INTEGRATING FORESIGHT AND SERVICE DESIGN METHODS TO FOSTER SERVICE INNOVATION

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ABSTRACT /

In times of uncertainty and turbulent change, companies are seeking
new ways to adapt to disruptive environments through service
innovation. The following thesis seeks to research a way to integrate
foresight and service design methods for service innovation and
examine how both disciplines can contribute to new service
reconfiguration.

The author outlines research regarding the concept of innovation
and its types, followed by an examination of similarities between
disciplines and their joint capacity to examine and establish value
co-creative contexts where companies can produce innovative
ecosystems.

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ACKNOWLEDGEMENTS /

TABLE OF CONTENTS /

INTRODUCTION AND MOTIVATIONS

Continuous competition urges businesses to regularly reconfigure core service offerings to meet ever-changing consumer demands. However, such an approach has its limitations: minor tactical and incremental alterations to the offerings are often given as physical products do not provide innovative solutions. In particular, startups and small businesses that lack learning capabilities need to outline strategic opportunities concerning the service ecosystem to support the long-term vision and explore innovative alternatives to stay resilient in the face of disruptive forces. The authors argue that rather than focusing on operational day-to-day decisions, due to the short-term priorities, strategically, it is important to think about the long-term and the short-term simultaneously to consider the system-level dynamics of the environment to foster service innovations.

The thesis is focused on integrating foresight and service design methods to enable decision-makers to envision futures and thus anticipate opportunities and disruptive forces in advance, linking the company's present-day objectives to possible future opportunities. The goal is to propose a design-led framework with a focus on the anticipation of change that can encourage organizations to engage with forthcoming variables of uncertainty for strategic purposes. Hence, allowing organizations to facilitate the aggregation of required resources and involve potential actors for a future-oriented, sustainable, and innovative enterprise. The thesis is done in collaboration with a company called MÆT Pets that is looking for ways to innovate and coordinate its activities in the face of uncertainty, to evaluate service propositions through the lens of unfolding social and technological trends.

The integration of service design and foresight methods provides a better understanding of current customers' needs, and the foresights' explorative approach enables the company to engage systemically with unfolding socio-technical trends for the iterative process of service innovation. The proposed future scenarios offer the company an artifact to validate service propositions and design new experiences according to fluid customer needs, trends, and drivers of change to develop resilience by elaborating on the risks and opportunities around unknowns. Therefore, in addition to existing offerings, the integration of service design and foresight methods enables the MÆT Pets' leadership to conceptualize possible future-oriented service offerings together with their customers and provides the foundation for developing an innovative ecosystem.

The author hopes to empower the MÆT Pets' leadership to think about long-term strategic objectives in a non-linear manner to imagine and reflect ongoing systemic changes all around us. The following will allow the company to become a facilitator of social change by envisioning and crafting the future instead of delivering incremental changes. The thesis intents to provide space to think about the future; encourage employees to imagine and rethink the design of the service for shifting consumer needs, and explore opportunity spaces that might be relevant for the company in the future.

LEARNING OBJECTIVES

Official Learning objectives:

KNOWLEDGE
Students who complete the module will obtain the following qualifications:

- Must have knowledge about the possibilities to apply appropriate methodological approaches to specific study areas
- Must have knowledge about design theories and methods that focus on the design of advanced and complex product-service systems

SKILLS
Students who complete the module will obtain the following qualifications:
- Must be able to work independently, to identify major problem areas (analysis) and adequately address problems and opportunities (synthesis)
- Must demonstrate the capability of analysing, designing and representing innovative solutions
- Must demonstrate the ability to evaluate and address (synthesis) major organisational and business issues emerging in the design of a product-service system

COMPETENCES
Students who complete the module will obtain the following qualifications:
- Must be able to master design and development work in situations that are complex, unpredictable and require new solutions (synthesis)
- Must be able to independently initiate and implement discipline-specific and interdisciplinary cooperation and assume professional responsibility (synthesis)
- Must have the capability to independently take responsibility for own professional development and specialisation (synthesis) (Aalborg University, 2020).

Personal objectives:

- Learn how to find trends relevant to a service and argue for their fidelity.
- Learn how to validate and evaluate multiple offerings within a service in a long term perspective according to trends.
- Learn how to determine and analyze relevant service experiences from external and internal parties involved in a service.
- Learn how to apply findings across various touchpoints.
- Learn how to manage experiences through the entire service.
- Learn how to search for relevant literature.
- Learn how to compose a methodological approach.
- Learn how to merge information from different domains into coherent arguments.

Project Context: MÆT Pets

The following thesis was done in collaboration with MÆT Pets. The startup sells fresh dog food and provides additional information regarding dog nutrition. The company was established in 2020 by Sebastian Krumhausen in Copenhagen. The business concept for fresh dog food is inspired by Finnish analogues of similar products, yet the category of product is not available in Denmark. Primarily, the Danish market offers dry or canned dog food. MÆT Pets is a market opportunity to introduce fresh dog food in Denmark. The company is collaborating with Nordic companies to produce dog food; research-based, prepared by nutritionists who specialize in animal nutrition. The company creates meals with carefully selected ingredients so that dogs can get the best sources of protein, carbohydrates, and fiber in their daily diet. From a long-term perspective, the company's vision is to expand its operations across the country.

Operations

At the moment, the company operates on subscription-based and retail business models. Customers can order the product on the website and subscribe to the delivery option. Based on consumption preferences, the delivery time is calculated accordingly. The company provides four types of fresh dog food, dried dog treats and also offers a "Starter Package" for customers who are not familiar with the concept. MÆT Pets is present on the social media platforms such as Facebook and Instagram, and also uses its website to publish articles regarding dog nutrition and tips that might be helpful to dog owners. Additionally, MÆT Pets is distributing products through several retail partners, such as MENY and SPAR. The company has a stable number of customers and sales numbers are growing; thus the owner agreed to collaborate to consider different options for the decision-making process regarding the future of MÆT Pets.

Problem Area

The MÆT Pets leadership seeks to investigate and identify strategic opportunities in the emerging future to define long-term goals and understand how to stay competitive within the complex environment of industry leaders. MÆT Pets strives to have multiple, forward-looking options for present-day decision-making to (1) tackle challenges in the present and (2) prepare its resources for further growth. The CEO wants to explore alternative scenarios for the company's development that encompass experiential attributes to build innovative services around the current target audience, dog owners, of the company and then expand it into a wider ecosystem of actors. Although the company is actively engaging with dog owners in Copenhagen through the website, social media channels and partners, it's not enough to reach the main objectives regarding the importance of dog health and nutrition.

Interview with the CEO:

A short interview with Sebastian Krumhausen was taken to comprehend the vision, mission, strengths, and, and weaknesses of the newly established company. The purpose is to formulate the design brief and the requirements for the outcome of the thesis. The owner of the company expressed struggles regarding logistics-related processes; highlighted the major stakeholders involved in sustaining the business; and spoke about the need to address the values of the company to the community of dog owners. He emphasizes the importance of community-driven marketing strategies that are focused on the education of dog owners. Specifically, how MÆT Pets can "provide more value to dog owners in terms of community building, educating them about nutrition and health, and how to tackle other challenges that dog owners are having" (INT). Moreover, the CEO of the company seeks "to explore different ways our service can be extended and have a positive impact on the community through experiences besides the products" (INT).

Design Brief:
Service design and Foresight can be an appropriate blend of disciplines for such an agenda. Service design, which is grounded on human-centered design, encompasses tools to uncover the current needs and problems of the customers by empathizing with them. The design approach can create a portrait of dog owners and their attitudes towards the nutrition issues and health of dogs. Foresight's methods, on the other hand, can be adopted to examine alternative futures that MÆT Pets can pursue by incorporating the attitudes of dog owners into scenarios that are framed by trends and drivers of change to anticipate and imagine possible futures. Thus, possible future scenarios can derive perspectives from the present information about dog owners and the industry to consider. The probable future can examine the magnitude and likelihood of market developments and trends. These two can formulate a set of preferable futures, where the company would be able to strategically position itself by initiating the dialog about challenges and opportunities to address for composing the foundation for service innovation. Therefore, the design brief is formulated as the following:

"How can we integrate Foresight and Service Design Methods to foster Service Innovation within the MÆT Pets company?"

THEORETICAL FRAMEWORK

INNOVATION

Economic theory states that the desire to earn more is one of the main drivers (incentives) for innovation: people and companies create new products and services to generate additional income (Courvisanos & Mackenzie, 2014). Also, innovation can be born out of a desire to save time, effort, or resources. Due to the desire to optimize, organizational and process innovations are born, which change entire business models (Courvisanos & Mackenzie, 2014). Today, innovation is often associated with human-centered design (HCD) — innovations that come from the needs of the consumer (IDEO, n.d). In the 20th century, the supremacy of the manufacturer dominated, meaning that the consumer did not influence the output of the production process (Tredgold, 2018). The manufacturer could use its position as a monopoly, and only when competition increased, was it necessary to invent. Nowadays, a transition of focus from the producer to the consumer is happening, where, in the process of innovation, the consumer plays a major role, and the producer is orchestrating the process (W. Van Alstyne, G. Parker, & Choudary , 2016).

Companies and necessity to innovate

Companies invest resources to better anticipate the needs and values of consumers (Emmanuelli, et al., 2020). Companies are considering the opinion of the consumer, focus on their needs, anticipate the needs, and, most importantly, immerse society, science, and business in the innovation ecosystem (Osterwalder, Viki, & Pigneur, 2019). There are several stages in the formation of an innovation ecosystem, and the one we are currently at involves not linear relationships, but complex processes in which some actors are influencing others with many reverse effects. Indeed, these relationships within ecosystems are causing scientific, technological, and cultural contradictions that stand in the way of creating an innovative solution (Foundation, n.d). These contradictions require organizations to understand socio-technical complexities, to be able to solve problems in a new way.

Moving forward: assessment of innovation vs. risks

Developing innovations is always associated with risks (Freeman & Engel, 2017, p. 106). "Under certain circumstances, entrepreneurs can start companies, develop capabilities of those companies and bring new products to market relatively quickly, while their large but slower corporate competitors lag behind" (Freeman & Engel, 2017, p. 95). Therefore, innovation can afford startups because their resources are mobile and incentives are aligned. (Freeman & Engel, 2017, p. 94). In other terms, it means that startups are better at allocating and managing resources to reach their goals, while large, established corporations are difficult to move. Uncertainty for business is a potential risk. Therefore, large companies tend to deal with it by conducting strategic planning for the next 5-10 years, allocating budgets for innovative initiatives to investigate new directions.

Optimizing operations with a strategic view: aligning short term and long term. Companies believe that by applying new technologies, they provide their customers with an innovative product or service. Nevertheless, it is not only necessary to pursue new technologies to create innovative products and services, but also "to align their innovation efforts with their business strategies" (Pisano, 2015). Moreover, "organization's capacity for innovation stems from an innovation system: a coherent set of interdependent processes and structures that dictates how the company searches for novel problems and solutions, synthesizes ideas into a business concept and product designs, and selects which projects get funded" (Pisano, 2015). Innovations can be divided into two groups according to the extent of change: incremental, which involves optimization and improvements of current solutions, and radical which brings the change and significant breakthrough resulting in high impact or even new market (ZAPFL, 2018).

Service innovation is about unlocking new opportunities for companies (Hammoud & Nash, 2014). Digitalization push companies to work on new

service offerings to stay competitive although it requires placing the focus away from day-to-day operations by shifting the orientation on collaboration with service representatives, third parties, and customers to derive insights and institutionalize service innovation within the company's services strategy, investment cycles, sales, and operations (D'Emidio, Dorton, & Duncan, 2015).

Articulating the thesis' framework
The subsequent review of the literature needs clarification of definitions concerning innovations in regards to services. It is noted that innovation in services refers to both product and process innovation in service organisations or industries, and service innovation refers to the creation of new services (Miles, n.d).

Regarding the latter, service innovation is being referred as a product-service system, encompassing both the service and the physical good, where the physical good is the mediator between the service and users- a part of service configuration. In comparison to the traditional goods-centered dominant logic, where goods are primarily exchanged units and end products, and where the customer plays a role of solely the recipient of the embedded utility, service-dominant logic postulates that people exchange for specific competencies or services - knowledge and skills, where goods are seen as transmitters of resources on which an operation or act is performed to produce an effect, and the role of the customers is to coproduce the service (Vargo & Lusch, 2004).

Goods as mediators in services
Thus, the goods, also classified as commodities or consumer products, are only distribution mechanisms for service provision. However, the application of knowledge and skills, as the common denominator of exchange, can be transferred indirectly by embedding them in objects, meaning that tangible products can be view as embodied knowledge or activities that can be part of intangible configured services (Vargo & Lusch, 2004). As Meroni et. al (2016)

puts it: "products themselves are increasingly entangled with services as an additional offering or integrated with service functionalities by becoming smarter and interconnected" (Meroni & Sangiorgi, 2016, p. 25).

In addition to the latter, "the Product Service system is the result of the interaction between different actors and technological elements during the use phase" (Morelli, 2002, p. 7) where "goods are best viewed as distribution mechanisms for services or the provision of satisfaction for higher-order needs" (Vargo & Lusch, 2004, p. 9). Thus, tangible goods are part of intangible service offerings; both are a bundle of service configurations of the value-creating system.

The need for a service "mindset"
Moreover, the service economy signifying the transition from production of consumer goods, or product-oriented design culture, towards predominantly service orientation with a focus on the service-oriented design approach; by moving gravity of importance from products uniquely to the services with interactions between people, objects and places being situated at the center of the design approach - here, the service design approach interprets physical products as evidence of service existence (Meroni & Sangiorgi, 2016, p. 5). In these conditions, within a service environment, products as mediating entities in the form of a physical artefact, experiences, activities or services prescribe the interaction order (Meroni & Sangiorgi, 2016, p. 15).

The interweaving nature of products' tangibility and intangibility of services is also defined by the concept of the Product Service system which consists of a mix of tangible products and intangible services designed and combined so that they jointly are capable of fulfilling final customer needs (Morelli, 2002; Meroni & Sangiorgi, 2016, p. 14). It implies that "there is no more separation between products and services because products are also understood as 'embodied knowledge or activities'" (Meroni & Sangiorgi, 2016, p. 25).

In view of the given elaborations of different, yet similar argumentations, concerning the interplay between products and services, the attention draws to the capabilities of service innovation to reframe the technologically focused innovation paradigm; capacities to change the consumption patterns and users' behavior, and possibilities for systemic changes, resource optimization and value-driven offerings (Meroni & Sangiorgi, 2016, p. 14). Considering the above, the purpose of the literature review is to illuminate the ways service design and foresight approaches could lead to the design of an innovative Product Service System.

Incremental and Radical Innovations: Product Innovation
Aforementioned definition of the Product Service system identifies physical goods or products as integral part of service systems. Hence, the further review is focuses on review of innovation regarding these mediating entities. The nature of the incremental and radical innovation is studied in the article by Donald A. Norman and Roberto Verganti (2014) where they discuss the design research and its implications on technology, change of meaning, and review the fundamental activities of innovation (Verganti & Norman, 2014).

It is important to notice that service design move designers from user-centered design to human-centered design (HCD) where the focus shifted from designing for experience, individual touchpoints, to designing for co-experience where empathic and co-creative aspects of service design are enhanced (Meroni & Sangiorgi, 2016, p. 41). However, user-centered and human-centered design approaches have a common process where "an iterative cycle of investigation—usually characterized by observations, an ideation phase, and rapid prototype and testing" is used during the design process (Verganti & Norman, 2014, p. 78). Thus, the design process, where the human needs take the central role, leads to incremental enhancements of the product. This innovation process is also called 'hill climbing' (Verganti & Norman, 2014, p. 78). The hill-climbing paradigm consists of a multi-dimensional hill with two dimensions; one represents product quality on the vertical axis and another, depicts various design parameters on the horizontal axis.

The paradigm guarantees continual improvement over time where the peak of the hill will indicate the end of progress. However, designers are not able to know "whether even higher hills might be scaled in some other part of the design space" (Verganti & Norman, 2014, p. 78). At this point, the design output gets at the local maxima. For this reason, service design, with the human-centered approach, is only suitable for incremental improvements. The authors state that no radical innovation was created as a result of the human-centered design process (Verganti & Norman, 2014). The HCD process leads to incremental innovation that brings incremental improvements that modify products but not able to create new design spaces with horizontal and vertical axes of product quality and design parameters.

As was previously mentioned (SEE chapter about PSS), services are not uniquely product oriented, but if we look the design space where the service configurations are situated, we can derive similarities of thinking about services with design space and dimensions because services consist of materials and consumer products that incapsulate service activities, knowledge and skills, that service provides.

Types of innovations
Further, the authors assert that radical innovation comes through advancements in technology and/or change in the meaning of product but is not the result of the HCD approach (Verganti & Norman, 2014). Various types of innovation can be identified in accordance with the object of innovation and drivers of innovation. The process of innovation can be driven by technological change, market demand, design research or user needs. Where the object of innovation can include business models, socio-cultural systems, ecosystems, products or

services, and processes (Verganti & Norman, 2014). Two types of innovations are given; incremental innovation deals with improvements within a given frame of solutions, where a product is "done better than before" (Verganti & Norman, 2014, p. 95). On the other hand, radical innovation completely redefines the frame by doing something that was not done before (Verganti & Norman, 2014). Radical innovation can be categorized by three criteria: Firstly, the invention must be novel, meaning that there are no products alike were introduced in the past. Secondly, the invention must be unique, meaning that there are no products alike currently available. Lastly, the invention must be adopted: It needs to influence the content of future inventions (Dahlin & Behrens, 2005). Overall, radical innovation implies discontinuity with the past (Garcia & Calantone, 2002).

The authors conclude that the nature of human-centered design, where innovation comes from user observation, "leads to incremental change that allows for local, linear changes in technology and meaning" resulting in market-pull innovation (Verganti & Norman, 2014, p. 89). However, radical innovation comes when the design space can assimilate new technologically available solutions and create new meanings for the user. Is not that often such a change happens because users can resist adopting new, radical solutions due to their novelty (Verganti & Norman, 2014). Nonetheless, both types of innovations are crucial to acknowledge; incremental innovations help to make product acceptable for the consumers while radical innovation introduces new paradigms and domains of design spaces (Verganti & Norman, 2014).

The examples in the article elaborate on the ability of successful radical innovations to integrate within the ecosystems, where new products and services are changing longstanding relations between the actors bringing new meaning by redefining the old practices with new ways of living. However, "this dual change [technological and meaningful] is rare and more dangerous: consumers tend to resist massive changes" (Verganti & Norman, 2014, p. 89).

Re-defining through innovation: understanding current mediators and meanings

The current context and cultural paradigm make it problematic for the user and designer to imagine radical innovation because we are immersed in the present sociotechnical conventions that are more familiar to us. Importantly to notice that one should understand the classes of innovations and their drivers to find a relevant type of design research. The paper also provides a framework with four types of innovations composed of two dimensions - technology and meaning (Verganti R. , 2008). First, technology-push innovation comes with a change in technology while the meaning of product remains to be the same. Second, meaning-driven innovation examines ongoing socio-cultural dynamics and results in new meanings and languages situated within continuous cultural change. The third type of technology epiphany innovations brings new meaning to the consumer through the introduction of new and emerging technologies or through changing the use of technology. Lastly, market-pull innovation considers user needs and then applies gained insight to produce the output. Here, market-pull innovations and human-centered design converge – here the needs of consumers are the foundation of the design process (Verganti & Norman, 2014).

The authors also discuss the role of the design research that facilitates exploration of new meanings and technologies that can be used within the previously mentioned four types of innovation (Verganti & Norman, 2014). Basic design research in its essence focuses on the practices that explore novel meanings where the aim of the output of the research is not considered to be applied for products or services. In general, such research helps to challenge the current paradigm where design space rests (Verganti & Norman, 2014). On the contrary, design-driven research is intended to imagine new meanings that are meant to be used in products or services. This research gives perspective into the reasons why certain practices exist and how a deeper understanding of those can be used to transform products or services (Verganti & Norman,

2014). Human-centered research intends to explore the current meanings associated with existing products and services and/or identify meanings and needs that can be used to design offerings according to findings (Verganti & Norman, 2014).

Expanding the horizons through design: reaching radical innovation
Thus, it is concluded that "radical innovation, finding a higher hill, comes about only through meaning or technology change" (Verganti & Norman, 2014). Here, innovation through "design-driven research has more potential in the space of meaning" because it allows "a better understanding of potential patterns of meanings" within emerging socio-cultural changes that could be used to introduce a new paradigm (Verganti & Norman, 2014, p. 92). The authors continue by saying that " a new hill, in the space of solutions with a breakthrough result requires a vision that comes from a deep reinterpretation of the meaning of a product (Verganti & Norman, 2014, p. 96). Importantly the paper emphasizes that there is the possibility to support the development of radical innovation. They suggest modifying the HCD process to enable the simultaneous development of multiple ideas (Verganti & Norman, 2014, p. 96). The transformation will allow the design team to work on multiple perspectives in parallel. Verganti and Norman (2014) write that this "enhances the possibility that some of these attempts will start in a different design space—one that might allow for a successful, new product" (Verganti & Norman, 2014, p. 96).

Social Innovation
Awareness about ongoing changes within socio-cultural dynamics is necessary to meet objectives stated by the CEO of MÆT Pets regarding community building and education to support further comprehension of service innovation. Ezio Manzini (2015), in his book titled "Design, When Everybody Designs", explores aspects of social change and design in the time when the world is moving towards sustainable living (Manzini, 2015). The author discusses the roles of individuals, communities and designers in times of turbulence where two realities of limitless capabilities and limited resources are colliding resulting in bigger challenges for societies. Hence, the book is used to frame and understand innovation as a social phenomenon.

Human beings possess innate creativity and the capacity to design when confronted with new challenges to create innovative solutions (Manzini, 2015). Nature and the scale of the problems are influencing the organizational change where new social forms in different contexts are reinventing our lives; here, social innovation constitutes itself in an ongoing public discussion that results in "the creative recombination of existing assets, aims to achieve socially recognized goals in a new way" (Manzini, 2015, p. 11). Manzini (2015) defines social innovation as "new ideas (products, services and models) that simultaneously meet social needs and create new social relationships or collaborations. In other words, they are innovations that are both good for society and enhance society's capacity to act" (Manzini, 2015, p. 11).

These new social relationships are needed to cope with "the most pressing issues of our time" (Manzini, 2015, p. 12). Manzini refers to them as "worldwide epidemics of chronic disease, widening inequality, ageing societies, or threats to social cohesion in multicultural societies" (Manzini, 2015, p. 12). These intractable social challenges cannot be solved by government policies or market solutions. Therefore, the author calls for social innovative solutions that are capable of "recombining existing resources and capabilities to create new functions and new meanings" (Manzini, 2015, p. 13).

The aim is to introduce unusual ways of thinking about strategies that can solve these problems - offer a novel way of reasoning that would contradict mainstream thinking. Hence, "given a problem that looks very difficult from a mainstream point of view, they propose a different way of looking at it" (Manzini, 2015, p. 13). Here the author distinguishes another type of radical innovations:

context-dependent radical innovations that "by responding to some urgent questions [...] generate answers that change the questions themselves" (Manzini, 2015, p. 14). The author provides an example of radical innovation addressing the problem of the elderly population where the question is "How can we take care of all these elderly people?". The mainstream answer could be: "Create more dedicated professional social services". However, Manzini (2015) suggests looking at this problem radically by " considering the elderly not only as a problem but also as possible agents for its solution; support their capabilities and their will to be actively involved and optimize the use of their social networks" (Manzini, 2015, p. 13).

Implications of such radical innovations combine societal and environmental interests (social economy) "where the market, the state, and the grant economy coexist with self-and mutual help" (Manzini, 2015, p. 15). Consequently, the social economy situates in distributed networks that sustain and manage relationships through collaboration and repeated interactions, focusing on care and maintenance rather than one-off consumption (Manzini, 2015).

Further Manzini (2015) discusses the role of technology in human society stating that "every change that concerns them is, at the same time, social and technical" (Manzini, 2015, p. 16). However, new social forms change the technical systems, thus innovations in the sociotechnical system also socially and culturally driven. This means that technology, culture and society are intertwined because "the more technical systems penetrate society the faster and more far-reaching will be their impact on the social systems in which they operate" (Manzini, 2015, p. 16). The understanding of how well technology is adapted and "normalized" by people provides an opportunity to rethink ways it can be used differently. For companies, it became evident that some products can be offered to the public in incomplete versions to be able "to harvest the improvements or extensions that are suggested by users" and therefore engage with users who can be considered co-designers. Such co-

designing practices are thus "transforming infrastructure and production/consumption systems" (Manzini, 2015, p. 17).

The transformation of the co-existing sociotechnical systems is called distributed systems. This system is defined as "sociotechnical systems that are scattered in many different but connected, relatively autonomous parts, which are mutually linked within wider networks" (Manzini, 2015, p. 17). Distributed systems, with the relationship between small and large scale, between the local and the global challenge mainstream production models and their technological infrastructure. According to the author, distributed model "sees infrastructure and critical service systems (for water, food and energy etc.) positioned close to resources and points of demand [...]" where "[...] services can instead be delivered via the collective capacity of many smaller diverse systems (Manzini, 2015, p. 17). Each distributed system is customized to the needs and opportunities of different locations but can transfer resources across a wider area. The technological component plays an important role in distributed systems, however, the innovative processes supporting the emergence of such systems is grounded on both social and technical capabilities.

Distributed systems also play an important role in forming a sustainable society grounded on principles of resilience (capability of overcoming risks and deal with stress) "because they are able to create socio-technical systems capable of recovering from the various unforeseeable problems that may occur, and to learn from them" (Manzini, 2015, p. 21). Discussion of distributed systems and their necessity for a sustainable and resilient society leads the author to call for a cultural change that would be "capable of forming the ground on which a multiplicity of cultures (the cultures of resilience) would be able to flourish" (Manzini, 2015, p. 22). In accordance with the author, the design culture can become a widespread activity to deal with socio-technical networks and their complexities to be able to build environments around us.

The design culture can contribute to social innovation by utilizing a co-existing conventional mode and design mode. The conventional mode is a set of social practices with the accent on traditional ways of doing; in this mode traditions and previous experience guides us in our actions and the ways we perform these actions. In the given mode the outcome of the process is predetermined. On the other hand, the design mode can synthesize "three human gifts": critical sense, creativity and practical sense (Manzini, 2015). These three combined potentially can help to envision the absence of something and demonstrate appropriate actions to get to the chosen destination. The design mode rises to be an integral part of human activity on individual and collective levels and "has all the potentialities to play a major role in triggering and supporting social change and therefore becoming the design for social innovation" (Manzini, 2015, p. 53).

Design for social innovation can be done by design experts to "activate, sustain, and orient processes of social change toward sustainability" (Manzini, 2015, p. 62). However, for social innovation to last and grow on multiple scales requires the intervention of organizations that would support the social change through "the creation of a more favorable cultural, economic, and institutional environment" (Manzini, 2015, p. 62). Organizations can become facilitators of social conversations between actors who are interested "in achieving the same result " and who are ready to support innovating ways by breaking the traditional norms of doing things (Manzini, 2015). Moreover, organizations can provide a common "space" for expert designers and interested actors to engage in co-designing activities, where different participants will be able to bridge knowledge, design capacities and abilities in the process of social innovation design. Thus, design for social innovation with the contribution of "social heroes" such as expert designers and stakeholders causes "sociotechnical transformation driven by and oriented toward social change" of the overall system (Manzini, 2015, p. 63).

Products and services based on new technological propositions may have "considerable social effects", but they are not associated with design for social innovation "because the driving force in this transformation is technological and not social" (Manzini, 2015, p. 64). Yet, the number of people who use these technologies can provide opportunities to understand how to apply them for different purposes. Therefore, an advocate for social change should understand how to "place the needs of the community as the main requirements and begin facilitating or redefining the social structures by technologically available means to produce innovation that is focused on the sustainability of the social realm" (Manzini, 2015).

At this stage, the author refers to design experts as activists who have the capabilities to encourage social conversations about specific projects and initiate or support "a new collaborative organization" with a focus on " initiatives that involve socially sensitive issues" (Manzini, 2015, p. 70). Expert designers "may feed a conversation underway with new ideas, support it with facilitating tools, show its results, or create the conditions for it to start a new in another context" (Manzini, 2015, p. 67). Obviously, the behavior of people cannot be designed, however, "it is possible to create conditions that make some ways of being and doing things more probable than others" (Manzini, 2015, p. 151).

Value creation process with the service-dominant logic
Further, with the understanding of the nature of Product Service systems and types of innovations, the discussion unfolds around value creation as the most vital aspect of any service. The change to the service-dominant logic in marketing uncovers the complexity of the value creation process, where more "actions, and more actors, can intervene in value creation per unit of time and space than ever before. It means that "value creation is not only sequential but also implies that value is 'added'" (Ramirez, 1999, p. 49) .

From service-dominant logic's perspective, the customer and stakeholders are responsible for creating value, where "value is not simply 'added,' but is mutually 'created' and 're-created' among actors with different values" (Ramirez, 1999, p. 50). Unlike, the traditional, industrial view, postulates that customers are "destroying the value which producers had created for them" (Ramirez, 1999, p. 49). Given the shift to the service-dominant logic can infer that actor involved in the value creation process not only co-create but also co-invent the service. Thus, from the perspective of service-dominant logic customers are seen as significant to the service success as other economic actors involved in the service design, development and delivery (Ramirez, 1999).

Christian Grönroos (2011), in his paper "Value Co-creation in Service Logic: A Critical Analysis", focuses on the definitions of value and the relation of the concepts to business aspects (Grönroos, 2011). As he states: "there are two sides to value creation; value for the customer and financial value for the firm and value creation for the firm and the customers are interrelated" (Grönroos, 2011, p. 281). The author is concerned that the concept of value is not "explicitly defined in publications on service-dominant logic" (Grönroos, 2011, p. 282).

Framing and grounding the value creation process
The author examines the notion of value stating that the concept "implies some form of assessment of benefits against sacrifices" (Grönroos, 2011, p. 282). It can be considered as monetary gains created mutually and reciprocally by business partners (Grönroos, 2011). When talking about value in relation to customers, the author states "that after they have been assisted by a self-service process (cooking a meal or withdrawing cash from an ATM) or a full-service process (eating out at a restaurant or withdrawing cash over the counter in a bank) they are or feel better off than before" (Grönroos, 2011, p. 282). Moreover, it is difficult to understand when the value occurs from

customers' perspectives because it is an elusive issue. Value can be derived from physical use or mental use; as an example, (1) someone may value the ownership of a car, (2) someone may value the driving experience enabled by the capability of another person to drive a car.

Instead of thinking about value as a conscious, explicitly considered process, we should accept that value emerges out of the mental or physical use of goods and service activities (Grönroos, 2011). Organisations that provide services generate a potential value, whereas usage of a service by any customer is the generation of real value, "sometimes objectively measurable, sometimes subjectively perceived" (Grönroos, 2011, p. 282). Therefore, it is correct to say that "the value-in-use emerges from usage or possession of resources" (Grönroos, 2011, p. 282). Thus, "value for customers is either created in the customer's sphere by the user as value-in-use, or by both the provider and the user in an all-encompassing value-creating process" (Grönroos, 2011, p. 282).

In this instance, services can be seen as "value-creating support to another party's practices" (Grönroos, 2011, p. 282). There are two types of services according to Normann (2001): ones that "relieve customers from taking on some task", and others that "enable them to do something that otherwise would not be possible to accomplish or would be accomplished less efficiently or effectively" (Normann, 2001). During service encounters, providers and users are engaging with each other to accomplish different goals. "Although customers may provide service in return for service received, for example in the form of information and input that can be used for adjusting the supplier's processes or for its product development" (Grönroos, 2011, p. 286).

Funneling and powering the value creation process through services
Service processes, with several activities and embedded physical goods, allow the provider to influence the creation of value-in-use from the customers' perspectives, whereas usage of only goods limits the capabilities

of the provider in the overall value creations. Specifically, it is "service means supporting customers' practices with resources and interactive processes in a way that enables the customers to create value for themselves in those practices (provider service logic)" (Grönroos, 2011, p. 286). Hence, every "firm should strive to develop interactive processes, in which the customer is at least partly involved (for example add a call centre or delivery service), and embed the resource or resources of the goods in such interactive processes" (Grönroos, 2011, p. 287). Because value cannot be created "without the customer incorporating the firm offering into his or her life" (Grönroos, 2011, p. 287). Therefore, the service provider holds an opportunity to become a co-creator of value and take part in the customer's value creation process during a service encounter. Hence, the service provider should "facilitate their customers' value creation during direct interactions with customers […] (in order to) get opportunities to engage with their customers' value creation and become co-creators of value" (Grönroos, 2011, p. 290). Direct interactions between firms and customers are essential for value co-creation. "Outside direct interactions firms cannot be independent value creators, only value facilitators by developing, designing, manufacturing and delivering resources required by the customers" (Grönroos, 2011, p. 290).

Role of companies in the value creation process
Firms that become service providers can enable direct interactions with the customer to become co-creators of value. Thus, interaction becomes a key aspect of service. The customer and a firm can co-create value together "although the firm's value facilitation normally is a foundation for customers' value creation" (Grönroos, 2011, p. 291). Here, service can be considered as an intersection point between the firm and customers in the value-creating process. It can be concluded that "both the customer and the firm have some roles in an all-encompassing process called value creation" (Grönroos, 2011, p. 294).

Businesses are built on the premises of reciprocal value creation for both parties, where services are playing the role of mediators. Since " all resources and processes are distribution mechanisms for service provision" the firm can "become engaged with its customers' value-creating process" available platforms for interaction purposes (Grönroos, 2011, p. 293). In certain circumstances, during the direct interaction with the customer, firms can use their platforms to jointly co-create value with their customers.

The direct interaction, also known as the service encounter, is a process jointly shared by the firm and the customer, where "the firm can move beyond offering value propositions only" (Grönroos, 2011, p. 293) (Vargo & Lusch, 2004). During this encounter, "the firm can also directly and actively influence the customer's value fulfilment" (Grönroos, 2011, p. 294). Service logic enables the firm "to directly and actively influence its customers' value creation" (Grönroos, 2011, p. 295). Value-in-use is still determined by the customers; however, the service encounter of direct interaction gives the service provider an opportunity to "jointly contribute to the value that emerges for the customer" (Grönroos, 2011, p. 295).

It can be concluded that "value is accumulating throughout the customer's value-creating process and is always uniquely and both experientially and contextually perceived and determined by the customer" (Grönroos, 2011, p. 295). Over the period of service encounters, when the direct interaction occurs, the customers' experience "determines value emerging from the interaction, which in turn may influence how future service is experienced" (Grönroos, 2011, p. 295). The firm, on the other hand, as the value facilitator, might get in return valuable input from customers to further use it in the design or development process but does not influence determining the value-in-use unless it has a direct involvement with the customer to co-create it. Thus, service logic provides a chance for the firm to "make use of value co-creation opportunities" to "become part of customers' value creation, and thus move

beyond being value facilitators only and become co-creators of value with the customers" (Grönroos, 2011, p. 296). In terms of business perspective, it "enables firms to rethink their business models and earnings logics and develop them in a service-centric and at the same time customer-centric direction" (Grönroos, 2011, p. 296). Finally, "it should be recognized that if the context changes, the flow and the outcome of the value-creating process may also change" because "context can change, as such context is a static concept, whereas use/usage is a dynamic process" (Grönroos, 2011, p. 297).

Introduction to Service Design

Service design is a methodology that helps to improve the company's interaction with people, both customers and employees. It is a discipline that emerged from the shift in the economy, which emphasizes services over physical goods (Stickdorn, Marc; Hormess, Markus Edgar; Lawrence, Adam; Schneider, Jakob, 2018). Service design "uses a holistic and collaborative approach to generate value for both the service user and the service provider throughout the service's lifecycle. It choreographs processes, technologies and interactions driving the delivery of services (Horvath, n.d).

The methods of service design can be placed into 4 categories; since the design approach is based on the user-centered paradigm the methods are aimed to research, analyze, synthesize and develop (Foundation, User Centered Design, n.d). The design approach offers a set of methods and tools to find the unmet needs of customers in the experience of their interaction with the company and recommend a more useful, usable and effective service journey (Stickdorn, Hormess, Lawrence, & Schneider, 2018). In general, service design solutions affect three areas simultaneously: business models, company processes, and customer experience (Kimbell, 2014). Moreover, the design approach solves business problems by investigating deeply the experience of employees and clients, delves into all the details of the process both on the business side and customers' side. (Stickdorn, Hormess, Lawrence, & Schneider, 2018) The

design approach makes the experience visible; with user-centered tools service design reveals it and presents it (Gibbons, 2017). The company can utilize the information to further initiate changes regarding marketing, operations, logistics, legal department, accounting, or all departments together.

Service design allows you to identify all the points of contact of a person when interacting with a service or product. "In practice, service design helps to choreograph the processes, technologies and interactions driving the delivery of services, using a human-centered perspective" (SDN, n.d). Therefore, service designers are those who help analyze, visualize and compose the user's journey through a system. Birgit Mager says that "the end goal of service design is "to ensure service interfaces are useful, usable and desirable from the client's point of view and effective, efficient and distinctive from the supplier's point of view" (SDN, n.d).

Social sciences, business, design and technology - all disciplines, in different manifestations, somehow encounter service design (Polaine, Lavrans, & Ben, 2013). At the same time, service design serves one task — to be an advocate for the quality of the process, achieving it with all available methods (Foundation t. I., n.d). The distinctive task of service design, which differentiates it from other disciplines — is to find a point of balance at which both parties, the service provider and the customer, can fulfil their goals (Kimbell, 2014) (Gibbons, 2017). Thus, it can be stated that service design takes care of how to create mutual value for organizations, employees, and end customers.

Importance of service experience

Service organizations are increasingly managing customer experiences to promote differentiation and customer loyalty (Zomerdijk & Christopher, 2010). It is recognized that the quality of customer experience during service encounters correlates with levels of satisfaction and can enhance further loyalty. It is suggested that "an experience occurs when a customer

has any sensation or acquires knowledge from some level of interaction with the elements of a context created by a service provider" (Zomerdijk & Christopher, 2010). Thus, service organizations need to focus on the customer experience that is embedded into the service offerings. An important aspect of customer experience-centric service is to "encourage customer loyalty by creating emotional connections through engaging, compelling, and consistent contexts" (Zomerdijk & Christopher, 2010). Therefore, deliberate planning of tangible and intangible service elements within the service delivery system is required (Zomerdijk & Christopher, 2010). Hence, the service design approach, with the human-centric methods, can deliver an emotionally compelling service experience by systematically studying the needs, values and issues of customers (Zomerdijk & Christopher, 2010).

Unpredictability of interactions within an ecosystem
In an ongoing shift from the ownership of products to an economy of services, companies are building infrastructures where the interaction between the customer or user can take place (Morelli & Götzen, 2016). However, such a change in paradigm, from ownership to access to services, introduce challenges due to the unpredictability of interactions during the use of the service (Morelli & Götzen, 2016). Therefore, it is possible to utilizing the capacities of stakeholders for "innovative services by activating citizens and involving them in a value co-creation process" to shift the control of value creation from producers to communities of users (Morelli & Götzen, 2016, p. 133). Designers can initiate or promote innovation in such contexts by generating tools for conversation because innovations developed in certain social dynamics is often not the result of planned action, but rather an emergence of the interaction between different actors and different forms of rationality (Morelli & Götzen, 2016). For this reason, the capability to map the actors in the ecosystem and their mutual interaction makes it possible to identify actors' rules and competencies and develop the capacities that can consolidate an ecosystem (Morelli & Götzen, 2016, p. 139).

Designing services
In the business setting, the designer is working on the strategic level to connect "propositions with the details of how they will be delivered" (Polaine, Lavrans, & Ben, 2013, p. 10). Moreover, service designers need "to understand the relationships among all the people involved in the service, as well as recognize what opportunities exist for improvement or innovation" (Polaine, Lavrans, & Ben, 2013, p. p8). Hence, the scope of the approach enables the designer to work on "everything from small details to business strategy" (Polaine, Lavrans, & Ben, 2013, p. 8). The methodology of service design "offers a range of very practical tools and methods for capturing insights into people's lives" (Polaine, Lavrans, & Ben, 2013, p. 8). The tools and methods allow the designer to "view the complexity of a service through the eyes of customers or users taking a journey over time and across the multiple channels of the delivery of a service" (Polaine, Lavrans, & Ben, 2013, p. 8). Moreover, one of the tasks as the service designer is to prototype the experience of service with people who have a stake in the service (Morelli & Götzen, 2016). Those can be both customers and employees. The experience prototyping enables the designer to adjust and enhance the service experience before it will enter in the development phase.

In respect to the incremental type of innovation, it is certain that service design also works on innovation projects, however "the results of these projects filter into the public domain through new services or improvements to existing ones, but many companies want to keep their internal activities confidential" (Polaine, Lavrans, & Ben, 2013, p. 11). Yet there is an understanding that "genuine insight into the people who will use (services)" will result in the "real value" (Polaine, Lavrans, & Ben, 2013, p. 47). Service designers are working with multiple stakeholders, within and outside of an organization, meaning that the terms co-creation and co-production are being the focal point of their concern. Implying that service designers, "by use of networks of technology and people, […] can simplify complex services and make them more powerful

for the customer" (Polaine, Lavrans, & Ben, 2013, p. 47). However, the success of the service is determined by quality of experience when the customer experience service offerings holistically, meaning that all resources of the service provider are employed effectively and are able to fulfil the need of the customer.

The entanglement of multiple touchpoints of interaction and the necessity to blend physical products with services, expanding the customer service offering, draws the attention of many organizations because currently customers "don't just care about individual touchpoints. They experience services in totality and base their judgment on how well everything works together" (Polaine, Lavrans, & Ben, 2013, p. 53). Hence, "The division of the silos makes sense to the business units" only6 without bringing benefits to the customer (Polaine, Lavrans, & Ben, 2013, p. 52).

This may result in missed opportunities for organizations to improve their current offerings because they "don't think about their customers as valuable, productive assets in the delivery of a service, but as anonymous consumers of products" (Polaine, Lavrans, & Ben, 2013, p. 55). Therefore, interaction with the customer is vital to make a service more effective.

When talking about effectiveness and usability of the service, the author refers to the performance of services as the way "any specific service […] is delivered" (Polaine, Lavrans, & Ben, 2013, p. 65). There are two types of performances: performance as experience and performance as value. The former, performance as experience refers to "the delivery of the service to the service user on the "front stage" (Polaine, Lavrans, & Ben, 2013, p. 66) and "the way the users "were treated or the way the service provider performed their tasks" (Polaine, Lavrans, & Ben, 2013, p. 65). The latter, performance as value means that "aspect of performance is the "backstage" measure of the service by the business—all the things that happen behind the scenes

that help create or run the service experience for customers but that they don't see" (Polaine, Lavrans, & Ben, 2013, p. 66). Moreover, performance as value can be divided into inward-facing value that measures the performance of the service for the organization and outward-facing value that measures "how well the service is achieving the results promised to the service users." (Polaine, Lavrans, & Ben, 2013, p. 66).

Service Ecology as visualization of strategic opportunities
The author suggests using ecology mapping as a tool to visually comprehend the scope of the service. Service ecology is a diagram aimed at mapping out the context in which the service is operating. The tool maps "the actors affected by a service and the relationships between them, displayed in a systematic manner" (Polaine, Lavrans, & Ben, 2013, p. 131). The goal of the diagram is to visualize "the enterprises that make a promise to the customer (or service user), the agents who deliver that promise through different channels, and the customers who return value back to the enterprise" (Polaine, Lavrans, & Ben, 2013, p. 131).

Experiences and utilities are delivered via "agents who are in direct contact with users through channels and touchpoints" (Polaine, Lavrans, & Ben, 2013, p. 132). Agents can be considered as environments, people, prints, products, and interfaces. Definitions of channels and touchpoints are also given: "Channels are the overall medium, such as e-mail, telephone, and face-to-face, and a touchpoint is an individual moment of interaction within that channel, such as a single call or an e-mail exchange" (Polaine, Lavrans, & Ben, 2013, p. 132). Service ecology presents an interrelationship between actors involved in service delivery and the values they exchange. Thus, the author concludes that "a healthy ecology is one in which everyone benefits, rather than having the value flow in one direction only" (Polaine, Lavrans, & Ben, 2013, p. 133).

Importantly the author also notices that not all enterprises consider benefits and resources that customers can provide back to the service (Kimbell, 2014). "Customers are usually motivated to provide labor, knowledge, and data if these will help them get a better result, and when customers invest in the outcome, they connect more strongly to the brand" (Polaine, Lavrans, & Ben, 2013, p. 133). According to the author, often the enterprise's relationship with the customers is one-sided. However, service providers should enable customers to return the value to themselves and other service users. This can be done through the frontstage in the service, where customers can return added values "through cooperation, information, and feedback, along with payment for services" (Polaine, Lavrans, & Ben, 2013, p. 134). The tool allows designers to understand how business or organization concerns are situated within the wider context of their operations, including customers and society in general. The scope of the ecology map is "defined by the project's strategic goals, budget, the sphere of influence" (Polaine, Lavrans, & Ben, 2013, p. 137). Moreover, the mapping can assist in making "connections between different services that would normally have been overlooked" (Polaine, Lavrans, & Ben, 2013, p. 139). Here we can enter other actors that DO are interacting with to deliver a valuable experience to their dogs.

Services design and socio-technical complexities
Service led methodology enables designers to construct systems to accommodate ever-changing social, organization, technological trends to deliver a robust customer experience within heterogeneous contexts. There are disciplines that focus on the designing of touchpoints, such as graphic design, UX design, product design and interaction design (Polaine, Lavrans, & Ben, 2013, p. 141). However, the complexity of multichannel experience requires having a holistic view of the entire journey customer is going through to fulfil his needs. Furthermore, service design emphasizes the importance of "the invisible elements of time and context, both of which are critical to the experience of a service" (Polaine, Lavrans, & Ben, 2013, p. 141).

"A critical aspect of designing services is understanding context, and this is where service design is different from what many designers understand as user-centred design approaches" (Polaine, Lavrans, & Ben, 2013, p. 142). Other desing disciplines primarily focus on individual touchpoints that are usually digital. Service desing, on the other hand, promotes considering the entire context where digital aspects are only a part of the entire user journey. The holistic view of the service cannot be divided into separate touchpoints because it influences the perception of the customers on the entire service delivery. "The key to a seamless service experience is taking care to understand the contexts in which users interact with touchpoints and services" (Polaine, Lavrans, & Ben, 2013, p. 146). There might be reasons for a business to consider individual points of encounter because at some stages of the user journey the customers can perform self-service which is cheaper for the company. However, from the customer's perspective, such division can negatively reflect on the overall service experience.

Designers can use a blueprint to map out the user journey and associated touchpoint which correspond with various encounters through time to avoid such inconsistencies in the service experience. Yet, in the case a project aims to design a new service, service propositions should be formulated to eliminate unnecessary financial spendings (Polaine, Lavrans, & Ben, 2013, p. 175).

Creating new Service Proposition
"The service proposition is essentially the business proposition, but seen from both the business and the customer/user perspective" (Polaine, Lavrans, & Ben, 2013, p. 175). Service propositions require to have a business model for its foundation to design services that would be sustainable. In order to compose the proposition, the research is needed to gather insights upon unmet customers' needs or the market for existing issues or opportunities and related to it technological challenges within the environment where the business position itself. In return, insights from the research can lead to new

business ideas that can be the basis for the service provision (Polaine, Lavrans, & Ben, 2013, p. 175). Thereafter, the challenge for the service designer is to find a way to introduce the ideas to customers through service offerings with a compelling and wanted experience. It is important to remember that "the ideal is a proposition that is win-win for both service provider and service user, with each side providing value to the other" (Polaine, Lavrans, & Ben, 2013, p. 180).

Foresight

The speed and scale of disruptions are such that the traditional strategic approaches, with which organizations and companies would navigate, are no longer suited to stay competitive in these turbulent and unpredictable times (Buehring & Bishop, 2020) (Webb, 2020). The changing environment, with socio-technical complexities, brings uncertainty, where the future is seen not as linear, but as endless varieties and possibilities (Hammoud & Nash, 2014) (Day, Greenwood, & Sebina, 2009). Such complexity brings new challenges about future perspectives that the decision-makers within the private sector need to understand to deal with future challenges and be able to define course of appropriate counter actions (Rohrbeck, Kum, Jissink, & Gordon, 2018).

Governmental and Private organizations use different definitions to describe foresight. From a strategic perspective "foresight is a system of methods for expert assessment of strategic directions of socio-economic and innovative development, identifying breakthroughs that can have an impact on the economy and society in the medium and long term" (Andersen & Rasmussen, 2014). From governmental perspective foresight is "a systematic, participatory, future-intelligence gathering, and medium-to-long term vision building aimed at enabling present-day decisions and mobilizing joint action" (UNDP, 2018). Foresight is a part of futures studies that "seek to help individuals and organizations better understand the processes of change so that wiser preferred futures can be created" (Inayatullah, 2008). Foresight is related to futures study. Futures study is a scientific, academic field of research involving

scholars and researchers. Futures study is grounded on social sciences because the field of study is led by scholars who specialize in disciplines with a social scientific perspective. On the other hand, foresight "refers to the application of futures studies methods and techniques by organizations to be prepared for the future" (Fergnani, 2020). Foresight is focused not only on identifying possible alternatives, but also on choosing the most preferred ones (Rohrbeck, Kum, Jissink, & Gordon, 2018). Foresight proceeds from the fact that the onset of the "desirable" option of the future largely depends on the actions taken today, so the choice of options is accompanied by the development of measures that ensure the optimal trajectory of innovative development (GIBS, 2019). "Although futures studies and foresight refer to the same set of methods and techniques to investigate the futures, foresight specifically designates the use of those methods and techniques as a management tool" (Fergnani, 2020).

Corporate foresight refers to application of methods of foresight by practicing managers to develop strategies. In faster changing more uncertain environments, more foresight is needed (Buehring & Bishop, 2020). The future does not exist in the present, but anticipation does, thus the form future takes in the present is anticipation. A better understanding of anticipatory assumptions requires learning the frameworks, narratives and variables that shape what can be imagined (Buehring & Bishop, 2020). For this reason, it is important to achieve consensus among the main stakeholders on the most important strategic directions of development by organizing space and props to begin the dialogue about the future (Buehring & Bishop, 2020).

Corporate Foresight

Corporate foresight "involves future-oriented awareness and planning, enabling businesses to respond quickly and effectively to future market threats and opportunities" (Hammoud & Nash, 2014, p. 1). It is also "a strategic activity using a set of tools to build a vision of future markets so that management can make decisions today" (Hammoud & Nash, 2014, p. 2).

In the following section, the application of the foresight approach in a corporate

setting is presented. It is stated that the approach is used to"(a) foster innovation, provide input for policy formation, (b) encourage strategic thinking, (c) identify investment opportunities, (d) generate visions of the future, (e) anticipate significant challenges, (f) trigger actions, and (g) promote public debate" (Hammoud & Nash, 2014, p. 3). Specifically, the activities of foresight involve "long-range planning, early warning systems for management, inputs for innovation, and decreased reaction time dealing with environmental change" (Hammoud & Nash, 2014, p. 3). The purposes of embedding the foresight approach into the corporate settings are the following: "Generally, innovation and competitive edge were considered both strategic (i.e., enterprise-wide) and tactical (i.e., departmental) motivation for and benefits of foresight practice" (Hammoud & Nash, 2014, p. 4). Reasons also include the need to "(a) create a competitive advantage, (b)influence customer perceptions of the company, and (c) anticipate change" (Hammoud & Nash, 2014, p. 4).

Moreover, the strategic foresight's benefits provide "the competitive advantage in terms of knowledge, category management capabilities, and consumer insights (Hammoud & Nash, 2014)(p5). Foresight activities present insights about potential future consumer demands, rather than focusing on the past needs of consumers. These insights are referred to as "whitespace and opportunity spaces [...] to described future needs, specifically, product or service areas where no offering currently existed from that corporation or within that industry's market" (Hammoud & Nash, 2014, p. 5).

Regarding the strategic foresight methods, practitioners mostly use scenario planning, trend analysis, environmental scanning, workshops and looking for weak signals (Hammoud & Nash, 2014, p. 5). Additionally, consumers values and the STEEP method are mentioned (Hammoud & Nash, 2014, p. 5). On the other hand, practitioners are less likely to employ "consortium events, the Delphi method, experiential futures, market segmentation, quantitative forecasting" (Hammoud & Nash, 2014, p. 6). As stated by the authors the

reason "varied from the lack of acceptance by the corporate culture, recession-related cost-cutting by clients or the company, or methodological conflicts with planning for the future (Hammoud & Nash, 2014, p. 6). Also, "quantitative forecasting, an approach based on extrapolation from historical data, was another method no longer used" in the corporate setting for foresight activities (Hammoud & Nash, 2014, p. 7).

In general, practitioners do not engage with methods that rely on historical data because "consumers rarely know what they will want; they only know what they want now" (p7). Interestingly, some companies do not use the scenario approach "due to a lack of credibility with the internal audience" (Hammoud & Nash, 2014, p. 7).

The process and methods used in foresight experience.
The strategic foresight practitioners start the project by identifying the specific concern or question relevant to the industry or department. Thereafter, when the topic of concern is defined, practitioners begin to develop an understanding of the external environment. These scanning activities "focused on picking up the early indicators of change (Weak Signals) [...], developing general trends [...], and trends rated to company-specific topics [...]" (Hammoud & Nash, 2014, p. 7). Next, the practitioners describe "how observations create meanings", in particular, "what the future changes might mean for the company" (Hammoud & Nash, 2014, p. 7). This activity entails the identification of themes, clustering, and trend description. The following step is scenario development. Scenarios are "stories of future, referred to the stage wherein practitioners and project participants arrived at a shared vision of one or more preferred future states" (Hammoud & Nash, 2014, p. 7). The scenarios are founded on "the previously identified signals of change and major trends, as well as the ways the company might operate in this state" (Hammoud & Nash, 2014, p. 7). Finally, at the end of the foresight project, " practitioners described a final foresight theme related to shaping the future. They used the scenarios, or preferred futures,

to construct actionable steps to address either the identified opportunities or threats uncovered in the foresight project" (Hammoud & Nash, 2014, p. 7).

Outcomes derived from foresight activities
Outcomes of foresight projects result in a report that is shared between other employees. The report is an important document because it prescribes actions needed to be taken by the entire organization. According to the study made by the author, the report highlights if "(a) the project question addressed new markets and new products or (b) the ideas and concepts could be translated into marketing, new product development, or acquisition plans, that bring new capabilities to the company" (Hammoud & Nash, 2014, p. 8). The report might include scenarios, themes and trends. The strength of foresight practices is in "providing the organization and leadership with sufficient time to act on the information" (Hammoud & Nash, 2014, p. 8).

Application of the outcome
The foresight project outcome is used for external and internal communication to facilitate "the sharing of ideas, examining new business models, and designing products with others in the company" (Hammoud & Nash, 2014, p. 9). Besides the use of the project's outcome for marketing purposes, "the practitioners also mentioned (a) ideation, (b) new products or services, (c) managerial planning, (d) marketing, and (e) customers. Practitioners commented about new products and noted that foresight projects were used to build a business case in order to justify expenditures needed to launch new offerings, identify products likely to do well across multiple scenarios, and contributed to products already in production" (Hammoud & Nash, 2014, p. 9).

Benefits of corporate foresight for the corporation
According to the result of the survey presented in the paper, the foresight practices positively result in shaping the future of the company; the outcome provides an opportunity "to understand the existence of several potential futures; develop a plan to turn a "big ship"; define what we can influence to shape the future; prioritize roadmap for growth" (Hammoud & Nash, 2014, p. 11). Also helps to "determine the right strategy to reach the preferred future, bring employees to realize how they contribute, and prioritize steps along the roadway to that future" (Hammoud & Nash, 2014, p. 11). Corporate foresight increases flexibility; "increases adaptability and agility when things change; look for a change" (Hammoud & Nash, 2014, p. 11). Practices also provide "insights into upcoming and large-impact changes" (Hammoud & Nash, 2014, p. 11). Moreover, foresight enables opportunity awareness, by enabling the firm "to see opportunities and trends" and uncovers hidden consumer needs, new business opportunities (Hammoud & Nash, 2014, p. 11). Additionally, the foresight activities can result in a change in customers' perception, organizational alignment, provide an understanding of future competitive threats, and resource allocation (Hammoud & Nash, 2014, p. 11). Lastly, short-term (0–3 years) foresight activities are proven to deliver relevant products to retailers and consumers (Hammoud & Nash, 2014, p. 11).

Strategic decision-making supported by foresight and design
Decision-makers need a new approach to plan, decide and act to strategically influence the environment in the future. In the light of fast-changing conditions, the author proposes strategic foresight as a complement to traditional, extrapolative forecasting, and strategic design as the systemic version of the more tactical product-service design (Buehring & Bishop, 2020, p. 408). None of these approaches is aimed to replace the traditional disciplines but rather enables practitioners to deal with the fast-moving, disruptive changes. Since it became important to "[...] apply methods that are sensitive to multiple ways of knowing, recognize multiple values and seek to expose deep worldview commitments" (Riedy, 2008, p. 150)

There are two types of changes that organizations should be concerned with: "the changes that are induced on the organization coming from the

world, called inbound change, and the changes that an organization can create to influence the world, also called outbound change or strategy (Buehring & Bishop, 2020, p. 408). The nature of change as a phenomenon is multidimensional. "Changes today are no longer happening in isolation — they are connected, interconnected, and occurring simultaneously, just as the forces of globalization, politicization, consumption, and commoditization are captivating the attention of business leaders across all sectors of the economy" (Buehring & Bishop, 2020, p. 409).

Today, rapid change and uncertainties urge organizations to think about the future. Long-term consequences need to be investigated and explored by decision-makers to prepare organizations for the future and make sure that organizations will be able to reach their goals. The pace of change is faster than before and "people, organizations, institutions, and nations, and the trends, events, and issues they deal with are more numerous and more tightly coupled than they used to be" (Buehring & Bishop, 2020, p. 409). The author calls for broadening the "range of capabilities in support of dealing with change in the external environment" and state that "conventional and reactive approaches need to be replaced with creative, ethical imagination — proactive capabilities" because by "adopting better ways of dealing with change must engage all our mental capabilities, including imagination and holistic perspectives, rather than relying exclusively on logical and linear processing" (Buehring & Bishop, 2020, p. 409).

The author argues that strategic foresight and strategic design are complementary means that can allow establishing a direction for organizations. " Strategic foresight is about scanning the environment for new events and drivers of change, and then applying appropriate techniques to anticipate the evolution of change, their consequences on the organization, and the responses, or decisions, most suitable in dealing with uncertainty (Buehring & Bishop, 2020, p. 410). Where "Strategic design is the application of future-

oriented design principles to create visions in collaboration across disciplines to drive and implement an organization's strategic goals" (Buehring & Bishop, 2020, p. 410).

Therefore, integration of foresight and design processes is an important function that can assist organizations in "anticipating inbound change from the external environment and identifying opportunities to influence the future to outbound action" for building long-term sustainable directions (Buehring & Bishop, 2020, p. 410). Strategic decision-making can benefit from combining foresight, which renders the future context, with design, which visualizing alternative ideas and concepts that may be desired in the future. Thus, both are "complementing each other to envision, inspire, experiment and communicate the direction [...]" for the organization (Buehring & Bishop, 2020, p. 410).

Traditional approaches to strategic planning
Traditional forecasting and strategic planning are not appropriate for strategic decision-making because these approaches are not able to effectively "handle the complexity, discontinuities and rapid changes in today's disruptive business environment" (Buehring & Bishop, 2020, p. 411).These traditional approaches are introducing one possible story about the future based on the analytical process grounded on empirical data that is formulated using quantitively data and expressed with probabilistic methods such as growth curves, extrapolation, correlation, causal models (Buehring & Bishop, 2020, p. 411). "The major difference between these two approaches and the more contemporary technique of strategic foresight is that their purpose was to arrive at a single point of forecast — a prediction of the future at some point in time" (Buehring & Bishop, 2020, p. 411). The approaches assume that "the decision-maker has enough information about the current situation and the consequences of different decisions to make adequate judgments" (Buehring & Bishop, 2020, p. 411). However, taking into consideration the complexity of the environment and uncertainty that comes with fast-paced change, today

predictions cannot be linear. "The world becomes increasingly connected. As a result, the proportion of what is unknown or unknowable in any situation increases to the point that uncertainty dominates" (Buehring & Bishop, 2020, p. 412). Hence, the traditional approaches in given circumstances are not effective. This perspective indicates that strategy should be considered as emerging rather than planned activity and the involvement of a diverse group of stakeholders in the planning processes is needed (Buehring & Bishop, 2020, p. 412). Yet, forecasting and planning are relevant and can be applied: they need to be used when the level of turbulence and uncertainty in the environment is low. However, when uncertainty is dominant, and disruption are common the complementary assumption suggests seeing the future as plural and exponential (Buehring & Bishop, 2020, p. 412).

The traditional strategic planning process implies that the essential information for decision-making is already given at hand in the present to formulate the objective that would enable the organization to reach the set goals. Still, according to the new perspective, the turbulent environment requires a vision of goals and short-term, experimental actions supported with continuous monitoring to achieve the desired outcome.

"The strategic use of foresight in business is often more about navigating through a dynamic environment, on the way to a destination, rather than laying out a straight or at least continuous course that we follow throughout" (Buehring & Bishop, 2020, p. 413). Moreover, "strategic foresight is about seeing the future in different ways — alternative futures — in which the external business environment may evolve" (Buehring & Bishop, 2020, p. 414). Imagining different future possibilities and outcomes, founded on trends and uncertainties, allows strategic decision-makers to formulate multiple, hypothetical scenarios and prepare the organization for resource allocation (Buehring & Bishop, 2020, p. 414).

Contribution of design to strategic decision-making
Human-centered design with the practices and tools for value creation placed focus on creating innovations that people would find useful, usable and desirable (Buehring & Bishop, 2020, p. 414). Uncertainties and fast changes are resulting in a shift of paradigm again, where the focus is being placed on the recognition of design's potentials to accompany velocity of change and assist to design for complexity. Design's orientation on complex socio-technical systems encouraged practitioners to move "beyond creating tangible artefacts into constructing complex systems, turning designers into facilitators and co-creators of new systems, services, and even policies" (Buehring & Bishop, 2020, p. 414). As was mentioned in the previous chapter (TYPES OF INNOVATIONs), "human-centered design as a creative problem-solving methodology leading to successful innovations" (Buehring & Bishop, 2020, p. 415) (IDEO, n.d). Design thinking is being considered as a core competency and harnessed within businesses to sustain innovation and competitiveness (Liedtka, 2018). Thus, designers' role is to discover and reveal the relation between novel trends in technology and culture, while decision-makers "develop new strategic possibilities based on their understanding of emerging challenges and opportunities in the global context of change" (Buehring & Bishop, 2020, p. 415).

Foresight and design create image of future
It is stands to say that design and foresight disciplines share a common characteristic which is they both "concern systemic efforts to make sense of an uncertain future, utilizing scenarios as common tools to envision, inspire, and communicate desirable directions" (Buehring & Bishop, 2020, p. 416). Strategic foresight and design have different advantages decision-makers can benefit from: Strategic foresight is focused on the inbound change, the changes that can impact the organization from the outside. It is used to navigate through the complexity of the environment to critically research and analyze trends and uncertainties to propose scenarios about alternative futures. Strategic

design, on the other hand, is focused on the outbound change, the changes that the organization can impose on the outside world. It primarily has creative and imaginative ways, supported by systemic thinking, to visualize preferred futures and prototype solutions the organization can use to reach objectives (Buehring & Bishop, 2020, p. 420). Both " these two approaches provide the decision-maker with an image of potential new future worlds and the actions that might influence those worlds" (Buehring & Bishop, 2020, p. 417). The use of foresight and design, as the new approach for decision-makers to explore strategic perspectives, has its advantages in times when uncertainty, disruptions and the pace of change are high.

The traditional planning and forecasting approach are focused on incremental improvements instead of transformational change and reinvention. Instead, strategic foresight and design provide "decision-makers with a shared understanding of change, and possible future scenarios and their implications" (Buehring & Bishop, 2020, p. 419). The new approach to strategic planning aims at creating a set of desirable futures and invites stakeholders to engage in imagining the future ecosystem by using design and foresight "to achieve deeper insights and alignment around current reality" (Buehring & Bishop, 2020, p. 419). It allows organizations to envision the long-term future, preferable scenarios and means to achieve it.

Futurist's perspective on Strategic Planning
The strategic planning process is concerned with the company's future and set of objectives derived from the present that would guide the company in the desirable direction. At the beginning of the strategy development, decision-makers should determine the year by which the organization desires to achieve set goals. Amy Webb (2019), in her article "How to do strategic planning like a futurist", discusses the aspects required to build the vision for the future. As was previously mentioned, during traditional strategic planning, companies create linear timelines (Buehring & Bishop, 2020). It provides certainly: "events

can be preordained, chaos can be contained, and success can be plotted and guaranteed" (Webb A. , 2019). In other words, it gives a sense of control over an uncertain future. However, the author claims that the process should start from defining a clear vision because when an organization faces great uncertainties the answers about how to approach them are not necessarily tied to a fixed date in the future (Webb A. , 2019).

Traditional linear timelines and tactical responses, without a vision of the loner-term future to the inbound challenges, drain the organization's resources and make them vulnerable to disruptions resulting in less control over how the whole ecosystem develops. A vision into the long-term future provides companies with an opportunity to start preparing and anticipating the future changes that might disrupt the industry and change the competitive landscape for all involved parties within the ecosystem.

Futurists Cone
The author suggests thinking about the short- and long-term simultaneously because uncertainty about the future requires organizations to engage with the future and the present together (Webb A. , 2019). The author proposes a futurist's framework of strategic planning. The framework is cone-shaped and has the following categories:(1) tactics (2) strategy (3) vision (4) systems-level evolution (THE CONE).

Tactics are referred to trends and probable events that organizations can already identify and act upon. "The corresponding actions could include things like redesigning products or identifying and targeting a new customer segment" (Webb A. , 2019). The strategy cone is supported by tactical decisions. This section in the cone becomes less certain it contains perspectives for the next 24 months to five years. The strategy cone aimed at describing the direction organizations will pursue. It contains "defining priorities, allocating resources, and making any personnel changes needed" (Webb A. , 2019). In most cases,

organizations are stuck in the loop between tactics and strategy. According to the author, decision-makers might think they are engaged in the planning process, but according to her experience, it results "in a perpetual cycle of trying to catch up: to competitors, to new entrants, and external sources of disruption" (Webb A. , 2019).

In order to avoid this loop, organizations should accept uncertainty by continuously reconfiguring the vision for the future. The vision is not specific in its details; however, it is needed so the decision-makers will be able to have some references while "iterating on the strategy and tactics categories as they encounter new tech trends, global events, social changes, and economic shifts" (Webb A. , 2019). The vision, five to ten years on the horizon, is a formulation of actions, including investment and research, that the leadership will pursue to reach its goals in the future. The last part of the cone is the system-level. This category describes disruptions that could happen in the far future. It encompasses the wider perspective on the industry, its developments, "the challenges of new technology, market forces, regulation, and the like" (Webb A. , 2019). In case the decision-makers will not act upon it then the terms of the future will be dictated by other actors.

It is impossible to predict how the events will unfold so the end of the cone is very wide; the goal of the cone is to describe the direction and actions that the organization should take in according to how they imagine the industry will evolve. Thus, the organization is developing the opportunity spaces to prepare itself to iterate, be flexible and respond to external developments, yet, aiming at that vision where the industry might be, so it can be the leader in the market by showing an innovative approach to the rest of the competitors. Working on the end of the cone enables organizations to be proactive actors by configuring the ecosystem and simultaneously cultivating a vision for what they will become. Such an approach allows organizations to be "more resilient in the face of ongoing disruptions" (Webb A. , 2019).

Integration of Service Design and Foresight for Service Innovation
In previous studies, attempts to create a framework to integrate foresight and service design were made. In the paper titled "Foresight and Service Design Boosting Dynamic Capabilities in Service Innovation" (2015), the authors aimed to identify novel opportunities for service innovation by "integrating the methods and tools of foresight and service design" (Ojasalo, Koskelo, & Nousiainen, 2015). The work of the authors exploring how both disciplines can facilitate service innovation from the dynamic capabilities point-of-view to respond to rapidly changing business environments (Ojasalo, Koskelo, & Nousiainen, 2015, p. 193).

According to the paper, dynamic capabilities are essential to be able to identify new opportunities for service innovation. Dynamic capabilities can be defined as organizational processes "that aim to gain, release, integrate, and reconfigure resources" (Ojasalo, Koskelo, & Nousiainen, 2015, p. 194). Resources here are defined as assets of an organization, including physical and human, that can be "used to implement value-creating strategies" (Ojasalo, Koskelo, & Nousiainen, 2015, p. 194). Dynamic capabilities are divided into three categories: "(1) sensing and shaping new opportunities and threats, (2) seizing opportunities, and (3) maintaining competitiveness through enhancing, combining, protecting, and reconfiguring the company's intangible and tangible assets" (Ojasalo, Koskelo, & Nousiainen, 2015, p. 194). Sensing refers to the ability "to recognize, interpret, and shape developments related" to technological choices, industry and markets development, and customers' needs (Ojasalo, Koskelo, & Nousiainen, 2015, p. 194). This ability requires scanning and monitoring the business ecosystem. Seizing refers to the ability to capture sensed opportunities to formulate strategic responses (Ojasalo, Koskelo, & Nousiainen, 2015, p. 194).

It is being argued that dynamic capabilities can be used to study innovation because the approach deals with opportunities brought by developments of

technological capabilities and customers' needs to produce new offerings and implement viable business modes (Ojasalo, Koskelo, & Nousiainen, 2015, p. 194). Moreover, the dynamic capabilities are important for service-oriented companies to manage innovations by regularly redefining existing offerings "to address frequent changes and emerging opportunities" and anticipate threats (Ojasalo, Koskelo, & Nousiainen, 2015, p. 194). Service innovations can be facilitated by the dynamic capabilities accompanied by future thinking (foresight) and design thinking (service design). Both future thinking and design thinking relate to dynamic capabilities because they are "focusing on figuring out and addressing changes and opportunities in customers' expressed and latent needs, market trends, technologies, and other evolving issues in business ecosystems" (Ojasalo, Koskelo, & Nousiainen, 2015, p. 195).

The paper suggests that service design should include future-oriented methods and tools because the service design process only "relies on empirical data that deliver insights that are valid only for the past or the present" (Ojasalo, Koskelo, & Nousiainen, 2015, p. 195). A new perspective called dynamic service innovation capabilities claims that it is necessary for service innovation "to empathically understand customers, to sense their (potential) needs well in advance, and to see dominant trends and promising technological options" (Ojasalo, Koskelo, & Nousiainen, 2015, p. 197). The author shows that both future thinking and design thinking can "help map a path into the future since it deals primarily with what does not yet exist "and because " both futures thinking and design thinking are about creative problem solving aimed at seizing new opportunities" (Ojasalo, Koskelo, & Nousiainen, 2015, p. 201).

Foresight and design thinking are capable to uncover customers' current and latent needs and identify and shape developments in business contexts. "Design thinking aims at a deep understanding of the context and constraints by immersing into the lives of the customers/users, futures thinking focuses on holistically analyzing the commercial, technological, cultural, ecological, and

political environment" (Ojasalo, Koskelo, & Nousiainen, 2015, p. 201). Thus, it can be said that foresight (future thinking) and service design (design thinking) amplify the process of service innovation. Foresight, future-oriented thinking, proposed tools and methods to imagine and create alternative futures. Service design, design-oriented thinking, "brings customers and other stakeholders and their needs into these future contexts and ideates and visualizes potential new solutions in creating desired futures" (Ojasalo, Koskelo, & Nousiainen, 2015, p. 208).

The Service Innovation
The service concept implies that the value is co-created by actors combining and exchanging resources within value constellations, making the service concept more than customer service added on to products (Kimbell, 2014, p. 34). Thus, service innovation refers to the rearrangement of capacities, resources and actors into innovative configurations of ecosystems to provide new value-in-use (Kimbell, 2014, p. 34). Innovation, in this matter, "exists through the bundling and unbundling of resources and capacities, resulting in new ways of doing things" (Kimbell, 2014, p. 35). Current studies about service design resulted in a new perspective that sees value co-creation through participation within the ecosystem that provokes new ideas on the design of innovative services (Kimbell, 2014, p. 36).

The author brings the term wayfinding as an opposite to the traditional, bird's-eye-view of strategy. According to Kimbell (2015) "being open to wayfinding within the environment, through improvisation and responses to new situations, and forging relations with different actors and seeing what unfolds, will lead to consistency of purpose that, in retrospect, can be identified as an emergent and yet valid strategy" as an opposite to the traditional top-down approach where the management assumes that is it possible create a strategy in advance with a completely static map of the environment (Kimbell, 2014, p. 39). The process of wayfinding is more suitable for times when uncertainty

and turbulence are prevailing; it implies iterative activities to create initiatives aimed at continuous learning and change to sustain organizations through changing environments (Kimbell, 2014, p. 48).

Traditionally, various elements within an environment are seen as "inputs to a system that then does things to them, resulting in outputs" (Kimbell, 2014, p. 40). On the contrary, the authors encourage to perceive these elements as having agency, roles and capacities. This view allows "exploring their mutual dependency on many different kinds of expertise and systems and their connections with many other actors" enabling them to take part in constituting a service (Kimbell, 2014, p. 40).

These configurations of actors are called hybrids; "a bundle of actors, which might be people, physical and digital objects, and resources such as data, knowledge or financial or social capital" (Kimbell, 2014, p. 42). Understanding their bundling as business offerings are important for designing and configuring new service offerings (Kimbell, 2014, p. 42). Moreover, the hybrid perspective focuses on capacities that actors, people and organizations, can contribute to the configurations of the resources and enable service offerings; "rather than seeing needs or product characteristics as pre-existing, this perspective recognizes that configuring resources in particular ways result in particular kinds of capacities or qualities" (Kimbell, 2014, p. 43)(43). Hence, value constellations are vital for doing strategic work for service-oriented organizations in times of uncertainty. Thus, designers should focus on the creation of innovative ecosystems which "results from the interconnections between actors of many different types, playing different roles and with mutual interdependencies involved in activities over time (innovation as a process)" (Kimbell, 2014, p. 43). In such innovative ecosystems, the actors define reciprocal terms and mutual benefits during an exchange throughout the value co-creation process. Particularly, value-in-use is co-created through interaction "with resources or organizational artefacts in their day-to-day

interactions with them" (Kimbell, 2014, p. 44). Moreover, "customers, end-users and other stakeholders as involved in co-creating value are collectively generating value in exchange" (Kimbell, 2014, p. 44). The process of value creation is "dynamic, interactive and non-linear" (Kimbell, 2014, p. 44) (Vargo & Lusch, 2004). While actors that are involved in an innovation ecosystem determine the nature of the value collectively; it is not a prerogative of one actor to determine it. Such collaborative consumption, in innovative ecosystems, results in new business models that provide access to resources for a period.

The challenge for service designers is to facilitate the co-design process of innovation ecosystems that combine organizational and user capacities in creating value dynamically for all parties and pay particular attention to the correlation between the emergence of value and origination of experience (Kimbell, 2014). The author summarizes important aspects that need to be present within an organization to innovate services in turbulent times by also mentioning the importance of dynamic capabilities as an organizational capacity to learn, develop and respond to opportunities (Kimbell, 2014, p. 46). According to Kimbell (2015) in order to be resilient, organizations need to implement continuous learning activities, including experiments based on research and insights, work with opportunities and then, as the result, determine how to reconfigure the resources so new combinations of actors can bring new capacities into being. Broadly speaking, the focus on the learning capacity enables organizations to support decision making in the fast-changing environment (Kimbell, 2014, p. 46). Scenario planning, agile development, user experience design and ethnographic fieldwork can be part of the iterative learning process.

Research Area

In the following section, the insights from the literature review are synthesized, framing the research area, and leading towards the formulation of the research question of the thesis.

It is admitted that "service design is still consolidating its methodological approach and is still open to changes and adaptation to methods according to a very fluid contextual condition" (Morelli & Götzen, 2016, p. 140). In times of uncertainty and turbulent changes, the adaptation of new methods for service innovations becomes needed more than ever. In the course of the literature review, the synergy between service design and foresight was discussed to support and argue the need for combining the foresight methods with service design methods for the development of innovative services.

It is valid to argue that capabilities of foresight and service design prescribe the integration of methods for service innovation. That is to say, both disciplines can enable dynamic or wayfinding capabilities of organizations (Kimbell, 2014). Meaning that foresight and the service design are sensitive to the environment through iterative activities of creativity and responses to new situations, shaping relations with different actors and perceiving emerging opportunities to identify and/or support strategy. (Ojasalo, Koskelo, & Nousiainen, 2015) Both possess abilities to monitor the ecosystem, to recognize - sense, and capture - size, relevant insights, to formulate capacities and strategic responses, amplifying the process of service innovation (Buehring & Bishop, 2020).

Foresight can help to understand the external environment and deal with outbound changes by rendering the future context. It encompasses methods to anticipate change with the subsequent consequences for the organization, which enable decision-makers to come up with responses accordingly. Also, the foresight's approach enables one to visualize strategic directions and initiate the dialog about the future; it provides a set of methods for stakeholders to engage in rendering the future ecosystem, envisioning the long-term future, preferable scenarios and means to achieve these, which creates a shared understanding of reality. It allows the organization to think about the future in plural form, envision opportunities, foresee challenges, initiate actions, and relocate investments to support and shape the preferred vision. The outcome of foresight activities presents opportunity spaces with a description of future needs or services that do not exist but could be relevant in the future.

Service design can help to create inbound changes by initiating proactive capabilities of the organization to engage with the dynamic-changing environment, develop new strategic possibilities, and help to visualize alternative ideas and concepts by bringing the needs of stakeholders in desirable future contexts (Buehring & Bishop, 2020). In comparison with incremental improvements of individual touchpoints, the design of new services requires the conceptualization of service propositions beforehand to minimize unnecessary spending in the development phase. The integration of methods should introduce to the customer possible service offerings with a compelling and wanted experience. In this regard, foresight methods enable the designer to derive insights from trends that might have a future impact on the needs and the lifestyle of people, and service design offers methods to frame the offerings into a cohesive presentation of service experience.

It is arguable to say that both disciplines can lead the design process to produce social innovation by inviting users who can bring their capacities as co-designers to begin the recombination of existing assets to achieve their unmet needs (Manzini, 2015). Methods should permit a shift from the conventional mode to the design mode by incorporating critical sense, creativity, and practical sense of dog owners to envision futures and describe suited actions to get to the preferable destination. Thus, the integration of methods will empower the organization to become a facilitator of social change by initiating

discourses between interested actors. Therefore, the organization will be able to bridge expert designers with dog owners in co-designing activities to utilize the needs, knowledge, and design capacities of the community to aid the emergence of new social structures. Moreover, the co-designing practices will enable the service provider to understand the perceived values of the customers and think about possibilities to influence the creation of value-in-use during the implementation phase.

Importantly, to mention, the integration of methods, let organizations avoid being hostages of incremental improvements and only tactical-led operations (Webb A. , 2019). In particular, foresight methods can render new spaces to accommodate available technological solutions to introduce a new meaning for the user. The integration promotes the radical type of innovation with design-driven research by contributing multiple ideas to examine potential patterns of meaning within the social realm (Verganti & Norman, 2014).

It can be concluded that the above-discussed similarities of features of service design and foresight encourage social and radical types of innovations and are more than suitable for service innovation through design-driven research. Therefore, the research question is formulated as the following:

"How can integration of Foresight and Service Design Methods foster Service Innovation?"

METHODOLOGY

A modified version of the Double Diamond is used to structure the methodological approach and guide the design process (Nessler, 2016) (Council, 2019). The aim is to formulate a framework, grounded on service design and foresight literature, that would support the investigation of the present context and enable us to imagine future opportunities (Fig. DD).

UNDERSTAND & DISCOVER	MAP & DEFINE	DEVELOP & EVALUATE	DELIVER & COMMUNICATE
RESEARCH	SYNTHESIS	CO-CREATION	VISIONING

Experience Map

Empathy Map

In-Depth Interviews

Personas

Survey

Ecosystem Map - Dog Owners

Innovative Ecosystem Map

Stakeholder Map - Company

Framing the project

Foresight Workshop

Stakeholder Map

Customer Value Constellation

Value Constellation Experience

Desk Research

Scan Cards

Context Map

Foresight Radar

The 2x2 Matrix

STEEP Framework

Future Scenarios

SENSING

SEIZING

The design process intends to examine the way service design methods can merge with the foresight methods to propose opportunity spaces that consist of plausible features for the company to align with the strategic decision-making process. The main goal is to create a portfolio of plausible futures together with dog owners to conceptualize and ideate an innovative configuration of hybrids into a representation of a future-oriented, innovative ecosystem for service innovation. By the similarities of the features and capacities of both disciplines described in the research area, the four phases of future-focused, design-driven research towards service innovation are: (1) Understand and Discover, (2) Map and Define, (3) Develop and Evaluate, and (4) Deliver and Communicate.

Based on understanding foresight and service design, presented in the literature review, the following methods for each phase are selected:

Phase 1: Understand and Discover
Framing the foresight project is the first activity in the design process (Fergnani A. .., n.d). It is required for an organization that intends to use explorative scenarios to examine multiple futures. The process outlines the criteria and objectives for the project in question and is divided into three steps: domain description, assessment, and logistics (Fergnani A. .., n.d). Domain descriptions are a vital part of project framing. It intends to make decisions regarding the type of future scenarios.

The domain description consists of a focal point, geographical boundaries, time horizon, and stakeholders involved. The focal point is a description of the subject the project intends to research upon. The outcome of this section is used as input for the scope wheel method. Geographical boundaries refer to the space where scenarios are going to be situated; usually, it's the country where organizations want to operate in the future. Time horizon defines the years in the future scenarios are going to cover. Involved stakeholders present

all involved parties that are going to be affected by the futures examined in the project (Fergnani A. , n.d).

The next stage of framing is called assessment. Here the project practitioners determine what scenarios are going to be used for. This section requires elaborations upon expected outcomes and measures to assess achievement. The former refers to variables that will be measured to see progress by the end of the project. The latter describes methods to assess the expected outcome after the project is finished (Fergnani A., n.d).

The last part of the framing part refers to logistics. These include the members of the project, duration, number of workshops, required resources, and the methods that are going to be used. Methods are defined based on the outcomes outlined in the focal point section (Fergnani A. , n.d). After framing the project, the design process proceeds with primary and secondary research activities based on the context mapping (Carleton, Cockayne, & Tahvanainen, 2013). The method intents to identify the main dimensions of the problem at scope; it is used to capture themes that emerge from the interview with the CEO of the company in order to outline research areas as it allows the research to "converge on the themes or dimensions of a particular topic or opportunity space" (Carleton, Cockayne, & Tahvanainen, 2013).

Primary research involves semi-structured interviews with dog owners and a survey that are required to research various users' and customers' contexts and relations between service receivers and service providers and their contexts. Secondary research is conducted with the desk research via the STEEP framework to conduct environmental scanning for changes within socio-cultural, technological, economic, environmental/ecological, and political realms. It "involves the systematic search for the forces of change in the environment — the very building blocks of scenarios — which are considered largely outside of the control of the organization" (Fergnani A. , 2020). The

environmental scanning exposes drivers of change, both megatrends in the contextual environment and micro in the transactional environment, thus identifying trends related to the company's topic of concern.

Phase 2: Map and Define
In the second phase, foresight and service design methods intend to prepare the ground for the exploration of alternative futures for service innovation. Based on research from the previous phase, the insights are generated with the following service design and foresight methods:

On the company's side, the stakeholder map is used to identify the role of each stakeholder to the company. The map shows the existing relationships between customers, employees, partner organizations, and other actors who have a direct or indirect influence on the company's provided experience. The value, in this case, refers to physical product, information exchange, and financial value (Stickdorn, Hormess, Lawrence, & Schneider, 2018, p. 59).

Complimentary, the ecosystem map or ecology map is used to visualize and investigate the relationships of hybrids of actors, including humans and non-humans, to establish a shared overview of value exchange between them (Stickdorn, Hormess, Lawrence, & Schneider, 2018, p. 62). This method is used to position the user in the center of the map to reveal relations to stakeholder who configure his/her experience.
The experience map is used to generalize customer-journey maps across different types of dog owners. The map presents an entire end-to-end experience that dog owners go through to purchase dog food (Gibbons S. , 2017). The experience map is used to understand the general behavior of the target audience regarding awareness, decision-making and purchasing habits - to have an overview of stages that dog owners are going through to achieve their goals.

The empathy map was created upon user interviews and is used to present an overview of the dog owners. It is used to articulate understanding about dog owners and help decision-making (Gibbons S. , 2017) . The map consists of four quadrants: say, think, feel, and do. It is utilized to translate the customer's perspective about the attitude towards products related to the dog's nutrition. The mapping also enables to build empathy with dog owners and further in the design process will be used to present during the workshop.

The personas method is used to create a portrait of the dog owners (Stickdorn, Hormess, Lawrence, & Schneider, 2018). The profile is created upon the synthesis of the research phase, including the interview and survey. The method describes the specific needs of dog owners, their behaviors, and issues concerning the current offering of the company. Personas will be used to address the implications of the scenarios during the workshop phase and discuss opportunities scenarios can bring to the lives of these people through the creation of innovative services.

Foresight methods are employed to synthesize the desk research and map future changes within the company's environment and corresponding developments that are derived from the STEEP framework (Miles, Saritas, Sokolov, & ., 2016). Forces of change have various definitions: drivers, drivers of change or trends. Regardless of the position, different researchers might take, it is understood that forces of change "are those repeated, lasting and consistent phenomena that we observe in the external environment in the present with the potential to change the future" (Fergnani A. , 2020). Thus, in any foresight project, "trend analysis is the most essential method of future research" (Van der Duin, Patrick, 2016, p. 40).

Thereafter, the topics from the environmental scanning activity associated with the project scope are visualized and documented using scan cards (Orazbayeva, 2017). The cards are made to ease understanding the trends

and driving forces. "The scan cards contain an illustration, a headline including a subhead, a description of the signal and its relevance to the topic, theme and research subjects" (Orazbayeva, 2017, p. 13).

Generic Corporate Foresight Radar is a method proposed to firms as a trend monitoring system to enable continuous scanning capabilities (Rohrbeck, Kum, Jissink, & Gordon, 2018). The method is suggested for a company's leadership to first seeks to identify the factors and forces of change and allow to start the process of "evaluation and creation of deeper insight into the amalgam of forces and factors that will affect the firm's current models, or which may offer it new future opportunities, as well as critically assessing sources of foresight" (Rohrbeck, Kum, Jissink, & Gordon, 2018, p. 14). The radar provides the framework to map megatrends based on STEEP outcomes which describe the contextual environment. This "environment consists of factors, social trends (STEEP framework) that have a long(er) time horizon and cannot be influenced by the organization" (Van der Duin, Patrick, 2016, p. 53). These are usually characterized as global or megatrends that are more pervasive and long-term lasting phenomenon (Fergnani A. , 2020). In its definition trend can be defined as "the direction in which values tend to move and which as the consequential impact on the society, culture or business through which it moves" (Van der Duin, Patrick, 2016, p. 41). Moreover, the radar accommodates drivers of change which are driving forces that are closer to the industry environment of the organization, also called a transactional environment. This environment "consists of developments at actors (like competitors, customers, suppliers, stakeholders) that have a short(er) time horizon and that are in relatively direct contact with the organization. The trends in this environment affect the organization, but the organization is also able to influence the trends" (Van der Duin, Patrick, 2016, p. 53).

Drivers of change are different from trends because they "involve factors and forces that change from year to year and may be amenable to stakeholder actions and strategic choices by way of one's investments, new alignments, infrastructure, R&D, innovations and business-institutional strategies" (Saritas & Smith, 2011, p. 295).

Phase 3: Develop and Evaluate
In the following phase, findings from the map and define phase are taken forward to provide materials to the workshop with dog owners for the scenario ideation process. The workshop is held with the target group of the company because collaboration and co-designing practices are "the key in providing divergent thinking for innovation" (Ojasalo, Koskelo, & Nousiainen, 2015).

The set-up of the workshop is described at the beginning of the phase where objectives, design, recruitment, materials, and attendee orientation are presented. Thereafter, the workshop will introduce to participants maps from the second phase of the design process to give an overview of the ecosystem where the dog owner is situated, the experience of food purchase, and the empathy map. Also, participants will be given a list of trends and drivers of change.

The workshop will proceed with the activity to create the 2x2 matrix scenarios (Fergnani, Alex, 2020). First, participants will be asked to familiarize themselves with global trends and driving forces. Secondly, participants will be asked to cluster together driving forces in groups that have a higher mutual impact on each other. Thirdly, the workshop will proceed further where dog owners will be asked to determine the extreme behavior of each cluster. Lastly, extreme behaviors will be ranked by two measures: impact and uncertainty (Fergnani, Alex, 2020). The goal is to find the most impactful groups and the most uncertain groups. In the end, these behaviors will then be placed on the matrix. These categorized behaviors of differently grouped driving forces will be the foundation for scenario building.

Scenarios, thereafter, allow participants to reflect on the presented materials. In the phase of sizing, participants are encouraged to have a debate to consider the implications of future changes on the company. As the output of the phase, several themes related to change are identified and subsequently clustered to identify major factors or behaviors. In the reflection process, dog owners are asked to compile a new innovative ecosystem. The process is done by elaboration on the present ecosystem through the lens of selected scenarios and megatrends. Participants will be guided through the process of co-creating new innovative service propositions. The workshop aims to develop a conceptual mechanism for the company to deal with inbound and outbound changes simultaneously through applying scenarios and collaboration with dog owners in the co-creative process.

Phase 4: Deliver and Communicate
In the last phase of the design process, the scenarios and the innovative ecosystem provide a basis for developing value constellation experience and customer value constellation.

At the end of the design process, the scenarios, value constellation experience, customer value constellation, and innovative ecosystem in presented to the CEO of the company in the form of a report (Hammoud & Nash, 2014). The following will allow the leadership of the company to construct actionable steps to address identified opportunities or threats, which the design process uncovered. The given arrangement of methods can support startups or small businesses who are deprived of access to large resources but need to outline a strategy for the future to innovate services. Thus, the focus of the design process is not on a specific user journey, but on an exploration of experiences that the company might provide to dog owners by joining present patterns of interactions and experiences with emerging social and technological trends to create innovative ecosystems.

The company will be able to anticipate the distribution of the value creation process by assessing a possible range of bundled actors and resources configured into offerings by dog owners. Therefore, the target audience of the company will be in charge of uncovering the capacities and roles of actors in value constellations. Importantly, to note, scenarios only offer the overall set of plausible value creations. However, the company needs to assess, during the development phase, its resources, and capabilities to know how value is created in practice and emerges in use within the context. Thus, allowing the company to evaluate the experience and subsequent events as they unfold during the user journey and support variations of value-creation at different time spans within the chosen context.

Perspective from a Futurist
In the long-term perspective, the given methodological framework provides the basis for an ongoing learning process, giving the company materialized and concrete examples of possibilities that correspond to the external changes, current tactical operations, and strategic perspectives (Webb A. , 2019). The implementation of the presented methodology should enable the company to have a set of methods to proceed iteratively and in an interactive manner the design approach to think about the short- and long-term simultaneously during any service-related developments. Also, described methods allow decision-makers the opportunity to think exponentially, aligning their actions in the present to actively shape the future (Webb A. , 2019).

The presented set of methods provide the means to understand possible futures, futures that could happen, and futures that are most likely to happen to support the decision-makers in crafting the desirable future they aim to achieve (Webb A. , 2019.

DESIGN PROCESS

Understand and Discover

Framing the foresight project.
The framing of the project is formulated upon the interview with the CEO of the company (INT). In the following section domain description, assessment and logistics of the foresight project are presented:

Domain Description: the scope of the futures

1)Focal issue:
The main subject matter is to explore the futures of dog owners, their latent needs and wants, in order to then recognize possible collaborations, whitespaces for opportunities, and explore the ways MÆT Pets can expand (ProjectCOntext).

2)Geographical boundaries:
The project is carried out on the territory of Denmark because at the moment the company operates only on Danish land. However, due to the rate of technological change and global socio-economic dynamics, it is reasonable to consider, global trends and drivers of change to describe the environment where the company is positioned (Alex).

3)Time horizon:
Scenarios are projections of five-ten years into the future. The time horizon is set to this specific period for two reasons; firstly, the level of uncertainty is high, and thus disruptions are more probable after five years because the level of unknowns is high (Webb). Secondly, the time horizon below five years can be managed with forecasting techniques and be subject to tactics and strategic decisions made in the present day (Alex).

4)Stakeholders involved:
The list of stakeholders external to MÆT Pets that could have an impact on the futures examined in the focal issue is the following:

-Veterinarians
-Pet stores
-Suppliers
-Grocery stores
-Kennel clubs

To conclude, the domain description is formulated as "How will the futures of dog owners be in five to ten years from now?" (WORKSHOP). Service design methods will be employed to describe the domain in detail.

Assessment

1)Expected Outcomes:
The outcome of the project can be measured by:
-Performance levels: the company can operate on a larger scale, including new collaborations, capabilities to build community relationships, and provide educational dog health.
-Organizational learning: the company is aligned towards the vision and strategic perspectives that support the vision.
-Strategic responses: the company will have new means to expand.

2)Measures to assess achievement:
The measures to determine whether outcomes are achieved include customer surveys, data analysis techniques, the number of new partners, the number of sales, the number of new customers, and an increase in followers on social media.

Logistics
Duration of the project: 6 months
The number of workshops: 1
Resources: the project is driven by the author of the thesis.
Foresight methods: Context Mapping, corporate foresight radar, trend cards, the 2x2 scenario matrix.

Context Mapping
The context mapping was used to outline an area of interest for the desk research (Carleton, Cockayne, & Tahvanainen, 2013). The following methods capture what is important to know concerning the foresight project. The method consists of a focal point in the middle indicating the scope of the problem in question. As it was mentioned in the domain description, the scope of the project is to explore "How will the futures of dog owners be in five to ten years from now?" (Carleton, Cockayne, & Tahvanainen, 2013). Thereafter, the process requires filling petals with topics related to the scope. These are the biggest themes to focus the research effort on using the STEEP framework.

The topics for petal sections are taken from the interview with the CEO of MÆT Pets. These are: dog's health, community building, communication, nutrition, commercial/sales, marketing, digital, and mobile-oriented.
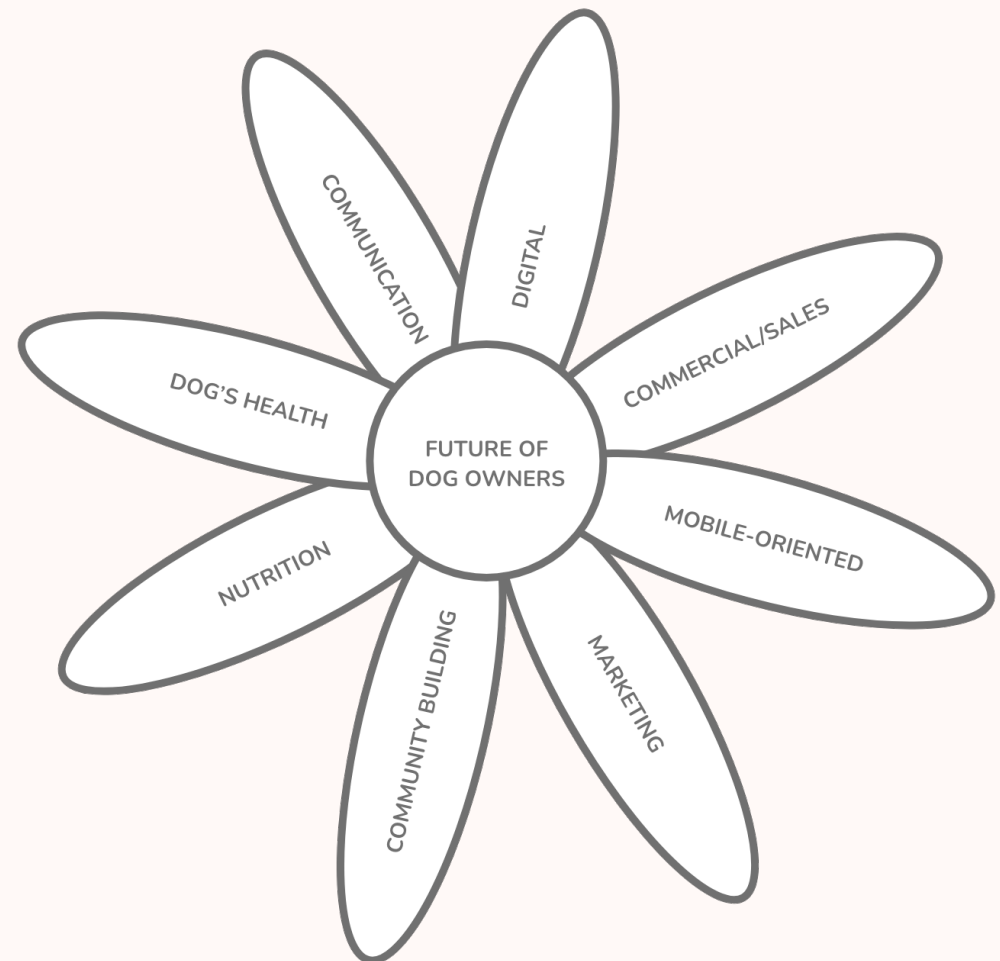
Desk Research

In the following chapter, the thesis outlines the online available information about topics discussed in the context map with its relation to dog owners. Desk research is conducted upon online articles, including industry reports, magazines, and references to scientific articles which describe the current conditions related to the topics using the STEEP framework to guide the research. The chapter covers the search for megatrends and drivers of change.

For the present day, there are 670,000 registered dogs in Danish households (Ridder, 2021). It is estimated that the pet retail market value is €1.30 billion and is growing. The growth is driven by premiumization and humanization where trends towards smaller dog races continue. Also, more channels are offering pet care products where the highest volume of sales is generated by supermarkets, such as LIDL, REMA 1000, Netto, Fakta, and Aldi. Moreover, garden centers are stepping into the pet market; Plntorama and Harald Nyborg provide a range of dry dog food and snacks (Ridder, 2021). Thus, it can be concluded that the retail sectors are moving towards offering dog food and accessories. In the USA alone, in 2019, sales through e-commerce channels reached $12.20 billion, where 66% are accounted for by pet food, meaning that the pet food industry has grown by 73% (Magazine, 2021).

The research led by the Department of Food and Resource Economics and the Department of Veterinary and Animal Sciences at the University of Copenhagen, reported that the overall number of dogs living in Danish families now exceeds the number of cats (Lund & Sandøe, 2021). Researcher Peter Sandøe (2021) says that "compared to the other animals, including cats, it's clear that people bond most with dogs. Among respondents with both dogs and cats who expressed that their pets meant a great deal to them personally, 78% stated that their dog meant most to them, while only 11% sided with their cat" (Lund & Sandøe, 2021). Dog owners in his study are also more prone to spending more money on veterinarian help in comparison to cat owners.

In general, pets in Denmark are considered family members. "Pet parent trends are similar to those followed in other European countries. However, Danish pet parents appear to be more focused on high-quality products and total transparency about ingredient sourcing" (Ridder, 2021). Considering pets as family members influence the growth of premium products and services. Pet parents are looking for clean and less processed dog food with a focus on healthy dietary options. Health concerns also increase people's awareness of the toxicity of synthetic chemicals and harmful materials (Gingr, 2020). Thus, encouraging them to look for natural pet products. The given attitude of dog parents results in longer life spans of their pets and involves continuous medical care where "advancements in veterinary technology, generating more costly medical care" (Gingr, 2020). Dog ownership is not seen as a luxury, but rather as a family member. As a result, pet care is more important than ever. This results in a high number of veterinary facilities and kennel clubs and even pet hotels, where owners can leave their dog for a period (Norman, 2014).

The market for pet accessories is growing as well as supported by digitalization, social media and pet domestication. The rising ageing populations and loneliness are the results of pet adoption; "an increase in households with multiple pets; higher incomes; and a growing number of single-person households and unmarried or childless households" (BusinessWire, 2021). On the other hand, the rate of households with children that adopt pets is rising because pets "have a positive impact on children such as preventing depression and loneliness; develop motor skills by feeding and grooming dogs; encourages outdoor activity such as regular walks with dogs; promotes emotional development by encouraging responsibility involved in caring for pets, and ability to treat behavioral problems in kids" (BusinessWire, 2021).

"Utilitarian and functional use of pets has decreased over the last couple of years. Pets today are part of the family and therefore households are beginning

to spend on pets on par with children. The emergence of pet parents as part of the humanization of pets trend is a key revenue-generating trend in the pet industry" (BusinessWire, 2021). Pet parenting is a global phenomenon: French Cafes offer fine dining dinners for dogs; architecture designers in Japan build specially dedicated places for pets, and in the UK companies are offering paternity leave if you are a pet parent; in Norway, pet parents spend the highest amount of money of the pet food and in Sweden law is protecting animals to ensure they live a happy life (BusinessWire, 2021).

Women are the top spending customers and also the primary caregivers. Moreover, factors "as a higher standard of living and increased disposable income to spend on pets; and desire among the old and young population for alternative companionship. Historically known as a rabies-endemic country, the gradual relaxation of regulations against pet ownership and the dissolution of myths surrounding dogs and public health has resulted in steady growth (BusinessWire, 2021).

The technology industry also penetrates the pet industry with products to ease the everyday life of both owner, and pet, improving animals' wellbeing (Langevin, n.d). It is important to be digital-first, meaning that the online presence of the brand plays a crucial role in delivering service and inspiring credibility and trust. Service management is moving online where customers can schedule appointments, receive reminders, and handle payments (Phillips, 2021). Digital also promotes a subscription model for businesses, where customers can outsource their tasks and routines. These include food delivery, toy delivery, grooming appointments. It allows businesses to have direct interaction with customers to create positive experiences. Regarding technology options, dog owners can track their pet's health, location, find veterinarians, dog sitters, dog-friendly parks, and even interact with your pet when you are not home. Some examples include: Furbo, a smart dog camera that allows owners to toss treats to the dog when she/he is not home. The

application also notifies the owner of the dog that starts to bark to check what is going on at home (Langevin, n.d); PitPat is an activity monitor for dogs that displays and keeps track of the dog's activities and weight (Langevin, n.d). There are even high-tech home entertainment systems that are made to provide mental workouts to dogs (Langevin, n.d).

The pet industry is already onboarding available technological means for innovation purposes. "Digital transformation in the business has now become a need. Through technology, many business models are solving the problems related to our pets which we earlier were facing" (Gautam, 2019). The millennials are known as the biggest supporters of digitalized businesses by becoming pet parents, blurring the line between children and animals, and employing digital means to take care of pets.

Pet parents are using wearables and trackers as must-have attributes for their pets. Also, digital means to use other services for nutrition consultation, behavioral consultation, and other specialist consults on-demand concerning their pet behavior (Gautam, 2019). Thus, convenience, wellness, and customization are at the center of trends (Phillips, 2021).

Coronavirus results in a high volume of dog demand across Denmark: a number of 44 breeders have reported an explosion of inquiries in recent weeks (CphPost, 2020). The COVID crisis has stimulated the adoption of new technologies by many businesses. Efficiency, seamless experience, and ease of interaction with a brand through digital means have influenced the pet industry in general. The main driver of the pet industry is the food sector and now e-commerce options that allow dog owners to purchase food online. "Pet parents are aware of the link between food and health, and they want to give their pet the best nutrition" (Phillips, 2021). The direct-to-consumer marketing approach promotes building personal relationships directly with the consumer to differentiate it from other companies. "These companies are

digital-first and rely on consumer feedback to help them innovate. Unlike large, established brands who spend months on a new product and then promote it with an expensive marketing campaign, these companies are nimble" (Phillips, 2021). Direct interaction with consumers allows companies to test, customize and personalize their products and come up with more necessary offerings (Phillips, 2021). Thus, it can be concluded that demand for premium goods and services will continue to grow. Pet parenting also impacts luxury inquiry; high-fashion designers, Chanel, Gucci, and even Swarovski produce premium products for pets (Phillips, 2021).

Customization, on the other hand, changes health, and food selections for dogs. DNA tests are used to produce custom pet food. Some of the test results are used to tailor food to physiological preferences to avoid possible health concerns that a breed might be exposed to (Phillips, 2021). Trends in sustainability influence the choice of brands. Sustainable manufacturing processes, eco-friendly packaging, eco-friendly toys from recycled materials, and sustainable food ingredients are in demand. Food waste has a big impact on landfills, water waste, and greenhouse gas emissions. Companies work on ways to upcycle ingredients that would otherwise be left to spoil (Topilnytska, 2021). Human health trends are leaning towards more natural products and pet owners are adjusting their pet's diets accordingly (Magazine, 2021). The Animal Welfare trend is driven by pet owners who consider the role of the brand's social responsibility an important factor in their purchase (Magazine, 2021). Also, environmentally informed owners are looking for non-meat protein sources such as plants and mushrooms; also, superfoods, grains, herbs and probiotics are becoming in demand (Pet, 2020). Moreover, natural, sustainable, and safe products are taking popularity (Philpott, n.d). Shopping local is good for the community and thus pet owners are buying products from small, local businesses for their pet needs. Besides supporting the sustainable agenda, dog owners are getting a better customer experience at local shops (Philpott, n.d).

One of the outcomes of pet humanization is pet socialization. One of the examples is Uber Pet. An option in the application allows dog owners to connect with a driver who is happy to accept pets (Philpott, n.d). Accompanied by mobile grooming that allows dog owners to request needed procedures right to their doors. Convenience and flexibility to schedule, pet stress reduction, and appealing to the older population, the option of mobile grooming has seen the acceleration. On transportation, pet-friendly travel is something that is rising in demand, with more hotels and Airbnb offering options to rent properties where animals are allowed. Other pet industry trends include pet photography, pet sitting, self-service dog wash, and veterinary telehealth services (Gingr, 2020). Moreover, subscription-based services are growing in demand. As a dog owner, you can get "deliveries of pet food, medicine (like monthly flea, tick and worming treatments), toys and treats". Another offering also provides dog owners with samples of dog food, toys, and other delicacies (Philpott, n.d).

Today, pet's lifestyle is similar to humans regarding nutrition, occasions for celebration, and social media presence. Moreover, "owners' who commit to the health and well-being of their pets are often environmentally conscious as well" (Pet, 2020). Food safety, sustainability and pet health are three important areas where brands can focus to win over today's pet owners. The pet care industry is being shaped by the biggest trend called "pet humanization". One of the results is the focus of pet owners on their well-being. Health and safety are driving forces in the trend, which "drives growth in this sector as pet owners are willing to spend more on premium, high-quality food and products to improve the health and longevity of their pets" (Pet, 2020). Custom pet food services are expected to convert mainstream. Indeed, the growing wellness trend and understanding of mental health is likely to see more happening in this area regarding pets (Philpott, n.d). Educating customers about ingredient sourcing, unique processing methods, and certifications is important, as well as replacing packaging to ensure food safety. "Resealable packaging

offers consumers additional value and dramatically reduces efforts required" (Pet, 2020). Also, materials of the packaging are becoming a concern of pet owners; "a growing number of brands are replacing unsustainable packaging with sustainable solutions such as fully recyclable mono PE for pre-made packaging or recyclable paper-based packaging solutions" (Pet, 2020). Pet owners also provide their dogs with botanicals that are an ingredient in the food to reduce stress. Additionally, "dog snacks and treats hold the most prominent portion of global pet food innovation" (Pet, 2020).

"Increasing disposable incomes, urbanization, and pet health awareness further support the rise of premium pet food " (Pet, 2020). Other factors of "increased pet ownership among young millennials and those from the baby boomer generation are contributing to the growth of pet ownership across the region" (Intelligence, n.d). Approximately "89.9 million dogs were domesticated by households in 2020" (Intelligence, n.d). The rapid pace of economic and societal changes and the influence of urbanization can be linked to trends in pet ownership. "According to the USDA, Germany is the largest economy in the European Union. It assures the pet food market with 45.0% of the German households, owning a pet and 21.0% of the household owning more than one pet, which suggests the extent to which pet humanization has been adopted in the country. This is massively increasing the growth of the pet food market" (Intelligence, n.d).

"Digitalization and artificial intelligence will also play an ever-growing part in pets' lives" (Pet, 2020). Online veterinary services can help create personalized nutrition plans and custom pet food based on breed, allergies, taste preferences, weight and body type, as well as activity levels. The evolution of custom-made pet food with personalized designs and a smaller ecological footprint can be tailored to the owners' preferences. The rapid growth in the global pet market, especially in western European countries, requires companies to focus on consumer experience, which remains the driving force of change.

Some organizations promote and support communities of dog owners because dogs bring social value by encouraging interaction between strangers. It is proven that "dog ownership improves human health in broad and impactful ways. Having a dog 1) decreases loneliness and stress; 2) helps us develop empathy; 3) keeps us active; 4) gets us out of the house; 5) provides a sense of security; and 6) teaches us responsibility" (DogSpot, n.d). People with pets are more open to social connections in the neighborhood. Dogs are kings of social lubricants, inspiring conversations, and interactions between people. "About 42% of pet owners described receiving what psychologists call 'social support' from someone they'd met through their pet" (Hecht, 2017). There is accumulating data proving that social isolation is a risk factor for mental health and friendships and social care as guarding factors for individual and community well-being (Hecht, 2017). Thus, but the potential of pets to bring people together is not to be ignored. Implications of pets' presence on the wellbeing of owners are also studied. Dogs are not only good friends but also "help create human-to-human friendships and social support, both of which are good for long-term health" (Skerrett, 2015). Pets are also improving health by fostering social connections, which are good for long-term health because people are more likely to live longer if they have solid social networks (Skerrett, 2015).

Other drivers supporting pet parenting are related to rental property and convenience regarding housing options that are suitable for pets. In-store experience that is tailored to pet owners with additional services. Workplaces are offering possibilities that "are permitting animals in workspaces to maintain and attract new talent, as well as increase productivity" (VPN, 2019). Restaurants and food venues are offering unique options, directed at dog owners" (VPN, 2019). Availability of rescue centers and shelter homes for animals is increasing. "Public spaces are becoming more animal-centric, with many cities transforming parking lots, street corners, and sidewalks into gathering areas for people and pets" (VPN, 2019). And lastly, "political leaders

are advocating for animal rights and pet welfare as more of their constituents demand change" (VPN, 2019). Thus, megatrends which describe the broader impact on the trends and drivers that are associated with pet are 1) climate change and resource scarcity, 2) shift in global economic power, 3) turbulent demographics, 5) technological breakthroughs (Pwc, n.d).

In-Depth Interviews with Dog Owners
Preparation of the interview
For qualitative research, the semi-structured type of interview was chosen; open-ended questions with follow-up questions if the interviewee decides to examine a category or topic more in detail. The interviewer only asked pre-defined questions plus follow-up questions when needed to unfold the discussion regarding pet care, pet food, employed services, subscriptions, and purchase experiences. The moderator's goal was to uncovering pain points, problems that dog owners have, and ask about preferred experiences, services or opportunities the interviewees are lacking.

Interviewees were chosen to be dog owners with diverse cultural, economic and social statuses including different age groups, incomes, and genders (Bjørner, 2015). However, all residents of Denmark. Moreover, the selection criteria required diverse types of breeds of dogs. Thus, the interviewer aimed at collecting distinct and rich data for further use during the second phase of the design process, oriented towards mapping activities.

Objectives for the process included research upon current dog food types and nutrition. Interpretation of decision-making process concerning the dog food purchase activities. Also, comprehension of a "day-in-life" of dog owners and dimensions to it. To uncover values an interviewee, hold about the food, nutrition, and health of his/her dog. Moreover, to uncover services/experiences that inspire or satisfies a dog's owner. And lastly, to identify current best-in-class experiences, meaning uncovering experiences that person finds best possible when taking care of the dog.

Execution of the interviews
In total, ten interviews were conducted, where one person was interviewed per time. Each interview lasted about 45 - 50 minutes and was recorded and later transcribed for the purpose of analysis.

Traditional coding was used to synthesize and analyze the in-depth interviews by organizing data by compiling transcripts for audio files; reading through the interviews to recognize patterns and common themes; organizing data into categories and analyzing categories (Bjørner, 2015, p. 97).

Reflection of the interviews
Despite efforts to compile a diverse group of dog owners, the interviewer could reach out to nine female interviewees and one male. Some interviews were conducted via video calls due to problems brought on by pandemics, which have influenced the process of recording and quality of communication.

Results of the interviews
In total, five respondents answered that they are in charge of buying food for their dogs; two said that their family members are in charge of that, and one claimed that they share responsibilities. Most of the respondents claim that the most important ingredients are when they purchase food. Four out of ten also answered that they looked for nutritional value, vegetables, per cent of meat, and proteins.

All the respondents claimed to buy dry food. However, five dog owners also mix dry with canned, or also give raw, cat food, chicken flavored or cooked themselves.Five of the respondents said they purchase food online; three claimed they are going to pet stores; two are buying at a veterinarian shop or online. There are problems with delivery and food availability for some dog owners; however, the majority did not express any difficulties in the process of food purchase. Regarding portion size, interviewees are following the recommendations of veterinarians, asking employees in the stores, or reading the dosage on the package.

Three out of ten respondents say that their dogs have a sensitive stomach. Others never tried other types of food due to the stomach sensitivity of the

dog. Respondents expressed a need for fresh food and meat. One mentioned the need for nutritionists specializing in quality food.

The spending on dog food varies from 200 kr. to 1600 kr. Respondents buy for one month or two months at a time. Certainly, spending depends on the breed of the dog. Dog owners would consider changing the brand if: four respondents answered because of the quality; then the price follows, three answered ingredients, and two mentioned aspects related to health. Also, suggestions by the veterinarian and a recommendation were mentioned.

Regarding using services, most of the respondents replied that a veterinarian is essential. grooming, dog sitting, dog meetups, dental service, insurance, food delivery, dog school, application with ingredients, and other similar options, advice about dogs, suggestions regarding other dog-related items were mentioned.

Survey

The survey was compiled to measure the magnitude of the answers from the interviews through triangulation between data points and answers forms. The survey questions were made in Danish and distributed through Facebook groups devoted to dogs' care. The survey was built upon a free version on a website called "Typeform", thus, due to its limitations, only the first hundred questions were captured.

The questions included the age of the dog owners; the type of dog breed; the question about allergies or health-related problems of the dog; the type of food that was purchased last time; the reason behind the last purchase; if they ever changed the type of dog food; spending per month; reasons that would stimulate them to change the current brand; and type of ingredients that look for in the dog food.

To tackle challenges related to subsequent analysis of the results, some string inputs were converted into numbers to prevent mishandling of the data and misinterpretation. These are age groups and columns about money being spent on dog food.

The age groups are the following: 20-25, 26-30, 31-35, 36-40, 41-45, 46-50, and 51 (50 and above). Importantly, to mention, the survey contains disproportional data because, as can be seen in the figure, most respondents were fifty and above (See Fig.).

According to the result

foder *købte du sidste gang*?   Hvad er din *alder*?

	51	3135	4145	50	2025	2630	3640	4650
Tør	■	■	■	■	■	■	■	■
Rå / BARF	■	■	■		■	■		■
Rå / BARF, Tør	■				■			
Tør, Jeg tilbereder selv, Rå / BARF	■							
Tør, Rå / BARF	■		■					■
Tør, Rå / BARF, Jeg tilbereder selv	■							
Tør, Dåse(Våd)	■	■				■		
Tør, Jeg tilbereder selv			■		■			
Dåse(Våd), Tør, Pølse (Våd)					■			
Jeg tilbereder selv				■				
Rå / BARF, Jeg tilbereder selv		■						
Tør, Dåse(Våd), Rå / BARF							■	
Tør, Dåse(Våd), Jeg tilbereder selv			■					
Tør, Frisk (Let tilberedt), Rå / BARF								■

Left chart: foder *købte du sidste gang*? / Hvad er din *alder*?

Columns: 51, 3135, 4145, 50, 2025, 2630, 3640, 4650

Rows:
- Tør
- Rå / BARF
- Rå / BARF, Tør
- Tør, Jeg tilbereder selv, Rå / BARF
- Tør, Rå / BARF
- Tør, Rå / BARF, Jeg tilbereder selv
- Tør, Dåse(Våd)
- Tør, Jeg tilbereder selv
- Dåse(Våd), Tør, Pølse (Våd)
- Jeg tilbereder selv
- Rå / BARF, Jeg tilbereder selv
- Tør, Dåse(Våd), Rå / BARF
- Tør, Dåse(Våd), Jeg tilbereder selv
- Tør, Frisk (Let tilberedt), Rå / BARF

Right chart: valgte du dette *hundefoder*? / Hvad er din *alder*?

Columns: 51, 3135, 4145, 50, 2025, 2630, 3640, 4650

Rows:
- Min hunds helbred
- Bedre ingredienser
- Bertil er kræsen men holder af råt kød
- Venner
- Dyrlægen
- Min hunds helbred, Venner
- Bedre ingredienser, Min hunds helbred
- Mere økonomisk, Min hunds helbred
- Giver altid mine hunde tørkost
- Bedre ingredienser, Mere økonomisk
- Min hund er kræsen
- ve mig frem da hun blev småtspisende
- ng. Men det kræver tid og ekstra fryser
- Min hunds helbred, Bedre ingredienser
- Min hunds helbred, Bedre ingredienser
- ingredienser, Mere økonomisk, Venner
- Mere økonomisk, Bedre ingredienser
- r, Mere økonomisk, Min hunds helbred
- Dyrlægen
- e ingredienser, Vejledning fra opdrætter
- onomisk, Det er det opdrætteren bruger
- Dyrelægen, Min hunds helbred, Venner
- Mere økonomisk
- Min hunds helbred, Dyrlægen
- nds helbred, Grundet min hunds allergi
- Min hunds helbred, Mere økonomisk
- Dyrelægen, Min hunds helbred
- Den fik det hos opdrætter
- Anbefalet af opdrætter
- d, Bedre ingredienser, Mere økonomisk
- Opdrætters anbefaling
- ngredienser, Min hunds helbred, Venner
- Opdrætter

...lge et andet foder eller brand*?

Hvad er din *alder*?

Age columns: 51, 3135, 4145, 50, 2025, 2630, 3640, 4650

- Min hunds helbred
- Dyrelægen, Min hunds helbred
- Min hunds helbred, Bedre ingredienser
- At han ikke vil æde det mere
- ...mængder og konsistens samt på pelsen
- Dyrelægen
- Bedre ingredienser
- ...helbred, Dyrlægen, Bedre ingredienser
- ...den, da det er det sundeste for hunden.
- Mere økonomisk, Bedre ingredienser
- ...d, Bedre ingredienser, Mere økonomisk
- Bedre ingredienser, Mere økonomisk
- Noget min hund goder spise
- Dyrlægen, Min hunds helbred
- ...ser, produceret med dyrevelfærd for øje
- Bedre ingredienser, Min hunds helbred
- Min hunds helbred, Bedre ingredienser
- ...er, Mere økonomisk, Min hunds helbred
- Dyrlægen
- Min hunds helbred, Bedre ingredienser
- Min hunds helbred, Dyrlægen
- ...helbred, Bedre ingredienser, Dyrelægen
- Min hunds helbred, Mere økonomisk
- ...et bedre alternativ for min hunds allergi
- Ville aldrig vælge andet
- ...a det er det eneste mine hunde vil spise.
- Dyrlægen, Min hunds helbred, Venner
- ...redienser, Min hunds helbred, Dyrlægen
- At den spiser det
- ...helbred, Dyrelægen, Bedre ingredienser
- Mere økonomisk
- ...d, Mere økonomisk, Bedre ingredienser
- Vil aldrig skifte
- Vil ikke vælge andet
- ...ngredienser, Min hunds helbred, Venner
- ...ds helbred, Mere økonomisk, Dyrlægen
- Min hunds helbred, Bedre ingredienser
- Opdrætter

Map and Define
Experience Map

1. AWARENESS	2. LEARN	3. DECIDE	4. PURCHASE
- Owning A Dog - Adapting a dog - Buying a dog - Dog has health issues - Dog owner has financial resources to change the current type of dog food to a better one.	- Google - Facebook groups - Forums - Follow influencers - Family - Friends - Previous experiences - Veterinarian	- Veterinarian - Pet shop - Financial aspect - Health - Persuation of a brand - Advice	- Good ingredients - Nutritional value - Health benefits - Convenience - Brand

Empathy Map

DOES /

- Pays from 250kr. to 1600kr.

- Cooks for dogs (tuna, pate, bread, chicken).

- Asks the veterinarian for recommendations.

- Hire a pet sitter.

- Attends salon.

- Watching training videos.

- Spend evenings together.

- Does everything him/herself (grooming).

- Insurance.

- Rely on advice for food, something that was
  checked before in terms of quality.

THINKS /

- Ingredients first, convenience and price are both seconds.

- Ingredients would be the most important definitely
  and that our dog eats it.

- The nutritional value is important.

- Ingredients and price.

- It has to be affordable but still with a proper kind of quality.

- Ingredients are sort of fresh; the contents that look good,
  feel healthy; enough meat and vegetables.

- Everything that covers his needs.

- Supported by research.

SAYS /

- I don't care about price, brand, etc.

- I want good quality food and a lot of proteins for my dogs.

- Some types of dogs need to have specific diet!
  Thus, they are not able to eat variety of products.

- If the item is more expensive then I will still buy it,
  if it miles better than the other options.

- It has to be affordable but still with a proper kind of quality.

FEELS /

- Confident if the brand can be trusted.

- Can't rely on the online delivery service.

LINE /

"The is nothing more important that healthy nutrition, happiness and meaningful relationships. That's why every day I am trying to do something special for our small family in this big and hectic city".

36 years old

Restaurant Owner
Lives in Copenhagen

Live in an apartment in Vesterbro with her boyfriend and a golden retriever Juno

Personas

Needs:

- Life-work balance
- Quality products for her family including dog
- Availability of service to take "proper" care of Juno
- Variety of product and to choose from
- Suggestions about other related products

Challenges:

- Quality of ingredients is average
- Not enough research-supported products on the market
- Financially stable but can't find options that's why she cooks for dog
- Not able to rely on convenient service, thus she does most of activities related to dog grooming herself.
- She buys dry food, however, she doesn't feel comfortable giving her dog food that is made of secret ingredients

Opportunities:

- New venues and service for attentive dog owners who live in the city centre with their pets.

Short Description:

Just recently, Line and her boyfriend moved to the city centre. The line got a chance to open a restaurant and become a co-owner. It also meant that there would be very little time for her family. In December, the couple decided to take a small puppy from the shelter. The new job rush settled down, and now Line is spending all her time with those she loves. Being an owner of the restaurant not only means she knows how to run the business, but also prepares delicious meals and cherishes the quality of ingredients and well-balanced nutrition. The same kind of food quality she wants to give to her dog. In recent times she started to be interested in other available services regarding dogs health.
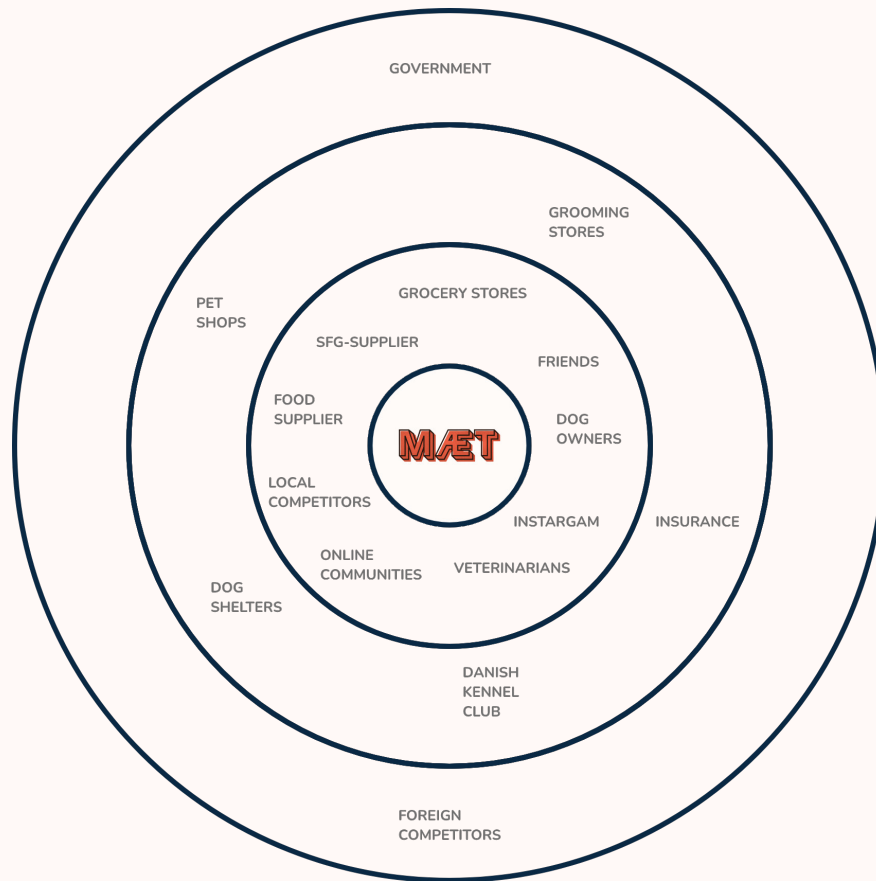
Key Attribute:

- Proactive
- Eager to try new things
- Social, extraverted and optimistic

Ecosystem Map

GOVERNMENT

DAY CARE
FOR DOGS

DOG
SITTERS

ONLINE
COMMUNITIES

MÆT

FRIENDS

DANISH
KENNEL
CLUB

GROCERY
STORES

DOG
OWNERS

FOREIGN
COMPANIES

WORK
PLACE

ONLINE
SHOPS

GROOMING
STORES

YOUTUBE
VIDEOS

INSURANCE

VETERINARIANS

DOG
SHELTERS

INSTARGAM

MUNICIPALITY

57

Stakeholder Map

GOVERNMENT

GROOMING
STORES

GROCERY STORES

PET
SHOPS

SFG-SUPPLIER

FRIENDS

FOOD
SUPPLIER

MÆT

DOG
OWNERS

LOCAL
COMPETITORS

INSTARGAM

INSURANCE

ONLINE
COMMUNITIES

VETERINARIANS

DOG
SHELTERS

DANISH
KENNEL
CLUB

FOREIGN
COMPETITORS

Trend Cards

Domain tag / #hashtags #about #signals   / #DRIVERS OF CHANGE

Title
PET PARENTING

Description

Instead of babies, people now are adopting animals and treat them like humans, buying expensive products and services.

Relevance

Interesting point to see animals as kind in terms of business offerings.

Potential

Become more engage with community of parent that will enable business growth

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Domain tag / #hashtags #about #signals   / #DRIVERS OF CHANGE

Title
MOBILE APPLICATION

Description

Mobile application provide access to the dog owners to digital solution, such as booking, online communicating and related services that are required to keep their pets happy.

Relevance

The mobile applications are consolidating into ecosystems.

Potential
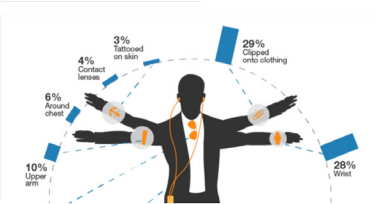
Fast way to connect with dog owners and other actors.

Domain tag / #hashtags #about #signals   / #DRIVERS OF CHANGE

Title
WEARABLES

Description

Wearables are widely used by dog owners, to track location of their pets, check activity and needed nutrition.

Relevance

Big future potentials regarding augmented reality.

Potential

Creates network of dog owners and engage them in activities.

Domain tag / #hashtags #about #signals   / #DRIVERS OF CHANGE

Title
CUSTOMER- ORIENTED MARKETING

Description

Direct contact with the customers result in better sales and is able to establish loyalty to the brand

Relevance

Face-to-face interaction and direct sale will increase to deliver the best experiences.

Potential

Dog owners can become permanent customers.

59

Title
DOGS WELLBEING

/ #DRIVERS OF CHANGE

Description

Spa, hotels and other businesses that people used to enjoy now are part of live of dogs as well.

Relevance

Dog owners like to take their pets for vacations

Potential

Influences the geographical scope.

Domain tag / #hashtags #about #signals

Title
SOCIALIZATION

/ #DRIVERS OF CHANGE

Description

Dog positively influence on the psychological and social well-being.

Relevance

Dogs are enabling people to interact, meet and communicate.

Potential

Social innovations

Domain tag / #hashtags #about #signals

Title
SERVICE MANAGEMENT

/ #DRIVERS OF CHANGE

Description

Driving force of mobile application and other IT components makes businesses redefine the offering and enables customers to fast and efficiently get products and services.

Relevance

Important to know the flexibility of the services that are delivered through IT.

Potential

Optimisation and fast delivery of services in demand.

Domain tag / #hashtags #about #signals

Title
HUMANIZATION

/ #DRIVERS OF CHANGE

Description

This drive makes dog owners reprieve their dog as equals. They buy expansive clothing, food and accessories.

Relevance

This trend is pushes production of human teams to the dog realm.

Potential

High quality dog food, medical care and even tourism.

60

/ #MEGATREND

Title

SUSTAINABILITY

Description

Sustainability affected dog owner's buying habits. Nowadays, people checking everything from the accessories to food ingredients demanding that only fair production is fair and right.

Relevance

Market demand is strong towards option that provide sustainable packaging and farmer's food for dogs.

Potential

Services offering sustainable product will only increase

/ #MEGATREND

Title

PERSONALISATION

Description

The trend is associated with tailoring products and services for specific needs of dog owners. Food, medicine, services and other needs and wants of dog owners will be satisfied.

Relevance

Dog owners themselves compose recipes and have full control over the quality of food

Potential

Begin offering services that offer full customisation and including food and other service.

/ #MEGATREND

Title

DIGITALISATION

Description

Digitalisation has impacted every person, business and nation. The trend have penetrated the dog industry offering IT technologies to make their parent feel secure and confident.

Relevance

The trend might trigger other drives and result in complete integration of people with technology

Potential

Availability of resources to develop digital solutions and everyone's adaptation rate to technological means make it very appealing

---

/ #MEGATREND

Title

URBANIZATIONS

Description

Large number of people decide to move from big city centres resulting in the growth of household that adopt dogs and infrastructure of public space, transportation and the city as a whole.

Relevance

This mean more people will require certain services and product to take care of their pets when they work.

Potential

Begin collaborating with large companies to provide dog care.

/ #MEGATREND

Title

DOMISTICATION

Description

The process of animal domestication results in establishment of close relationship and has huge impact on social and economy lives of people around the globe. This mega trend influenced on emergence of another: pet parent, indicating that for dogs it took a long way to come to our life

Relevance

This trend already impacted on all aspects of out lives, from economy to governmental policies about animal protection.

Potential

Dog became part of our live and families.

/ #MEGATREND

Title

PREMIUMIZATION

Description

Premiumization of dog product comes from disposable income and high live standards make dog owners to demand good quality products for their pets; best food ingredients and services.

Relevance

The trend might trigger other drives and result in complete integration of people with technology

Potential

Availability of resources to develop digital solutions and everyone's adaptation rate to technological means make it very appealing

Workshop

Due to the co-creative nature of the services' paradigm and foresight's capability to enable foreseeing and rendering futures, a co-creative workshop with dog owners took place to facilitate exploration of possible configurations, of innovative ecosystems with a focus on finding new actors; hoping that the outcome would provide a fruitful service experience that would be beneficial for both the service provider and the customers.

The goal of the session was to utilize the innate capacities of users to allow them to present their vision for the company within a five to ten-year time span. In that regard, the previous analysis carried out by the service design methods was employed as material for the participants to familiarize themselves with present information about a broader group of dog owners.

The purpose was to explore their role in the dogs' life well-being. Also, how they imagine the concept of wellbeing and attitudes towards it. The service design tools were presented to them in a specific order: the first one to be shown was the ecosystem map displaying the present interdependencies and value exchange between hybrid actors. Thereafter, they were presented with Personas so that they could validate and complement the summarized characteristics embedded within this archetypical tool in relation to the dog's well-being.

Later, they were presented at the same time the experience and empathy map to explore the objective and subjective aspects of the service experience: with an experience map, the actions to be done when buying food for the dog in a timely sequence and with the empathy map, the emotional dimension that those actions evoked in them. As with these tools, the current context of the service experience was presented to them; they had the foundations to start looking forward to the future: which was presented to them via Scan cards with both Trend Cards and Driving Forces given.

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Company: Important actors and domains within the ecosystem (Education and Communication, Community, Nutrition)

In-Depth Interview: Sebastian Krumhausen
Type: Qualitative Research, Semi-Structured Interview with open-ended questions.

Goals:
To Research Upon the following,
-Vision for the company
-The mission of the company
-Stakeholders
-Strengths and Weaknesses
-The reason to collaborate on the thesis (expected outcome)

1. What vision of the company do you have for 5 years?
In the next five years, we are aiming to become the main dog food company in Denmark or to put it in other words, the top 1 brand of dog food. That requires changing peoples' purchase habits by making them understand that fresh dog food (FDF) is the best for their dogs. My goal is to educate them so that they understand the benefits of FDF. This education process aims at providing the best information about dog food nutrition, working with experts, both local and abroad, and creating a community of people who, as well as me, believe that fresh food is the best for the health and happiness of their dogs. In order to achieve that we will continue operating from Copenhagen and primarily sell our product here. Then, when the base of customers grows, we can expand to other cities in Denmark. We still working in agile and experimenting with different ways to see what is the best way to expand. At the moment, we have specific objectives that are focused primarily on working with veterinarians, kennel clubs, pet stores and groceries to establish constant supply. On the other hand, we use media presence to talk with dog owners about FDF, nutrition, health and provide general support to dog owners. I hope one day dog owners by default will come to MÆT Pets

because we will establish a community that will have a positive impact on people.

2. What is the mission of MAET? How to do it?
I Believe in a community-driven marketing strategy where we approach potential customers one to one on social media and we empower customers with the knowledge about FDF so they can communicate that to other potential customers. As I already mentioned, we are going for kennels, breeders, dog food retail shops, where people are looking for high-quality food. We use also meal boxes, subscriptions, shops, direct sales and mobile points of sale.

Providing customers with better alternatives; locally produced dog food. Dog food with less animal protein over time as well. The core is that our focus will always be on the upper part of the value chain, meaning towards B2B and B2C. We will have partners who go both ways. What will be important is communication. Having direct one-to-one connections and relationships. In other words, customer success and marketing to people. Another goal is to fully outsource the value/ product delivery, where the third party is responsible for production-related operations and all-delivery related activities, including storage and logistics. Then we can think about other Nordic markets.

3. Who are the stakeholders? Important actors who have a direct influence on the business processes.
At the moment these are the delivery company, producers of dog food, veterinarians, kennel clubs, pet stores, grocery stores. In the future, this might change. We also are collaborating with some governmental agencies for advice regarding product distribution and strategy.

4. What obstacles and barriers you are facing at the moment?
At the moment it is the subscription friction and logistics because the unit cost breaks because it is expansive and complicated. And another point is delivery to the customer; can use some help to access and create sustainable

packaging.

5. What are your strengths and weaknesses at the moment?
We are a blue whale, meaning first in Denmark. We are mobile-oriented, very digital. The product is very good, with good people on board to help build the company. Resourceful. We are able to priorities what is the most important based to date to focus. And people are helping. The weaknesses are, again, logistics. It's financially and time-consuming.

6. What do you expect from this collaboration on the thesis?
I am interested in how to build genuine, long-lasting relationships with dog owners. As people say, "People don't want to buy a quarter-inch drill. They want a quarter-inch hole!". I would like to understand how MÆT Pets can provide more value to dog owners in terms of community building, educating them about nutrition and health, and how to tackle other challenges that dog owners are having. And above that, how the company can communicate with dog owners in a productive manner. I would like to explore different ways our service can be extended and have a positive impact on the community through experiences besides the products. I believe exploring other viable and feasible options can support the growth of the company and keep us ahead of competitors.

Participant 1 - Surya

I: Can you please introduce yourself and tell us about your dog?

P: My dogs. Hello my name is Suriya. I am going to be 41 and I have two dogs, two chihuahuas, Jackson and Marley. One is 7 years old the other one is 8 years old.

I: Who buys the food for your dog? You? Your Partner? Together?

P: Well actually it depends. If we order online, then I buy the food for my dogs. If we go by a pet store, then we buy it together. Otherwise, I send my partner to the vet and then he buys food.

I: What is important to you when purchasing dog food? (Ingredients, Price, Convenience, Taste, Shelf life, Branding, Other)

P: 100% ingredients. I like to look if there is a lot of corn- a lot of fillers, then, I don't buy that. I like it if there is more meat and good. You can see the percentage on the bag. I want good quality food and a lot of proteins for my dogs.

I: What kind of food products for dogs do you buy at the moment? Do you prefer to buy fresh food or the dry type?

P: I buy dry ones, but I make food for them every day. They always have dry food in their bowl and every evening at dinner time they get some kind of food I make. Sometimes I give them potatoes and meat and I mix it. Or I give them dark bread with pate. Or mackerel or tuna. I give them variations: some fish, some meat, some veggies. So they get nutrients and oils. And then they have dry food on the side that they can eat during the day.

I: How do you purchase the food products? (Positive/Negative sides of the method)

- Is there a specific brand are you loyal to? Why this specific brand?
- is there a specific shop you are buying it from?
- Have you ever used online grocery shopping to buy food for your dog?

P: I buy it at a vet, pet store and online. Just going to an online pet store like Maxizoo and I order from there and they deliver. Online because supermarkets don't have the brand I buy for my dogs- its not high enough quality. Right now I am using Royal Canin. My dogs like that. It's the right size and they like the taste and they always eat it every time i buy it. So if I want to make sure they eat the dry food, I buy brands that I know they like. They deliver to our house, it comes with mail man. I order from Petworld and Maxizoo- they also have physical stores.

I: Do you, or did you, face any difficulties in the process of buying dog food?

- How do you choose the best, suitable food for your dog?
- How do you decide on the portion?

P: Nope. Easy. I tried so many different brands. I have had my dogs for 8 years. It has to be good quality, like it's always the ingredients. When I look at the food it has to be good quality. A lot of pet food has corn or stuff like that to fill it up. I want them to use proteins, I want them to use fruits and vegetables instead of a lot of corn. The portions - I buy 3 kilos that last a couple of months - I have small dogs. They only use the dry food to eat during the day because they get packages every evening. They have one main meal because they are small dogs- they don't eat a lot. So I can have a 3 kilo bag for 3 week and it is not a problem to store it.

I: Are there any dog food (other related items) (dry food, wet food, fresh food) that are currently missing on the market, according to your opinion?

- Does your dog have any allergies, intolerances or sensitive stomach? How do you cope with that?

P: Yes. I would like to have options for more fresh, good dog food. Where there is meat and vegetables. Without corn. If I have to make myself, I have to go buy the chicken, blend it, cook it. That's how I normally do it. And then I mix it with rice or whatever, potatoes or vegetables. I wish there would be more fresh food that you can go and buy. I know it doesn't last for many days because there are no preservatives in it, but then maybe you have it for three days. Or you can go and buy it every three days- once in a while give your dogs fresh food.

Intolerances, yes. It depends if you give them too much red meat, cooked fatty things- he get diarrhea. Or too many days when he eats a lot of fatty food- I need to give him lean food. Trial and errors.

I: How much did you spend last time on dog food? (What is your budget for the dog food for one week (month / per purchase)? How often do you purchase the food product?

P: I don't know. Let's see if I buy dry food, what does it cost- 250kr. That last couple of months, but then I buy a lot of normal food on the side. That is expensive because it is fresh food. But I also sometimes if I am not eating spicy food I give them for dinner. I buy fresh food every day for dinner- I go down and do my shopping every day. If I have food at the fridge, then I do fresh food by myself. And dry food every two or three months.

I: What would make you change your current brand?

P: If my dogs eat it, if they like a new brand and I can see that the ingredients are as good as the old brand. Price does not influence me- as long as it is good quality, I do not care.

I: What kind of services do you use to take care of the dog?

- 	Do you think about any digital solutions that are made for dogs? Is there a need?

P: I only use the ver. Because mostly everything else I do by myself - cut nails, bath, so on. And we don't have dog walkers.

Participant 6 - Søren

I: Can you please introduce yourself and tell us about your dog?

P: My name is Søren. I am 40 and I live here in Sydhavn. I got a dog in June who is Bella 3 year old Siberian Husky I got from a family that had to get rid of her cause they were moving out and it's the third dog I have.

I: Who buys the food for your dog? You? Your Partner? Together?

P: It's me because I'm single and I buy the food. Well I wish the best for my dog so I'd like to get great food for the dog and I'd also like to spend the money it takes.

I: What is important to you when purchasing dog food? (Ingredients, Price, Convenience, Taste, Shelf life, Branding, Other)

P: What I did first was to ask the previous owner of the dog what food were they feeding her because I wanted her to adjust to my new place and the new circumstances and I didn't want to change a lot of things so I think she should just eat the food she was used to and then I would switch to a nicer kind of food along the way but just not to make too many changes at one time. They were just feeding her this Pedigree thing from the supermarket which is not the nicest food but it's not bad food either some people are very against that kind of food saying it's like McDonald's for dogs. I don't think it's that bad so I bought 30 kilos of food from I just have the same kind as used to have and then I talked to my vet and that's what I've done with my previous dogs as well - just taking the advice from the vet if they advised me to have this or that food I will just buy. I went to the vet and they said they recommend this food which is much nice and so I bought a sack of that and now I'm just changing from one food to the another because I had all those kilos of Pedigree so I just wanted to not to throw that out and also you should not change food from one day to the another with dog food because she will get diarrhea. I will continue buying the good new food that the vet has recommended but it's very expensive buying it from the vet so I think I'll start buying the same food but from somewhere else because it's too expensive. So what I'll do is I with my previous dogs I used to buy from this company called

Zooplus and if you buy it from the German branch of the company and they send it to Denmark it's much cheaper than buying it from Danish brands. I am planning to buy the good food recommended, but buying it from this German place so I'll save some money.

I: What kind of food products for dogs do you buy at the moment? Do you prefer to buy fresh food or the dry type?

P: I've dry food because it's much easier for me and it's what she's used to eating. I know that I could buy canned food or I could even buy fresh food but I don't know. I think it's too much trouble and I think it's too expensive and I think it's a little disgusting dog food from a can and you know. I have my dog's bowls for the food in my bathroom and I wouldn't want a stinking bowl in my bathroom so I'm a fan of dried food and I know she would prefer canned food but hey that's not what I'm serving.

I: How do you purchase the food products? (Positive/Negative sides of the method)
- Is there a specific brand are you loyal to? Why this specific brand?
- is there a specific shop you are buying it from?
- Have you ever used online grocery shopping to buy food for your dog?

P: I bought it off the vet and it's way too expensive so I think I'll start buying it online so I would prioritize getting the nice food but trying to find that food as cheap as I can and then I like buying big bags of food because it's much cheaper to buy 30 kilos. I used to buy this brand called Hills because the vet recommended it and now I have a new one I can't remember what it's called. I talked about the Zooplus German branch that's what I've been using but because I'm not particularly loyal to that, if someone were offering better service or better prices I would choose another. I used to buy online- it's very practical and also it's nice that they send it to your door, it's heavy to carry 30 kilos of food from the supermarket so it's nice to have it brought to your door.

I: Do you, or did you, face any difficulties in the process of buying dog food?
- How do you choose the best, suitable food for your dog?
- How do you decide on the portion?

P: No, I think it's pretty simple to shop plus they are offering some kind of loyalty program that if you buy this and that much then they offer you discounts. I think you can even like to pay a small amount of money and then you join some loyalty club so I do that. The portions I leave up to the vet. I really trust them better. I also asked the breeder - where I got my own dog - but she's a nice woman but she's a crazy dog person and she's the kind of person who cooks her own food for the dog or prefers to serve raw food. I'm sure it's much better but it's just too much for me. I'm a busy man. I can't spend that much time on here, preparing food for the dog. It's the vet who suggested the portion yeah I asked, that you know my old dogs used to eat everything that was placed in front of them so I was interested in knowing how much or how little I should serve every day. I just follow those instructions but this dog is not like that she's not obsessed with food so I just make sure there's always food in the bowl and when she's hungry maybe it's also because the food is so boring she doesn't clean the ball, she only eats when she's hungry. Of course I'm interested in not having an obese dog but with this particular dog I didn't find its problem.

I: Are there any dog food (other related items) (dry food, wet food, fresh food) that are currently missing on the market, according to your opinion?

•   Does your dog have any allergies, intolerances or sensitive stomach? How do you cope with that?

P: Not really. I'm not missing anything as I said. I'm into dry food because I think the fresh food is too much trouble or too much money or just plainly disgusting. I have been thinking that maybe I should feed the dog more green food. What you get now is based on grain and meat and maybe I would like something with more vegetables but I'm not quite sure if it's good for the dog. I would have to discuss that with the vet but maybe I would like to get something with more vegetables in it. Maybe it's good for the dog and it should be good for the environment and climate. I'm conscious of that with the food I feed myself and try to have a green diet and not eat too much meat and maybe I should think the same along with what I feed the dog and

maybe less meat, but on the other hand that's the natural thing for dogs - to eat meat so I don't know if I have doubts and concerns about that maybe, if some brand offered more green diet that the dog would also like I think I would buy that. She's easy in that sense but then she's a young dog. Often dogs develop intolerances with aging and my old dogs used to have all sorts of problems and I needed also some special foods for them but at the moment - not really.

I: How much did you spend last time on dog food? (What is your budget for the dog food for one week (month / per purchase)? How often do you purchase the food product?

P: I was a little shocked how expensive it was buying this food from the vet. I don't know what my budget would be in a month, around 400 kr. I like to buy big bags and then only buy fresh food like every second or third month.

I: What would make you change your current brand?

P: Recommendation from the vet or price or that option of getting something that's more green or maybe the service that the companies offer. If it was much faster, cheaper, some sort of loyalty program giving me 3 dog treats.

I: What kind of services do you use to take care of the dog?

•   Do you think about any digital solutions that are made for dogs? Is there a need?

P: Well I go to the vet when I have to and then I buy food. I guess that's it. I do by choice treats for her as well and I often buy them at the supermarket when I go to this store called Maxi Zoo which is this huge store for all pet related things. I guess, if I found those products online, I would buy them just when I was shopping for dog food and if they were selling me some toys or some treats I guess I would buy one. Just because you already ordered something that if you buy more than this and that then you get the delivery for free. I think I would buy something more for sure; thinking at the moment, my dog walker has recommended buying her some sort of raincoat because it's going to be cold and windy and that would be easy for me online if I was shopping for dog food.

Participant 5 - Sol

I: Can you please introduce yourself and tell us about your dog?

P: My name is Sol I am 19 years old and I have two dalmatians.

I: Who buys the food for your dog? You? Your Partner? Together?

P: My parents do.

I: What is important to you when purchasing dog food? (Ingredients, Price, Convenience, Taste, Shelf life, Branding, Other)

P: I think the thing that we most look for is the fact that a lot of dalmatians need a certain type of food they can't really eat beef so they mostly are able to eat chicken so it's chicken based food we buy.

I: What kind of food products for dogs do you buy at the moment? Do you prefer to buy fresh food or the dry type?

P: It's dry.

I: How do you purchase the food products? (Positive/Negative sides of the method)

- Is there a specific brand are you loyal to? Why this specific brand?
- is there a specific shop you are buying it from?
- Have you ever used online grocery shopping to buy food for your dog?

P: Online. Page called Bitiba.dk. We buy Royal Canin and it's a type called Dalmatian so it's specifically made for them.

I: Do you, or did you, face any difficulties in the process of buying dog food?

- How do you choose the best, suitable food for your dog?
- How do you decide on the portion?

P: It is easy. Just going on the page and we order it every two month. We decided on this brand because of a veterinarian friend who said it was the best type of food for them. The portion is about 400 g. per day.

I: Are there any dog food (other related items) (dry food, wet food, fresh food) that are currently missing on the market, according to your opinion?

- Does your dog have any allergies, intolerances or sensitive stomach? How do you cope with that?

P: I don't think we are missing any food. But again, the vet has suggested this type of food.

I: How much did you spend last time on dog food? (What is your budget for the dog food for one week (month / per purchase)? How often do you purchase the food product?

P: We buy every two months. They have an offer where there are two bags of 12 kg for 800kr. So it's about 1600 per two months.

I: What would make you change your current brand?

P: I am not sure. Probably if there was a product that promises to be better for my dogs. Something that promotes health in dalmatians.

I: What kind of services do you use to take care of the dog?

- Do you think about any digital solutions that are made for dogs? Is there a need?

P: Just a veterinarian. Maybe where people can find a good veterinarian or advice about their dogs.

Participant -

I: Can you please introduce yourself and tell us about your dog?

P: Hi, I'm Rachel, I am 24 and I have a small Manchester terrier who is 2 years old and he is called Malmo.

I: Who buys the food for your dog? You? Your Partner? Together?

P:

I: What is important to you when purchasing dog food? (Ingredients, Price, Convenience, Taste, Shelf life, Branding, Other)

P: I buy my dogs food um yeah I'm on like a student income so it's not a lot of money but I spend a lot of money on my dog food.

I: What kind of food products for dogs do you buy at the moment? Do you prefer to buy fresh food or the dry type?

P: Ingredients definitely. Its fresh food. I normally buy him raw dog food but if I don't get raw dog food then I look for like a either dried or wet food that is healthy and has good ingredients but is also not overly expensive so I mean if it is the more expensive item then I will still buy it if it's miles better than the other options. I look at like the percentage of meat I look at the other ingredients like vegetables I try and make sure it doesn't have grains like rice and pasta yeah then I just make sure it doesn't have any like added filler ingredients and obviously if there's an item with lots of fillers and it's cheap or really expensive item that doesn't have that stuff I'll still go for the really expensive item.

I: How do you purchase the food products? (Positive/Negative sides of the method)

- Is there a specific brand are you loyal to? Why this specific brand?
- is there a specific shop you are buying it from?
- Have you ever used online grocery shopping to buy food for your dog?

P: Raw, fresh food and dry one. I always have both.

I: Do you, or did you, face any difficulties in the process of buying dog food?

- How do you choose the best, suitable food for your dog?
- How do you decide on the portion?

P: I well with the raw food I generally go into she's a small business and I generally go and buy it from her in person and I have a quite a nice relationship with her she's really nice when I buy the other dog food either go into the supermarket or I'll go into pet shop like Mini Zoo and Maxi Zoo. There is no particular brand I am loyal to, not at all. I would consider using an online store because I'm not from Denmark I don't know any trusted or reliable sources where I can online shop for dog food but if I did know them I think it would be a lot easier to get his food online.

I: Are there any dog food (other related items) (dry food, wet food, fresh food) that are currently missing on the market, according to your opinion?

- Does your dog have any allergies, intolerances or sensitive stomach? How do you cope with that?

P: I think there's a definite gap between really good high quality fresh food especially in supermarkets that seem to have really poor and a limited selection and really poor quality dog food so I think in the supermarkets they're missing a lot of good quality dog food. I don't think he has any allergies, however in my old house someone fed him really bad quality dog food and it didn't sit well so yeah but I do think that's an allergy. I think that's just he's not used to eating that sort of food.

I: How much did you spend last time on dog food? (What is your budget for the dog food for one week (month / per purchase)? How often do you purchase the food product?

P: Per week I probably spend about 100 to 150 kroner, yeah and then I add things like vegetables to his food that I bought for myself I'll give to him. I normally go every two weeks. My bill comes like 300/ 350 kroner and that's enough for two weeks.

I: What would make you change your current brand?

P: I am not loyal to any particular brand. I used to have one in the UK but I don't remember.

I: What kind of services do you use to take care of the dog?

• Do you think about any digital solutions that are made for dogs? Is there a need?

P: Yeah he goes to the vats but only when he needs to which isn't that often um other than that he doesn't really need it because he's short hair so he doesn't need to groom are an and then obviously has pet sitters because when I go away he has a pet sitter and I use Pour Shake. I think it would be nice to have an app well you could see sort of dog foods I don't know say there was a Pedigree, it's not that I like it but say they had an Pedigree app and it had all the different types of their products that they have and then it had like their ingredients list and price list and you could sort of go through their products and buy their products and read the ingredients of their prod-ucts on an app I think that would be quite useful because when you're trying to do it on like the Internet browser it can take a long time to try and workout what product is the right product.

Participant -
I: Can you please introduce yourself and tell us about your dog?
P: My name is Nina, I'm 20 years old and on my 7th birthday I got my dog Toby a Bichon Havanaise. He's now 12 years old and has always been very spoiled. He's primarily my dog but my grandmother and mother helps take care of him.
I: Who buys the food for your dog? You? Your Partner? Together?
P: My grandmother buys the food. Always.

I: What is important to you when purchasing dog food? (Ingredients, Price, Convenience, Taste, Shelf life, Branding, Other)

P: Our dog is very spoiled now old and very picky with what he eats. So we've been through a couple of different brands. Ingredients would be the most important definitely. And that our dog eats it.
I: What kind of food products for dogs do you buy at the moment? Do you prefer to buy fresh food or the dry type?
P: Royal Canin for picky small old dogs. We found out that mixing the two, dry and can, actually is quite a success. So we've been doing that for some time.
I: How do you purchase the food products? (Positive/Negative sides of the method)
•   Is there a specific brand are you loyal to? Why this specific brand?
•   is there a specific shop you are buying it from?
•   Have you ever used online grocery shopping to buy food for your dog?

P: At the vet store. Royal Canin, is the brand, because we can get that specific type that matches our dogs' needs best. And we never considered buying food at any online stores.
I: Do you, or did you, face any difficulties in the process of buying dog food?
•   How do you choose the best, suitable food for your dog?
•   How do you decide on the portion?

P: No, never. By the vets recommendation. When buying from the vet there's a return policy which means that If our dog didn't like it then you can return the package even though it's opened. And he helped us with the portions as well.
I: Are there any dog food (other related items) (dry food, wet food, fresh food) that are currently missing on the market, according to your opinion?
•   Does your dog have any allergies, intolerances or sensitive stomach? How do you cope with that?

P: No, not really. He is just a picky eater. We tried different kinds of food and found the best fitting product in the end.
I: How much did you spend last time on dog food? (What is your budget for the dog food for one week (month / per purchase)? How often do you purchase the food product?
P: We spend 250kr. per month. We buy it once a month.
I: What would make you change your current brand?
P: Maybe we will change the brand if a better price may be offered for the same quality that still fits our dogs needs.
I: What kind of services do you use to take care of the dog?
•   Do you think about any digital solutions that are made for dogs? Is there a need?
P: No need in my opinion. It will just take away the relationship and contact between a dog and it's owner.

Participant 8 - Veronika

I: Can you please introduce yourself and tell us about your dog?

P: Hello, My name is Veronika Machackova, I am 30 years old and I come from Czech Republic. My dog is called Nessie, I rescued her from a shelter in Czech Republic when she was around 10 months (they found her tied up to the gate so the age is only a guess) and I had her now for around 10 months. She is a mixed breed and has a lot of energy.

I: Who buys the food for your dog? You? Your Partner? Together?

P: I buy food for the dog.

I: What is important to you when purchasing dog food? (Ingredients, Price, Convenience, Taste, Shelf life, Branding, Other)

P: I did a lot of research about dog food and had a discussion with a friend who is a veterinarian so the most important thing for me is the nutritional value. I don't care about brands, price etc. Of course taste is also important but not if it compromises my dogs health.

I: What kind of food products for dogs do you buy at the moment? Do you prefer to buy fresh food or the dry type?

P: I am buying dry food that I use for normal feeding and wet food (cans or pouches) to use as a stuffing for long.

I: How do you purchase the food products? (Positive/Negative sides of the method)

- Is there a specific brand are you loyal to? Why this specific brand?
- is there a specific shop you are buying it from?
- Have you ever used online grocery shopping to buy food for your dog?

P: I am ordering all her food online from Zooplus.dk, they have amazing customer service and massive selection. When I had unopened food that Nessie couldn't eat due to stomach issues they returned me the money and told me to donate the food to a shelter. Also I don't have to carry the food to my place from a store. I would say the downside of ordering food online is that I don't know the size of the kibbles and if my dog will like the food. The food I am buying is Royal Canin, mostly gastrointestinal diet as Nessie sometimes has stomach problems or I buy the one for small breeds. The vet food in cans I tried only the Royal Canin Gastrointestinal and the pouches are Royal Canin Medium Adult.

I: Do you, or did you, face any difficulties in the process of buying dog food?

- How do you choose the best, suitable food for your dog?
- How do you decide on the portion?

P: I did a lot of research and know that fancy brands are not always the best. I am buying food from a brand that is doing extensive testing for years and is proven to provide dogs with all the nutrients they need. I would never feed my dog freshly prepared food as I know how hard it is to make sure the dog is having a well balanced diet. For the portion I follow the instructions on the bag the food comes in but mainly as a recommendation. My dog gets around 3-5 hours of exercise (not only walks but running and playing) daily and she does get more food than is recommended and also some treats and so far she keeps her weight and is healthy.

I: Are there any dog food (other related items) (dry food, wet food, fresh food) that are currently missing on the market, according to your opinion?

- Does your dog have any allergies, intolerances or sensitive stomach? How do you cope with that?

P: My dog has a sensitive stomach so she is having special food for that but it's nothing that would be hard to get. One thing I think is missing is dog food that is fresh but prepared by nutritionists specializing in that particular field. It would be much better than people just trying to guess what the dog needs.

I: How much did you spend last time on dog food? (What is your budget for the dog food for one week (month / per purchase)? How often do you purchase the food product?

P: If I divide it I think I don't spend more than 3-400dkk a month. I don't have any budget. I think I am purchasing food every 2 months or so, depending on the amount I buy.

I: What would make you change your current brand?

P: I would be willing to change my brand if there was another one with extensive research and tests that my dog would like. Or as I wrote previously, fresh food made by nutritionists specifically for a dog's needs. I guess there are nutritionists that would provide that person to person.

I: What kind of services do you use to take care of the dog?

- Do you think about any digital solutions that are made for dogs? Is there a need?

P: I have a dogsitter taking my dog out for an hour every day when I'm at work. I go to a veterinarian sometimes to get her claws cut since I'm not good at that. I think dog meetup would be a nice thing, not sure if it doesn't exist already. I would probably use that.

Participant 2 - Claudia

I: Can you please introduce yourself and tell us about your dog?

P: My name is Claudia and I live with my husband and our dog in Copenhagen. I moved here six years back and we got her as a puppy in February and at that time she was seventeen weeks and now he is eleven months.

I: Who buys the food for your dog? You? Your Partner? Together?

P: I would say it's both me and my husband. Depends who has time.

I: What is important to you when purchasing dog food? (Ingredients, Price, Convenience, Taste, Shelf life, Branding, Other)

P: I would say it's a little bit of everything. I can't elaborate that much around the taste. The dog is not a picky eater, most things we do for him but we make sure that ingredients are sort of fresh. We just look at the contents that look good, feel healthy, that there is nothing that we don't know about and there is enough meat and vegetables- everything that covers his needs.

I: What kind of food products for dogs do you buy at the moment? Do you prefer to buy fresh food or the dry type?

P: When we got him, the breeder had frozen meatballs, so we use those to begin with. But then after a while we changed to dry food.

I: How do you purchase the food products? (Positive/Negative sides of the method)
•   Is there a specific brand are you loyal to? Why this specific brand?
•   is there a specific shop you are buying it from?
•   Have you ever used online grocery shopping to buy food for your dog?

P: At the time we are happy with the current set up. We buy from a store close to us or we buy it online. Because we get it delivered the day after so sometimes we buy bigger quantities then we put some of it in our basement. Right now the brand that we use is called Acana. The online shop is called

Hunnie Shop. It's a prive one.

I: Do you, or did you, face any difficulties in the process of buying dog food?
•   How do you choose the best, suitable food for your dog?
•   How do you decide on the portion?

P: No. It has been super easy. We just got online in the store, clicked to buy and we had it the next day. We haven't had any issues. Thanks to that store we chose the most suitable food because we bought some other things when he was a puppy. We really liked their profile and things that they offered and other products were very good that we used. So we asked them for recommendations, and they recommended that brand and that type of food. So that's the way we went over to that. We first explained the details about the dog- the age and the breed and then they gave us the information. In terms of criterias is was mostly about the trust towards them, because they have recommended the products in the past so we actually went on with what they said there, but then i also been looking into it myself, both before and afterward. Usually what I look at is the percentage of meat vs. vegetables and other things, just to make sure that it looks decent. But I haven't got into needy-greedy and got into the details about food so I have based my choice on the trust. The bags contain recommendations regarding the portions, how much you should give to your dog based on the age and the weight. So we just gone after those recommendations and it worked for us.

I: Are there any dog food (other related items) (dry food, wet food, fresh food) that are currently missing on the market, according to your opinion?
•   Does your dog have any allergies, intolerances or sensitive stomach? How do you cope with that?

P: I can't say that I have explored that much since he is still so young. And we use the same type of product all the time. And there is a process when you want to change the food, you need to do it at a time, so his stomach is adjusted to it. We didn't play with food, we just picked what we liked. He

doesn't have any stomach problems with stomach, nothing we have noticed so far.

I: How much did you spend last time on dog food? (What is your budget for the dog food for one week (month / per purchase)? How often do you purchase the food product?

P: I can't remember for certain. I can't tell you. It was not important to us in this case. Usually I buy it together with lots of other things as well. How often, so there is a 2 kg bag and I think we buy it in four days, we buy bigger bads now, every second or third week. We buy several big packages so they last for a long time and we place it in the basement. We don't buy fresh food anymore, only when he was a puppy.

I: What would make you change your current brand?

P: In that case it will probably be if he got any health issues. Then I can change it. If he has any problems because he ate something inappropriate then we have some diet food. And that is just temporarily.

I: What kind of services do you use to take care of the dog?

a.   Do you think about any digital solutions that are made for dogs? Is there a need?

P: Veterinary, and we took him to the salon to cut his hair. We have a dog walk that helps us as well. You can find dog walked or dog kindergarten but we rarely use them. Maybe training videos that we might take a look at.

Participant 10 - Claudia

I: Can you please introduce yourself and tell us about your dog?

P: I'm a 27 y/o architect from Mexico, living in Copenhagen. I've had dogs as pets for all my life and currently, I live with Astro, a 3.5-year-old male whippet. He is fast, skinny but strong and has a lot of energy, so he needs to run a lot.

I: Who buys the food for your dog? You? Your Partner? Together?

P: I buy the food for my dog.

I: What is important to you when purchasing dog food? (Ingredients, Price, Convenience, Taste, Shelf life, Branding, Other)

P: Ingredients first, convenience and price are both seconds.

I: What kind of food products for dogs do you buy at the moment? Do you prefer to buy fresh food or the dry type?

P: I buy dry food. For some time I tried buying fresh food but it wasn't very practical (pick-up, storage). I also didn't see any major benefits compared to dry food.

I: How do you purchase the food products? (Positive/Negative sides of the method)

- Is there a specific brand are you loyal to? Why this specific brand?
- is there a specific shop you are buying it from?
- Have you ever used online grocery shopping to buy food for your dog?

P: At the pet shop in my neighborhood. I don't like that the product has a big environmental print since it's made in NZ and dispatched from Canada. But I've found that buying the brand I was used to getting in Mexico is quite difficult here since it needs to be pre-order with the veterinarian, it is also very expensive here.

I like Royal Canin. I see a very good result in the poop. My dog has a very delicate stomach and Royal Canin was able to control it. I also see a big difference in his fur and his breath is good. Since it is difficult to find close to my address in Copenhagen, I switched to a different brand, but I would switch to another one if it was convenient.

Yes, I used to order online back in Mexico and have it delivered the next day.

I: Do you, or did you, face any difficulties in the process of buying dog food?

- How do you choose the best, suitable food for your dog?
- How do you decide on the portion?

P: No, no difficulties. I decided on a portion due to the veterinarian's recommendation.

I: Are there any dog food (other related items) (dry food, wet food, fresh food) that are currently missing on the market, according to your opinion?

- Does your dog have any allergies, intolerances or sensitive stomach? How do you cope with that?

P: No, not that I can think of. But he has a very sensitive stomach. I used to get him Royal Canin "Digestive Issues for High Energy" and it kept it completely under control (he even stopped farting) When it got out of control I would also get him this liquid to help with the intestinal flora. Now that I switched brands his poop is not always firm and he has a lot of stomach noise but I haven't found anything to help with and Royal Canin's food is difficult to find close to my house.

I: How much did you spend last time on dog food? (What is your budget for the dog food for one week (month / per purchase)? How often do you purchase the food product?

P: I buy 6kg for 369kr. That is more than enough.

I: What would make you change your current brand?

P: Another brand that is also available for purchase close to my house and has good ingredients.

I: What kind of services do you use to take care of the dog?

- Do you think about any digital solutions that are made for dogs? Is there a need?

P: Regular vet consultations, dental services, insurance. Back in Mexico I used grooming services (shower and nail trim) every 3 weeks, I also used a doggy daycare for when I had full working days at the office. I also used dog hotels when taking trips, but these are all out of my budget as a full-time student in Denmark. I also used to buy my food online with a local pet shop and have it delivered to my house, they also kept track of my purchases and would contact me around the time I would be running out of food. It was a bit more expensive but I think it was completely worth it. All my dogs have also been to dog school, the kind where you would leave them there for 2-3 weeks and visit them on the weekends to train with them.

I know about apps for dog-sitting or walking, but I don't use them because they're not related to the app, they're just regular people signing up for doing this in their free time so i don't feel very safe with the services. I would like a chat service or something for when you're not sure if you need to take the dog to the doctor or just wait it out, especially after hours. I think the dog sitting app would work so much better if it was something like Uber, where you can rate them and if there's anything wrong with the service the app would respond, not the provider.

Perhaps a food subscription specially caters for your dogs needs. Like a subscription box.

Participant 7 - Dora
I: Can you please introduce yourself and tell us about your dog?
P: My name is Dora and I have a Fox terrier. Right now she's 16 years old. She's a pretty tiny dog or medium god. She used to be very energetic for the first 13 years of her life just trying out of stuff, running, right now she's a very calm old lady.
I: Who buys the food for your dog? You? Your Partner? Together?
P: It's me.

I: What is important to you when purchasing dog food? (Ingredients, Price, Convenience, Taste, Shelf life, Branding, Other)

P: I would say both, ingredients and price, I wouldn't go for the cheapest stuff but it has to be affordable but still with a proper kind of quality. So I'm not going for something that is extremely expensive because I can't afford it but something that is decent.
I: What kind of food products for dogs do you buy at the moment? Do you prefer to buy fresh food or the dry type?
P: It's mostly dry food. I buy big bag of dry food that is last for like a month and then I also buy some food in canes that she used during dinner sorry during the morning and then sometimes if I just have like if I cook some food for myself I when I used to eat meat and I used to make chicken I often used to just cut off pieces of the chicken that I wouldn't eat because I don't like them just boil them and she likes that a lot or often like make some pasta for her without any flavor and add some that to her canned food she really likes that.
I: How do you purchase the food products? (Positive/Negative sides of the method)
• Is there a specific brand are you loyal to? Why this specific brand?
• is there a specific shop you are buying it from?
• Have you ever used online grocery shopping to buy food for your dog?

P: I always go to the store. I mean I guess maybe sometimes they change the products in the store so you can get what you would like but I like the fact that it's always next and I don't have to wait for a delivery or I don't really plan ahead I just always go to a store I do my own shopping and then I buy the dog food so I can always find something for myself. Not really, but I guess from the affordable but still good brands I think Pedigree is a very common brand so I usually go by this.
My local shops that I buy at the markets it's like usually Kvickly or Fakta. I did consider online shopping for that matter, but it never really was necessary for me. It is kind of strange for me to go and look for dog food on a website. I feel like it's better for me if I can see it I can touch it, you know, even if there's dry food I kind of can see what's inside.
I: Do you, or did you, face any difficulties in the process of buying dog food?
• How do you choose the best, suitable food for your dog?
• How do you decide on the portion?

P: I mean maybe there wasn't a product that I wanted but other than that not really.

First I talked with my veterinarian when I first got my dog. I asked her how often I should feed her, what is the best idea, so she advised me but also my sister's boyfriend had a dog for a long time, when he was growing up so he knew a lot about dogs. There were always some friends around that knew something, but first of all it was definitely the vet just to confirm and then we also saw if she's hungry still, if she's fine, and she's a medium dog -she doesn't need a lot of food. She eats two times a day.
I: Are there any dog food (other related items) (dry food, wet food, fresh food) that are currently missing on the market, according to your opinion?
• Does your dog have any allergies, intolerances or sensitive stomach? How do you cope with that?

P: I think it would be a nice idea if there could be like you know kind of fresh vegetables or fresh meats instead of that's dry food or canned food, the one

that I'm just making for herself but maybe it could be ready out there on the market. There are those diets for people when they deliver food, then maybe they could make diets for dogs.

She eats everything, every single shoe and every furniture she can. She once ate a sponge and she had a blue poop, so she pooped blue and then we just went straight to the vet just to be sure and he was like no she's completely fine. She's unstoppable so she is all good. But if there's any problem or she has a running poop we just go to the vet but it was just normal.

I: How much did you spend last time on dog food? (What is your budget for the dog food for one week (month / per purchase)? How often do you purchase the food product?

P: I would say that I buy a big bag of dry food and I think that's around 200 kr., maybe 150kr and then around one time per week I buy 2 cans of food and that's around like maybe 180kr. so it's around 500kr. per month.

I: What would make you change your current brand?

P: If someone just would be like hey I know this brand is affordable and it's great food and my dog loves it and they will give some recommendation. I think it's just worth knowing from friends rather than like an advertisement.

I: What kind of services do you use to take care of the dog?

• 	Do you think about any digital solutions that are made for dogs? Is there a need?

P: Just a vet. I can cut her nails, she can sometimes get seen at the vet. I can do that and I shower her on my own. She just gets the vaccines and check-ups at the vet.

Participant 3 - Kastanie

I: Can you please introduce yourself and tell us about your dog?

P: My name is Kastania and I am 18 years old. I have two dogs at my mom's house. My parents are divorced so when my mom got a new boyfriend I made him get a dog and then we got the first one who's like a dog for hunting and then the year after we got another - a dachshund he's more for like he's not for hunting at least. They are super cute, but super noisy.

I: Who buys the food for your dog? You? Your Partner? Together?

P: My parents. I think it's my moms boyfriend. We buy huge bags of dry food.

I: What is important to you when purchasing dog food? (Ingredients, Price, Convenience, Taste, Shelf life, Branding, Other)

P: I think we changed between a lot of brands but it's mostly about pricing and what the entire family knows about dogs. I think ingredients and something that related to types of breeds.

I: What kind of food products for dogs do you buy at the moment? Do you prefer to buy fresh food or the dry type?

P: It's dry. One of our dogs just got an operation, then we started buying wet food for him. Sometimes we put some cat food on top because we also have a cat.

I: How do you purchase the food products? (Positive/Negative sides of the method)
- Is there a specific brand are you loyal to? Why this specific brand?
- is there a specific shop you are buying it from?
- Have you ever used online grocery shopping to buy food for your dog?

P: It's mostly online. At some point we got a subscription. And sometimes in emergency situations, if we travel with them we go to supermarkets. I think online shopping is easier. Otherwise, the only dog food you can but is in Netto and it is not that great, so we don't really want to drive to veterenarian to buy some real dog food. I don't think we have decided on the brand yet. It's called Excellent Pet, an online store.

I: Do you, or did you, face any difficulties in the process of buying dog food?
- How do you choose the best, suitable food for your dog?
- How do you decide on the portion?

P: We tried several brands before and saw that dogs don't really like it. When we previously ordered on the internet it did not arrive on time, so we were missing some. Its pricing or you don't get a lot in terms of quantity so you need to buy more frequently.

I: Are there any dog food (other related items) (dry food, wet food, fresh food) that are currently missing on the market, according to your opinion?
- Does your dog have any allergies, intolerances or sensitive stomach? How do you cope with that?

P: It is very different from dog to dog. We had some issues; because the dachshund is very small and the other one is big, so something that makes sense for both of them. They have different demands, one is more active and the other is not so something that works for both. We buy one type of food and then we share the quantity.

I: How much did you spend last time on dog food? (What is your budget for the dog food for one week (month / per purchase)? How often do you purchase the food product?

P: It is 300 kr per month. We buy much at a time so we don't need to buy that frequently.

I: What would make you change your current brand?

P: We changed a lot of brands. But it mostly depends on the quantity and portions of the food. And as well if dogs like it. I think the pricing and the ingredients make a difference and quantities.

I: What kind of services do you use to take care of the dog?
- Do you think about any digital solutions that are made for dogs? Is there a need?

P: Veterinary, and they don't get any kind of extra services. The dachshund get plugged once or twice a year, because of the hair. But we mostly do everything by ourselves.