools and models? Can you further explain why you were satisfied/dissatisfied with the adoption and implementation of SD?	Open - Ended
3. Service Design Advantage & Disadvantages (Given a Startup Context)	Can you discuss in more detail the main advantages you feel you obtained through the adoption and implementation of SD approach? Are there any specific SD concepts, tools or models that determine such advantages in startup projects? Can you discuss in more detail the main disadvantages you feel you suffered from because of adopting and implementing SD approach, in startup projects?	Open - Ended

	Are there any specific SD concepts, tools or models that determined such disadvantages?	
4. Service Design Relation with other entrepreneurial theories, approaches, and tools	Can you discuss in more detail whether you used any other entrepreneurial model, tool or approach in combination with the SD, in a startup project? Why did you use these additional models? What benefits did you gain from this combined use?	Open - Ended

Appendix C: Coding, Categories & Themes

Coding

CODES Level 2 (condensed) (140)	CODES Level 1 Raw material (180)
	SD 1 SD 2 SD 3 SD 4 SD 5 SD 6
Startup Experience	part of a startup [b]limited experience in startup projects [c]have not worked with a startup [d]I started working as a UX designer for startups [e]mostly in the public sector [f]the startup I failed with [g]I helped startups
Depends on the project Double Diamond	[h]it depends very much on the project [i]Usually the consultant follows the methodology containing the Double Diamond process model

May need reframing Human centred, holistic, co-created Double Diamond Not linear Depends SD as a design system SD for creating a customer value co-creation platform SD depended on people/capabilities SD as a general design system regardless capability Double Diamond Contextual research, user research goal bounded Research to sense how users talk, feel, see Designers guide collaborators Designers act as facilitators of collaborations	[j]sometimes we have to start reframing the program as a question and sometimes actually it is right on spot [k]I think there's certain principles that always come through and whatever approach you are taking, it is always human centred. It is always co-created. It is always holistic. [l]The classic processes, the double diamond [m]in practice you are doing many things at once, it is not a linear process, and so your kind of both being expansive and kind of narrowing down at the same time [n]Depends [o]One framework is that you look at SD as an assembly design system [p]the other is that you want to value co-creation, meaning look who is in the team, what do we have, and how we can do interaction with the customers. [q]You look at what you have and how you can use it because SD has to be applicable to the people and capabilities you have [r]the other approach is looking into making a system regardless of what people you have, that can work with pretty much anyone. [s]both approaches have different capabilities and drawbacks. [t]what I have seen are the double diamonds. [u]if you work for a project, then there is a specific thing people want a service designer to do. For example, they all kind of like asking us to do the design research, including contextual research and user research. [v]researching is kind of one big part of service design because we kind of like what users are talking about and what users are seeing and feeling and this is very important to set the guideline and direction of the project. So, we kind of work like a product manager or project manager to guide the collaborators. [w]So I think in a project, definitely service designers are working as facilitators of collaborations and user researchers because, that is also, based on collaboration. So, it is like giving the shared goal, like helping the team to set the shared goal and then to follow that direction. I believe that is an example of the services I implemented. [x]we sense people

Sense people Double Diamond Co Creation Co create and discuss solutions Depends Researching what users do, need, get involved Framing problems for user cases Ideation workshops Researching, ideating, prototyping Discovered Depends Tool selection based on context Understand norms, needs Individual and systemic value System perspective Cocreation with system focus LSM not holistic customer view LSM fast	[y]double diamond process [z]always at the centre of the two diamonds will generate your own brief, like, where is there going to be a solution [aa]co-creating Then we do not select something, but we present the different solutions and discuss how each one would work for the customer. We are kind of co-creating a value rather than like a showing to them, this is what we have done, so you will all find value from this. [ac]depends You start off with exploring, what are users doing? How do we involve them? What are the needs? Framing the different projects (user cases) that are problems the product can address, doing ideation workshops and then probably come up with the solution that the product will develop or that the next project will develop. So yeah, I would say so (Research, ideating, prototyping). That is usually it but depends on the different levels of leads as well. [af]discovered [ah]depending [ai]we use different tools in the process depending on the context and the actors we involve [ak]Understand online norms, behavioural needs. And what actually creates value for the individual, but also value for system. Does that change? Is the service more usable for all actors involved? [al]You come up very good concept of value, or you are even through with a product or a service or solution, but you do not work with a system perspective. [am]you try to co-create, but if you do not focus also on the system where your solution will be part of in that process, you will never get anywhere. [an]many times I understand that you agree that you do not have this holistic vision of the customer, especially not in the lean methodology. But they are very iterative and work at a very fast pace with hypothesis testing. Which is kind of the theme because they do not have time, I guess.

SD no strategic market insight SD appropriate for later on LSM fast strategic BM verification	[ao]sometimes the service design approach does not have a strategic market fit or insight. It is more appropriate for further down the road. [ap]I would say that lean business is on a very strategic level to find a valuable business model that we need in a short time. Possibly, if you are lucky, to also have a product market fit.
Business Design first, SD then	[aq]Service design does not usually do that, it helps you once you have - in my opinion - quite a fair idea, or a viable business model. Then service design is good to find you a new offering. Because service design is not business design. Business design is in an earlier phase. Once you have the business then you can make the service design.
LSM faster	[ar]if you applied lean startup methodology at the beginning is much better much faster and much faster.
Respect LSM method	[at]lean methodology is good. But you have to respect the methodology, and not run immediately into building your business canvas at once without validating business processes that you have regarding your customers, the need, and the problem that you are trying to address.
Young impatient entrepreneurs Startup entrepreneurs need experienced people	[au]people in this area are usually very young [av]if we are too young or not experienced enough then we need maybe to be surrounded by people who can give this.
LSM rational	[aw]Lean startup is a very scientific approach it is very rational
SDL does not get much recognition	[ax]SDL does not get much of it any kind of, any recognition in there
Disconnect theory and practice	[ay]in the service design world, a very big disconnect between the practice and how practitioners work in generally, I think where academia is, and I can also imagine even more so in the world of startups, Silicon Valley, people are off doing their own thing and try to become millionaires
SD is established in corporations	[az]So it is kind of known and you do not need to sell it. I do not try to sell service design on why it is really important and the fact that their competitors are using it and all of that.
SD reveals problems SD can create urgency for understanding the customer	[ba]by asking those kinds of questions that show what a service mindset comes up with, then I can make more urgent to them the need to understand your users. With a little bit of research we can do that and then you see the value of doing a customer journey activity in one workshop so that you can really see how people will use your new service over time

Journey map workshops	[bb]customer journey workshop [bc]But on the other hand, if you can say, okay, let's, let's invest 90 minutes of our time to do a customer journey workshop, for example, then they really see what you're doing and they really see what the value is
Both qualitative and quantitative is needed	[bd]It is a combination of both [be]Because what is good with a quantitative approach that it gives you validation at scale. But, once you have it, I believe it is very good to penetrate more at the qualitative level.
SD LSM overlap Can move from LSM to SD and vice versa, but speed is important	[bf]I believe Service design approach is to some extent included in lean methodology and vice versa. And the tool to have it as a pendulum, between both all the time. But still moving fast. There is no need to penetrate very deep at this stage if you have found some kind of fit.
SD does not take long	[bg]I am always telling people it does not have to take as long as you think. And there's obviously always things to dial up and dial down.
10 interviews/3 days can reveal great insight	[bh]They have like three to four people doing interviews - three or four interviews a day in depth - and then you can get around 20-25 in-depth interviews in the pace of a week. I think it is not about reaching a target where you have to hit when it comes to the quantity of interviews. I would say it is more about credibility than evidence. So, we did just the easiest example that we did 24 interviews in a week. I always say to actually, by the time you have done half probably about 70 or 80% of the story. And then really the other half of that is credibility and validation. But that implies that actually you could get very useful insights from just 10 or 12 interviews and that could be done in three days.
Quantitative makes decision making easy Qualitative builds empathy	[bi]Quantitative is very strong, because it communicates very well to executives for decision making. But it is true that many times we forget about the qualitative aspect, you may talk to ten people instead of 100 and really understand what they need, you build empathy.
Tool selection based on context	[bj]appropriate tools
Tool selection to communicate the goal	[bk]This is the important part, to be able to use the appropriate tools for everybody to see what the goal is.
Blueprint to make the goal visible to everyone	[bl]So, then you can talk to the company and people can see exactly the touchpoints and a blueprint so that everybody sees it and you set and define the goal.
Goals defined by feasibility and needs	[bm]What we do is, yes, the customer dictates what they want, but we also have business goals. So you are looking for the sweet spot, imagine a Venn diagram at

	which in the first circle you have our feasibility, what resources do we have, what people and what we can do and the other the customer goals. So, between the business goals and the customer goals you see what you can do.
Depends	[bn]It depends
Google design sprint is between LSM and SD	[bo]google Design sprint
	[bp]if there is a grey area. Between lean and service design – that would be the design sprint methodology.
5 days for GDS	[bq]you can do it in 5 days if you want to apply a service design approach actually a part of that into the lean methodology and really accelerate. But sometimes a design sprint could just tell you we are going nowhere, hence the reason for the five days.
SD Consultants	[bs]There is a way to idea and then you take it from there and create a concept that works, and you could apply the Google design sprint to accelerate and involve the client. While the lean methodology to me it is more often more. upstream, more about the business model. So as an entrepreneur you may apply lean methodology and if you want service design you may turn to consultants to do that for you. And google design sprint is actually a good way.
	[bt]in service design project and whichever design project and I mean how many people, how much time it needs, or money is dictated by the scope that has been defined,
Context: number of people, money, time	[bu]all of this is defined because you always have limitations especially with funding. I have not heard of many projects that had a lot of funding and they told you that you have the freedom to do what you want.
Funding is always limiting	[bv]if there is a plan already how it will move forward because it can change things very much this and it relates to how fluid the culture is and how easy it is for them to pivot.
Fluid culture is important for SD	[bw]most startups cannot afford that sort of money
Startups cannot afford SD consultancy	[bx]Yes, its costly, especially if you go to a consultancy
SD consultancy costly	[by]SD minimise the chance of getting it wrong and that you will target the right customer for you.
SD minimises chance of targeting wrong customer	[cc]I believe that what we are talking about should be more part of a test, how do you test and validate and then you can conduct interviews as part of a journey until you find the essence
LSM can take SD tools to conduct tests for better understanding	

	I am not saying that I think one of those approaches is better over the other. I think it is about adapting yourself to where you can get the most impact.
SD point of application on LSM may depend on context SD throughout LSM may be preferable	[ce]the second of your options is the more ideal one, but the first one, if it is necessary, is also, it is also an adequate way to do it because it is better than nothing. I think it should be applied kind of throughout.
Value comes first, then functionality	[cg]I say that startups should pay attention to build something that is not just minimally functional but also that is something minimally people would like and want to use it and is valuable.
SD got better customer understanding tools	[ch]we have a lot of a richer toolkit to understand who users are.
	[ci]I would not say that I have actively tried to change LSM. I have tried to find ways to address the differences and make space for myself.
DT is more well known	[cj]I call service design thinking, which is even a joke to get it accepted
SD can be good in the early stage	[ck]I have tried to say is service design can be relevant in the first two stages, essentially as a scaling a concept
SD on LSM got to be iterative	[cl]I think service design probably would be iterative here because the thing is the innovation cycle above is very iterative
SD 2.0 can assist breaking the silos	[cm]big legacy organizations that have very complicated, siloed organizational structures, and therefore have a need for this version 2.0 (organizational) service designer who can help them redesign the organization.
SD could have more impact on startups if it is not paid for	[cn]as soon as they sort of not paying for you, but you are being provided as a service, then you can have a lot more of an impact.
Startups cannot occupy a service designer full time	[co]but as a startup they are doing a lot of things which sometimes do not have any real effect on the service. Some of them are out only trying to find funding some of them are only coding and you probably cannot be occupied full time as a service designer working with a startup at some stages of their life.
service designer can work for multiple startups in an accelerator	[cp]Whereas if you are a service designer working in an environment like an accelerator, you can be supporting multiple startups because none of them actually need you full time.
Service designer does not want to work in a startup	[cq]a service designer does not want to work for a client who only needs them for one or two days a week.

Startups do not know SD	[cv]a lot of startups do not necessarily have competitors in the sideway attending to try and find a new fund, which means they are not necessarily having a direct comparison.
Startups are partly doing SD, being passionate about understanding	[cw]the best of startups are passionate about understanding the underlying needs of that customer, about meeting their customer, about being nimble, about being so close to their customer so I think they would say that they're doing it.
LSM SD overlap	[cx]from my perspective, having to do some things that were called service design and then some things that just fall within the world of lean startup.
SD got to know LSM tools	[cy]if you drop a service designer who only knows the typical tools of a service designer into a startup, they are not going to be as useful as they could be if they also do not learn about, techniques from the world of startups
Startups do not know they need SD	[cz]it's something that people in the startup world do not know they need. They do not know they need a service designer, and in some cases, they may not need one yet at all.
Understanding LSM tools is crucial to communicate the customer side	[da]understanding business models and value propositions and platform design and things that are really directly relevant for a startup and at the same time getting them to understand how I think as a service designer and reminding them that they are not just building an app
Customer Journey	[db]customer journey
Startups see the value of SD after applying it	[dc]I would just say, this is something that's important we do and I found pretty much universally, they really saw the value of those activities and it did not really matter how much I told them where they come from and that this was service design, and this was not service design, but they saw the value.
Service designers don't want to work for startups because its basic	[dd]work in startups won't be particularly attractive to a lot of service designers because it's exciting in the sense that you can make an impact and you can see progress more quickly with a startup, but often it will be fairly basic.
LSM and SD Overlap	[di]I think there's a lot of proximity between service design and startup. [dj]I think there is a lot of overlap
Service-dominant Logic	[dk]Service-dominant Logic
Service design is for services	[dl]service design is specifically for services

	[dm]most practitioners will be a set to identify service designers will be developing services
LSM applies to other things	[do]LSM applies to other things
SD human centred, ethnography, behaviour	[dp]I think Service design would tend to be more explicitly human centred and more touch on ethnography and human behaviour that are lean startups
LSM is also build around human sensitiveness	[dq]LSM could not have those types of methods, but I think it is more baked around human sensitiveness as well
LSM solution focused	[ds]LSM tends to be thought of more like solution focused, more sort of specific to an execution order implementation. With SD we were simply trying to get a deep understanding of what these people's motivators work, I think that is maybe a deeper human centred approach, possibly not found with LSM.
SD deep understanding of motivations SD human centred, more so than LSM	
LSM solution focused	[dt]lean startup methodologies are kind of similar in that it is how you actually do it in real life, whereas service design but LSM it is more solution focus as you say
SD real life focused	
SD can be solution focused as well	[du]service design could be a solution focused as well. If you turn it up, make it more iterative I mean, one way of actually understanding a problem is by providing solutions so you can actually understand problems by providing a lot of different MVPs.
SD helps understands who the customer is	[dv]service design would help you understand who your customer is, but also who you need to collaborate with to become sustainable
SD can help understand who you should collaborate with to be sustainable	[dw]if you need to understand the ecosystem, SD can do that, what is the playing field and what's behind the user behaviour to create the best UX
SD helps understand the ecosystem	[dx]Service design is actually looking at different interfaces, not just one. And understanding.
SD looks at different interfaces	
SD can create the right interface for actors to co-create	[dy]it could not find the right partnerships, find the right interface with these different actors to co-create.
SD helps create diverse solutions	I think service design, if you look at it that way, it is much more relevant. We will help you design different interfaces for different actors and users that you can provide value for and where and how to create different MVPs for those different interfaces. Because I think nowadays, it is very hard to just provide one solution for one customer. You need to have added things all over and diversify and to become like a relevant citizen. If you just go on with one solution for one customer, you will not scale.
Non specialists can be good at interviews	

SD requires diverse skills to be applied Time and selection of SD tools important SD changes with the context Depends Role play SD not well known Experience is important for SD Anticipation of a problem is important for SD before the problem emerges LSM tests the BM SD tests the visualization of the solution - less strategic Depends Research-Ideation-Prototyping The culture of MVP within SD applies well on LSM SD MVP can be cheap	[dz]I have been surprised about how good non specialists are in interviews [ea]the second part of synthesizing that information [eb]the third part is then turning that into like a really crispy concept, and it is like that is actionable and meaningful [ec]hardly met anyone who is great at all three [ed]Well this is the power of the service designer, to identify and recognise which tools are applicable in what time. [ee]it is wrong to say I have worked on something similar before, so I will use a similar tool as well [ef]depending [ei]role play [ek]it is not well known [el]it is always good for a service designer to be present [em]you need experience [en]mostly is the anticipation [eo]The point is to have anticipation so that you do some research before the problem emerges and it does not manifest. [et]In lean methodology most of the time you are testing the business model, while in service design what you are testing is the visualization of the solution, which is much more operation and less strategic. [eu]It depends what phase your app is in. So, I cannot work in a model where they have three types of interruptions. [ev]the next phase would be around ideation and often then you would have the material something to show people [ew]in the design phase you would go again and show up prototype or whole parts of the service. [ex]There's this whole attitude to everything you do. Let us not get lost in trying [to make something perfect, but there is a presentation or an entity guide or an approach to research. Let us prototype that and see. What happens and improve it. So, I think

Walkthrough of service flow It is the process of SD you learn from SD process can be complicated to communicate SD reduces costs and risks of innovation SD future proofs an offer by making it adaptable SD 2.0 is focused on culture and breaking silos SD 2.0 makes customer empathy baked into the culture Empathy baked in the culture results in the offer being adaptable SD is important for breaking silos For big companies SD is useful to communicate goals and break silos If SD is applied on LSM, silos might not have a chance to get created SD increases effectiveness	there is this culture of prototyping everything because it is a service designer, which I think is healthy for startups as well. [ey]Just with pieces of paper [ez]do walkthroughs to see service flows and the value of this, whether it is an interview or presentation they strategize the test and learn a structured way for hypothesis driven development. [fa]But nine times out of ten how I think I am going to measure the success has not worked out because what is happened in the test has been different to what I thought happened. Actually, it is the process of it that you learn from [fb]I think SD has been notoriously bad in talking too much explaining the process [fc]SD is one thing that reduces the costs and risks of innovation so you can be surer that you are investing in the right things. That is a similar value proposition as the LSM is not it? [fd]SD also future proof a service offer, making it a living service so that it is adaptable as well. [fe]What SD 2.0 brings is more about and bringing the capacity of SD through culture and type of policy to different roles within the organization [ff]instead what they are working with the people who will be in the store so that they can be doing that ongoing as normal day to day practice. [fg]And that means that then becomes baked into the culture into the people who were there for months or years [fh]That's how you can actually cause the service to constantly adapt to changing customer needs and marketplaces so that delivers the most value. [fi]this is a very important point of SD as a tool, the ability to communicate in the company the customer needs and side to the employees and break down the silos that may exist [fj]in big companies this is a huge problem (silos) and SD for as is pure gold to communicate goals and do prioritising. [fk]we can say it is particularly important to do so in a startup so that silos do not get a chance to be created, and if they do, they are not so deep rooted and difficult to

Teaching is crucial for SD 2.0 Founders got to be involved in SD, otherwise they will not continue use it LSM gives a limited view of who the user is	change afterwards and every time you have onboarding new people, they come into the culture [fl]it is very important (SD 2.0), because through culture you built the goal and how to make the processes different and how people look at things, which means your team becomes more effective and value oriented, does the things that are needed and you build a way to tackle problems and that increases effectiveness when everyone learns to work like that. [fm]teaching is crucial [fn]If the company people are not active in the front line when you build the system, there is less of a chance they will use it. it is important not only that they are being taught, but they are active stakeholders in the sd process, participate in interviews with customers to witness what they say [ft]a startup typically has a pretty blinkered, a pretty narrow view on who the users are

Categories & Themes

Views on applying SD on LSM	Context	Challenges of Applying SD on LSM	Benefits of Applying SD on LSM	SD Tools for LSM application	SD Process	LSM vs SD

SD appropriate for later on, Business Design first SD then VS Startup entrepreneurs need experienced people Can move from LSM to SD and vice versa, but speed is important SD does not take long Tool selection to communicate the goals SD throughout LSM may be preferable SD can be good in the early stage SD on LSM got to be iterative SD could have more impact on startups if its not paid for Startups cannot occupy a service designer full	Depends on the project Depends SD depended on people - capabilities Depends Depends Tool selection based on context Understand norms, needs Contextual research, user research goal bounded Tool selection based on context Depends Context: number of people, money, time Fluid culture is important for SD SD point of application on LSM may depend on context Time and selection of SD tools	SD depended on people - capabilities Young impatient entrepreneurs Disconnect theory and practice SDL does not get much recognition Fluid culture is important for SD Startups cannot afford SD consultancy SD consultancy costly DT is more well known Startups cannot occupy a service designer full time Service designer does not want to work in a startup Startups do not know SD Startups do not know they	SD for creating a customer value co-creation platform Research to sense how users talk, feel, see Co Creation Co create and discuss solutions Researching what users do, need, get involved Framing problems for user cases Individual and systemic value System perspective Cocreation with system focus SD reveals problems SD can create urgency for understanding the customer SD does not take long 10	Ideation workshops Journey Map workshops 10 interviews/3 days can reveal great insight Blueprint to make the goal visible to everyone 5-day Google design sprint Customer Journey Map Role Play Walkthrough of Service Flow	Double Diamond May need reframing Human centred, holistic, co-created Double Diamond Not linear SD as a design system SD as a general design system regardless capability SD depended on people - capabilities Depends on the project Double Diamond Contextual research, user research goal bounded Designers guide collaborators Designers act as facilitators of collaborations	LSM not holistic customer view LSM fast SD no strategic market insight LSM fast strategic BM verification LSM faster Respect LSM method LSM rational Both qualitative and quantitative is needed SD LSM overlap Can move from LSM to SD and vice versa, but speed is important Quantitative makes decision making easy Qualitative builds empathy Fluid culture is important for SD

time Service designer does not want to work in a startup Service Designer got to know LSM tools Understanding LSM tools is crucial to communicate the customer side Startups see the value of SD after applying it Non specialists can be good at interviews SD requires diverse skills to be applied Time and selection of SD tools important Experience is important for SD Anticipation of a problem is important for SD before the problem emerges	important SD changes with the context Depends Depends	need SD Service designers do not want to work for startups because its basic SD requires diverse skills to be applied Time and selection of SD tools important SD not well known Experience is important for SD SD process can be complicated to communicate Founders got to be involved in SD, otherwise they will not continue use it	interviews/3 days can reveal great insight SD Consultants can be beneficial SD minimises chance of targeting wrong customer LSM can take SD tools to conduct tests for better understanding SD 2.0 can assist breaking the silos SD helps understands who the customer is SD can help understand who you should collaborate with to be sustainable SD helps understand the ecosystem SD looks at different interfaces SD can create the right interface for		Sensing people Double Diamond Co Creation Co create and discuss solutions Researching what users do, need, get involved Framing problems for user cases Researching, ideating, prototyping Discovered Tool selection based on context Tool selection to communicate the goal Goals defined by feasibility and needs Context: number of people, money, time Funding is always limiting	LSM can take SD tools to conduct tests for better understanding Value comes first, then functionality (SD) SD got better customer understanding tools Startups are partly doing SD, being passionate about understanding LSM SD overlap LSM and SD Overlap Service design is for services LSM applies to other things SD human centred, ethnography, behaviour LSM is also build around human sensitiveness LSM solution focused SD deep

The culture of MVP within SD applies well on LSM			actors to co-create SD helps create diverse solutions SD MVP can be cheap SD reduces costs and risks of innovation SD future proofs an offer by making it adaptable SD 2.0 is focused on culture and breaking silos SD 2.0 makes customer empathy baked into the culture Empathy baked in the culture results in the offer being adaptable SD is important for breaking silos If SD is applied on LSM, silos might not have a chance to get created SD increases		SD human centred, ethnography, behaviour Research-Ideation-Prototyping Teaching is crucial for SD 2.0	understanding of motivations SD human centred, more so than LSM LSM solution focused SD real life focused SD can be solution focused as well LSM tests the BM SD tests the visualization of the solution - less strategic The culture of MVP within SD applies well on LSM LSM gives a limited view of who the user is

			effectiveness			

Results

Views on applying SD on LSM	Results
SD appropriate for later on Business Design first SD then VS Can move from LSM to SD and vice versa, but speed is important SD can be good in the early stage SD throughout LSM may be preferable	There is no consensus amongst interviewees regarding the way SD could be integrated within the LSM process. While interviewees make arguments for the implementation of SD, one mentions it should be applied at a later stage, when the business concept is solidified, two suggest that it is implemented throughout the process, one in the beginning and the rest choose to not take a position on this subject. The outcome is the importance of

SD does not take long SD on LSM got to be iterative Tool selection to communicate the goals Service Designer got to know LSM tools Understanding LSM tools is crucial to communicate the customer side Time and selection of SD tools important Experience is important for SD SD requires diverse skills to be applied Anticipation of a problem is important for SD before the problem emerges The culture of MVP within SD applies well on LSM SD could have more impact on startups if it is not paid for Startups cannot occupy a service designer full time Service designer does not want to work in a startup	context for the application of SD, especially given the chaotic environment within which LSM takes place. On the contrary, there were clear suggestions on the qualities that a service designer should have in order to successfully assist when in an LSM context. These are: ● Create SD processes that are short (90minutes to 5 days) and follow the iterative circle of LSM ● Select tools that are efficient in clearly defining and communicating goals ● The service designer has to be well familiar with LSM structure and tools ● The time and selection of SD tools is crucial to not create bottlenecks in the LSM process ● The service designer should be experienced and has a diverse skill set, therefore it is difficult for the untrained entrepreneur to implement SD ● The service designer should proactive and anticipate problems ● Affordable SD MVPs should be utilised Finally, it is suggested that SD can be more impactful in an LSM context if it is not paid for, implying the consultation of an accelerator and/or incubator. This is because of the funds-restricted environment of startups. In line with this, startups cannot employ a full-time service designer, something that makes the opportunity to work for a startup less attractive to them, further suggesting engagement through an accelerator or incubator.

SD Tools for LSM application	Results
Ideation workshops Journey Map workshops 10 interviews/3 days can reveal great insight Blueprint to make the goal visible to everyone 5-day Google design sprint Role Play Walkthrough of Service Flow	The tools that service designers suggested for the application of SD in an LSM context where the following: ● Ideation workshops (90 minutes - a few days) ● Journey Map workshops (90 minutes - a few days) ● 10-12 customer interviews (within three days) ● Blueprint to make the goal visible to everyone (90 minutes - a few days) ● Google design sprint (five days) ● Role Play (90 minutes - one day) ● Walkthrough of Service Flow (90 minutes)

	As has been mentioned before, the timing and the duration of the tools are dependent on the context of application and the intuition of the designer, but it was repeatedly mentioned that the tools should be chosen based on speed, low cost and the ability to clearly communicate goals and customer insights in a qualitative way. Special mention was given for the Google Design Sprint by an interviewee, as being in the middle ground of SD and LSM in terms of customer development perspective.

Benefits of Applying SD on LSM	Results
SD for creating a customer value co-creation platform Co Creation Co create and discuss solutions Individual and systemic value System perspective Cocreation with system focus SD can create the right interface for actors to co-create	Great attention was given by the interviewees to the term of co creation and how SD can assist LSM into building sustainable co creation platforms. It was repeatedly mentioned that service design is aiming to create long term customer relationships to foster co-creation both at an individual and at a systemic level. It was mentioned that this is a particular point where LSM can benefit from, considering the whole stakeholder ecosystem into creating co-creation platforms and ultimately offerings. This will lead into creating a sustainable business with a companywide (silos-free) empathetic marketing culture that is greatly adaptable and innovative.
Research to sense how users talk, feel, see Researching what users do, need, get involved Framing problems for user cases SD can create urgency for understanding the customer 10 interviews/3 days can reveal great insight SD helps understands who the customer is SD helps understand the stakeholder ecosystem	While the above consist part of the core role of SD according to the interviewees, the methods that were suggested to achieve the above and improve LSM were gravitating around qualitative customer research. More specifically, customer research should focus on how people talk, feel, see, do, present needs and get involved. This will help frame problems for various user cases and will assist in giving LSM insight about who the customer is, as well create urgency to better understand them and the whole stakeholder ecosystem.
SD reveals problems SD minimises chance of targeting wrong customer SD tools for better understanding SD 2.0 can assist breaking the silos SD can help understand who you should collaborate with to be sustainable SD looks at different interfaces SD helps create diverse solutions SD reduces costs and risks of innovation SD future proofs an offer by making it adaptable Empathy baked in the culture results in the offer being	More specifically, the benefits that LSM can have from the application of SD can be: ● Revealing underlying business problems ● Minimising the risk of targeting the wrong customer ● Using tools for better customer understanding ● Braking company silos ● Preventing company silos from being created ● Better stakeholder ecosystem understanding ● Creating sustainable collaborations

adaptable If SD is applied on LSM, silos might not have a chance to get created SD increases effectiveness	• Experimenting with various service interfaces • Creating diverse solutions • Reducing costs and risks of innovation • Future proofing offerings by making them adaptable • Building empathetic culture • Increasing effectiveness

Challenges of Applying SD on LSM	Results
Young impatient entrepreneurs SDL does not get much recognition Fluid culture is important for SD Startups cannot afford SD consultancy SD consultancy costly Startups do not know they need SD SD not well known Founders got to be involved in SD, otherwise they will not continue use it SD process can be complicated to communicate	The ideas of the interviewees regarding the challenges of applying SD within an LSM context can be divided in those that rest within the startup sphere and those that relate to limitations of SD itself. Regarding the startup environment, it was mentioned that startup entrepreneurs tend to be young and therefore lack experience and patience, something that can hinder the application of qualitative tools that can initially seem more involved and time consuming. This is directly connected with the view that the SD process can be complicated to communicate. In addition, both SDL and SD are not well known within startups and lack awareness in combination with the high cost of hiring SD consultants can be an obstacle. Finally, a fluid company culture is needed, and the involvement of the entrepreneurs is necessary, and this is dependent on the company history as well as the availability of the entrepreneurs and their willingness to change and participate. On the other hand, SD intrinsically requires a level of experience to be performed for the timing and selection of tools is crucial, while diverse skills are required as well as anticipating problems as well as the lack of theoretical background of its application within startups. In addition, its application may prove difficult based on the company's people and capabilities (which are particularly limiting for a startup) as well as the willingness of a service designer to work for a startup.
Experience is important for SD Disconnect theory and practice SD requires diverse skills to be applied Time and selection of SD tools important Service designer does not want to work in a startup SD depended on people - capabilities	

Context	Results
Depends on the project SD depended on people - capabilities Tool selection based on context	It has to be noted that all interviewees mentioned the importance of context for the application of SD. Process formation, tool selection, research all depend on the

Understand norms, needs Contextual research, user research goal bounded Context: number of people, money, time Fluid culture is important for SD SD point of application on LSM may depend on context	context of application and for that, SD is very case sensitive. For example, SD could very closely resemble LSM within certain contexts. That makes the identification of general processes and the generalization of results particularly difficult, and forms one of the limitations of the study.

SD Process	Results
Double Diamond Human centred, holistic, co-created Not linear SD as a design system SD as a general design system regardless capability SD depended on people - capabilities Contextual research, user research goal bounded Designers guide collaborators Designers act as facilitators of collaborations Co create and discuss solutions Researching what users do, need, get involved Framing problems for user cases Researching, ideating, prototyping Tool selection based on context Tool selection to communicate the goal Goals defined by feasibility and needs Context: number of people, money, time SD human centred, ethnography, behaviour Research-Ideation-Prototyping Teaching is crucial for SD 2.0	Throughout the description of the SD application in regular contexts, the double diamond process was mentioned by all of the interviewees. SD was described as human centred, holistic, co-created, nonlinear, goal bounded and contextual. It can be created as a system based on company capabilities or a general system to be applied regardless of capabilities. It is focused on facilitating collaborations, sense and understanding people, co-create and discuss solutions, communicate and define goals, and iterative, going through cycles of research-ideation-prototyping. The first wave of SD theory was focused on the design process and tools, while the second wave is focused on the organization, the culture and breaking the silos of the company to build an organization-wide customer empathetic marketing philosophy via teaching and onboarding people in the SD logic.

LSM vs SD	Results
LSM not holistic customer view LSM fast SD no strategic market insight LSM fast strategic BM verification LSM rational Both qualitative and quantitative is needed SD LSM overlap Quantitative makes decision making easy Qualitative builds empathy Fluid culture is important for SD SD tools to conduct tests for better understanding	SD vs LSM No strategic market insight / Strategic BM insight Qualitative methods build empathy / LSM methods also builds human sensitiveness Fluid culture is important SD better tools for understanding / Fluid culture is important LSM more rational

Startups are being passionate about understanding Service design is for services SD human centred, ethnography, behaviour LSM is also build around human sensitiveness LSM solution focused SD deep understanding of motivations LSM solution focused SD problem focused SD can be solution focused as well The culture of MVP within SD applies well on LSM LSM gives a limited view of who the user is	SD builds a service Problem focused - can be solution focused too MVP Holistic customer view Iterative process
	LSM builds a BM fast Solution focused MVP Limited customer view Iterative process