Supporting SMEs within textile industry in the process of adopting a Circular Business Model: a research on the Service Ecosystem Concept

THESIS INFORMATION

UNIVERSITY Aalborg University, Copenhagen
MASTER'S PROGRAM Service Systems Design
PROJECT TYPE Master Thesis (30 ETCS)
PROJECT PERIOD February 2022 - September 2022
HAND-IN DATE Octiber 3rd, 2022
ACADEMIC SUPERVISOR Nicola Morelli
TITLE OF PROJECT Supporting SMEs within textile industry in the process of adopting a Circular Business Model
AUTHOR Marta Salazar Jimenez
STUDY NUMBER 20200742

AALBORG UNIVERSITET

ABSTRACT

KEYWORDS Circular economy, Circular economy business model, Service eco-systems, Service design, CE Ecosystem, System-levels, Eco-systemic flow.

The textile industry is one of the great polluters of all, resulting in a yearly climate impact of 75,600 tons of CO2 (Salas & Condorhuaman, 2009). Hence, the circular economy approach to fashion aims to redesign how clothes are made and used through better customer products and services (Ellen MacArthur Foundation, n.d.-a). Service design is increasingly seen as a promising approach to support the design of interventions to address complex development challenges (Osborne et al., 2022).

This master thesis investigates how to help SMEs within the fashion industry in the process of adopting a Circular Business Model through Service Design. The research focuses on understanding the role of service design in enhancing the SMEs' experience and process of adoption of a circular business model, in addition, a second line of investigation arose during the development of the project which focuses on finding different Service Design applications and concepts to support circularity overall, researching thus the Service Ecosystem concept.

The research of this master thesis is provided through initial research and a case study, guided by the Design Council´s Double Diamond model and its four phases: Discover, Define, Develop and Deliver, which helped structure the design process. This Structure is adapted to the needs and characteristics of the project by iterating the first two phases: Discover and Define. The outcome of the research through the case study results in a platform-based service that successfully covers the identified user needs. In the product report, the insights related to the platform-based service are presented, furthermore, this project addresses the Service Ecosystem concept through research and further exploration through the case study, the analysis of this concept can be found in the discussion chapter of this process report.

ACKNOWLEDGEMENT

Thanks to my supervisor, Nicola Morelli, for his support in the process of developing this master's thesis. Thanks a lot.

Thanks to my people, the Spaniards, the Australians, the Romanians, and the Chileans for all the support. For listening to all my complaints about life, because "life is hard and then you die". Thanks a lot.

Thanks to my family and friends in Bilbao, I know that the city is not the same without me, but someone has to save the world, baby. Thanks a lot.

And finally, a huge thanks to the guy that fixed my laptop one month prior to the deadline, man, I owe you a big one. THANKS A LOT!

TABLE OF FIGURES

TABLE OF CONTENTS

1. INTRODUCTION

1. INTRODUCTION

It is more than proven that the textile industry is one of the most polluting on the planet, to be more precise, being responsible for 10% of total global greenhouse gas emissions, the textile industry ranks second in the ranking of the most polluting industries on the planet (Saha et al., 2021). In addition, the industry is responsible for 20% of the global industrial water pollution as well as being one of the industries that consume the most natural resources, for example, 7000L of water are needed to produce a pair of jeans.

The Ellen MacArthur Foundation predicted that by 2050 the textile industry would use more than 26% of the carbon budget associated with the 2ºC global warming limit if the current linear "take-make-dispose" model continues (Ellen MacArthur Foundation, 2017). Considering that textile and clothing is an important sector in the global economy and a fundamental part of our everyday life (Ibid.), changing this "take-make-dispose" model by applying the circular economy principles is crucial to achieve a new textile economy model. Thus, the Circular Economy (CE) business model aims to close the material and energy loops, and prevent the overconsumption of resources (Saha et al., 2021).

This CE approach facilitates sustainable development at the micro level (enterprises and consumers) (Ibid.), thus, restorative and regenerative circular business models are a step towards achieving this new economic model.However, the adoption of these business models can be challenging for Small and Medium Enterprises (SMEs) due to the lack of knowledge of these innovative models and lack of support from institutions.

This master thesis project aims to support SMEs within the textile industry in the process of adopting a Circular Business Model (CBM) by focusing on researching the barriers that these SMEs face throughout the process and finding a solution to them with a Service Design (SD) approach. In addition, this thesis aims to investigate Service and SD-related concepts and their different applications to support circularity. Thus, this project presents two lines of investigation that meet in a case study and provide two different outcomes.

The first line of the investigation is carried out in collaboration with Sustainn, a sustainability consultancy company with the mission of guiding organizations towards a circular and sustainable economic model. The outcome of this research, which focuses on researching the CE topic and the barriers that SMEs face during the process of adopting a CBM, is a platform-based service.

This platform aims to find a solution to the barriers identified during the research by involving the target group of SMEs in the design process. Finally, the platform is prototyped and tested with the SMEs to gather valuable feedback for future concept improvements.

On the other hand, the second line of the investigation of the thesis arose during its development and was further carried out because it contributed to my personal interest while complementing the project and adding value to the final result. This second line of the investigation focuses on researching the Service Ecosystem (SE) concept and its applications to support circularity, and it results in a reflection suggested by the analysis of the data obtained during the research.

1.1 AUTHOR AND MOTIVATION

This Master's thesis has been developed and written by Marta Salazar in collaboration with the consultancy company Sustainn, for the Service Systems Design master's program at Aalborg University (AAU) campus of Copenhagen during the period January-September and has been supervised by Nicola Morelli.

For my Master's thesis, I wanted to take the opportunity to learn and work on Service Design by applying it to an unknown field, in this case, circular economy, that would help me better understand and learn about my discipline and to gain knowledge on a new domain. Since I have a significant awareness of sustainability issues, I decided to focus on the circular economy, a topic that has raised my attention for years, and yet, I had never been able to study and work with it due to a lack of time. Therefore, this opportunity to work with both disciplines motivated me to enrich my general knowledge and to learn how to apply my discipline to different fields.

1.2 ABBREVIATIONS

Below are listed the abbreviations used throughout this thesis.

CE-Circular Economy
BM-Business Model
CBM-Circular Business Model
SME- Small Medium Enterprise
SD-Service Design
SE- Service Ecosystem
AAU- Aalborg University
LI- LinkedIn
SBM-Sustainable business model
GDL-Good Dominant Logic
SDL-Service Dominant Logic

1.3 LEARNING OBJECTIVES

In this section, the official learning objectives of the Service Systems Design Master's degree are presented, as well as the personal learning objectives that I aim to achieve throughout the development of this project.

1.3.1 OFFICIAL LEARNING OBJECTIVES

The official learning goals issued by AAU (SSD Master's Curriculum 2020/2022, n.d.) are presented below. Students will obtain the following qualifications by completing the Service Systems Design Master.

Knowledge
• Must understand user-oriented methods and how to use this knowledge to target, segment, and profile users to define the business proposition and value in a design project.

• Must understand service characteristics and the way they are developed, organized, and represented.

• Must have knowledge of methodological approaches to user analysis and interpretation, in addition to methods and tools to support user engagement.

• Must understand and reflect on the theoretical issues related to building a service organization.

• Must understand theories on business models and innovation, as well as have knowledge of relevant topics in service design research or practice.

Skills
• Must be able to apply user research and segmentation methods to establish specifications and success criteria

• Must have high capabilities to engage with users and support their involvement and participation in service systems (synthesis).

• Must be able to understand, interpret, and appropriately address (synthesis) the opportunities and need for design-driven change within the organization.

• Must master and apply appropriate tools and methods to support innovation and change in organizations.

• Must understand and apply experience-related aspects of services that can support users' co-creation and participation of a service.

• Must be able to apply representation techniques and design tools to the development of new services and the organization of the interactions in a service, analyzing and addressing relevant conditions for the interaction between users and the service.

Competencies
• Must understand and be able to apply appropriate methods to organize functional and experiential aspects of design.

• Must be able to organize complex service architectures, defining rules, roles, user-related, and organization aspects (synthesis).

• Must be able to independently initiate and implement discipline-specific and interdisciplinary cooperation and assume professional responsibility (synthesis)

• Must be able to work and develop complex situations that are unpredictable and require new solutions (synthesis).

• Must be able to take responsibility for own professional development and specialization (synthesis).

1.3.2 PERSONAL LEARNING OBJECTIVES

In addition to the official learning objectives issued by AAU, some personal learning goals for this Master thesis are defined below:

• Challenge myself with this thesis and avoid being comfortable by researching unfamiliar topics.

• Learn about new service design applications and related concepts and be able to apply the new knowledge.

• Learn about the CE concept and design a solution to support circularity through service design.

• Successfully collaborate with Sustainn, complement each other in the process with our different capacities.

• Measure my capabilities as a service designer, recognize pain points to work on, and continue learning.

1.4 COLLABORATIONS

As CE is one of the fields of interest to be addressed in this project, a search was carried out on LinkedIn (LI) to find companies with which to collaborate. Since this field and the different frameworks and methodologies used within it were unfamiliar, it was relevant to find a company that could advise me throughout the process. Thus, Carlos León, co-founder, and CIO at Sustainn, was contacted via Ln and a collaboration proposal was presented. This proposal addressed areas related to CE from a service design perspective.

Therefore, this thesis was developed in collaboration with the company Sustainn-Circular Economy for a Sustainable Future. A consulting, research, and dissemination company that promotes the application of CE concepts for helping industries to improve competitiveness through the development of economic, social, and environmentally sustainable products and services oriented to the exploitation and efficient use of resources and waste reduction from the early stage of the design and development process.

The collaboration was an opportunity to define a problem statement by discussing ideas that addressed both fields, CE and SD. Additionally, working with experts within the field helped me validate assumptions, gain access to relevant information and contacts, and share knowledge and resources. In addition, this was an opportunity for both parties to collaborate toward a common goal that provided a new perspective and opened the door to further knowledge in unknown fields for both.

Both parties in the collaboration were aware of some limitations as the company and Carlos are based in Barcelona, Spain, and me in Copenhagen, Denmark. Hence, the possibility of having in-person meetings between the parties and with other stakeholders was minimal, therefore deciding that the project was going to be developed entirely online using platforms that allowed collaboration. These are: Meet for meetings and interviews, Miro for mapping out the methods used during the project development, and Google Drive to share information and store progress. This collaboration started with a general organization and structuring of the project with regular meetings scheduled to define concepts and check the general development of the project.

FIGURE 1. Carlos Leon and Rebeca Arnedo from Sustainn

2. METHODOLOGY

2.1 DOUBLE DIAMOND
2.2 MULTIPLE TRIANGULATION

In this chapter, the methodology that helped to develop the problem statement of the project is introduced. The Double Diamond model was used as a framework to structure the process and development of this project, in addition, multiple triangulation was carried out to avoid possible biases and increase the credibility of the research.

2.1 DOUBLE DIAMOND

For the overall structure of the process of this project, the Double Diamond was applied. The well-known Double Diamond was developed by the Design Council in 2005 (Gustafsson, 2019), which defined it as a "simple way to describe any design and innovation process" (Ball, 2019). The Double Diamond consists of four different phases where divergent and convergent thinking is presented, these being Discover (divergent), Define (convergent), Develop (divergent) and Deliver (convergent), beginning from an initial challenge or problem statement and ending with the delivery of a product or a service as the solution (Ibid.).

The "**Discover**" phase of the Double Diamond, focuses on researching the area of challenge to help the designers gain insights into the user's needs (Design Council, 2019). This phase "involves speaking to and spending time with people who are affected by the issues" (Ibid.).

The "**Define**" phase of the Double Diamond focuses on the interpretation and selection of the insight gathered in the "Discover" phase to redefine the challenge of the project (Design Council, 2019). This phase helps the designer to interpret the data to build the new problem statement (Penin, 2018).

In the "**Develop**" phase of the Double Diamond, designers develop potential solutions to answer the defined problem by prototyping, testing, and iterating new service concepts. (Penin, 2018)

The "**Deliver**" phase of the Double Diamond, focuses on delivering the final answer to the problem statement. The final concept of the project is delivered in this phase (Penin, 2018).
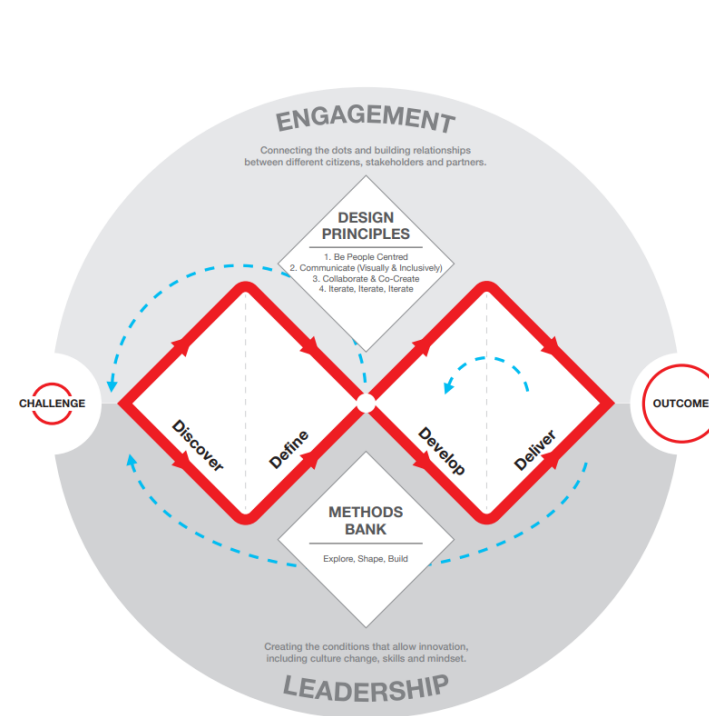
FIGURE 2. Design Coulcil´s Double Diamond Model

The double diamond simply illustrates intangible processes, yet it has been criticized for being too simple to solve the more complex design problems by, for instance, designers involved in systemic design (Drew, 2019). As a solution to this, Design Council created an updated version taking a people-centered design approach that engages them in a collaborative and co-creative process and leads them to encourage innovation by using different methods. (Design Council, 2019) As it is shown in Figure 1, the new version of the Double Diamond is a non-linear process, and within each phase, we can find iterative loops where exploration and testing may occur (Ball, 2019). Thus, this framework was used as the structure to develop this project.

This model helped to successfully address the problem statement in a divergent and convergent non-linear way by putting the user in the center and being able to adapt it to the needs and characteristics of the project.

Figure 2 visualizes the overall process of the project which facilitates the understanding of the different iterations carried out throughout it.

Discover 1
To facilitate the start of the project, it was decided together with Sustainn that SMEs within the fashion industry that have adopted or are adopting a CBM would be the target group. This decision was made based on the expertise and experience that Sustainn has in working with SMEs, which would facilitate the process by providing contacts and knowledge in the field, in addition to my interest in fashion, which would make the project more attractive to me overall.

As the CE field is broad and to start with a research question as narrow as possible from the beginning, it was assumed that the SMEs within the fashion industry often face some difficulties in the process of adopting a CBM. We consider this a reasonable assumption, as it was based on Sustainn's experience working with SMEs that have these characteristics and difficulties. Therefore, it was safe to establish our research question that would be explored further on this assumption.

With all that, the following **preliminary research question** was raised:

"Which difficulties do the SMEs within the fashion industry face while adopting a CBM, and how could SD help them on that journey?"
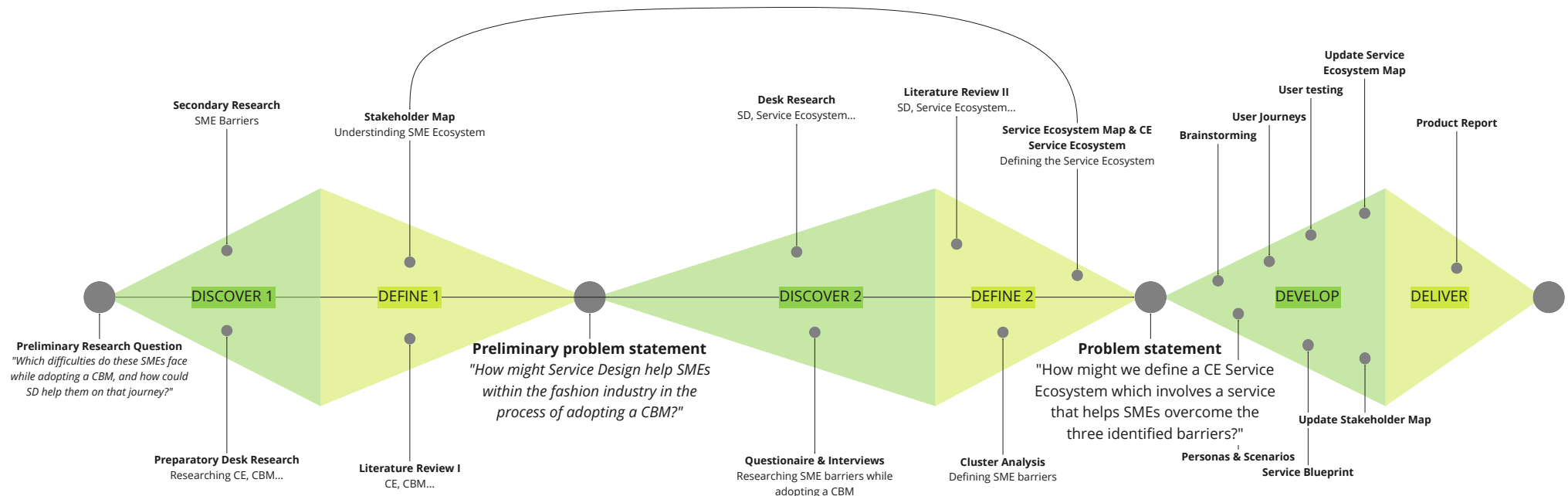

FIGURE 3. Double diamond followed in the process   17

Preparatory Desk research was conducted (Stickdorn, Hormess, et al., 2018b) to gain a general understanding of the topics that would be covered in the project. Due to my unfamiliarity with the CE field and everything related to it, it was necessary to gain a basic understanding of the field to carry out future research and interviews with potential stakeholders as we needed to speak the same language. The "snowball" technique was applied (Suárez-Eiroa et al., 2019, p.953), which consists of "using the reference list of a paper to identify additional papers" (Ibid.), helping thus to find relevant information for the research.

In addition, after researching and understanding the above topics, secondary research (Stickdorn, Hormess, et al., 2018b) was conducted to prove the assumption the preliminary research question was built upon by exploring the difficulties that SMEs face when adopting a circular business model.

Define 1
While this preliminary research was conducted in the form of Preparatory Desk research (Stickdorn, Hormess, et al., 2018b), it was also necessary to understand which stakeholders are involved in the SME's eco-system to "assess the degree to which they impact or are impacted by the project" (Project Management Institute & Project Management Institute, 2017, p.503). Therefore, by defining a Stakeholder map, it was possible to analyze

the context where they exist, the relevant actors around the SMEs, and the relationships between them (Stickdorn, Hormess, et al., 2018a).

Thus, the outcome of the first iteration of the Discover and Define phases are the Literature review block I and the Stakeholder map that can be found in the following chapters. Besides, the preliminary research question outcome helped build the preliminary problem statement as a result of the intention to use service design as the approach to meet the needs that these SMEs potentially had. Being it:

"How might Service Design help SMEs within the fashion industry in the process of adopting a CBM?"

This initial approach to the problem helped to focus the secondary research considering the perspective of service design as the answer to a problem.

Discover 2 and Define 2
In these phases, the case study of the project started. In the Discover 2 phase topics to cover the SD part of the preliminary problem statement and the Service Ecosystem concept that arose in the definition of the Stakeholder map were researched, giving rise to Literature review block II. Besides, more profound research on the barriers

was conducted through different research methods. Finally, in Define 2, the data was analyzed and synthesized, which helped build the final problem statement:

"How might we define a CE Service Eco-system which involves a service that helps SMEs overcome the three identified barriers?"

Develop and Deliver
In the second Diamond, the case study's outcome was developed using different design methods and the result was delivered. The outcome of this project can be understood as two outcomes that fulfill the two different lines of the investigation. On the one hand, a platform-based service was designed to help SMEs to adopt a CBM, which was presented to Sustainn in the Product Report of this project. On the other hand, a reflection on the Service Ecosystem concept is presented as the result of the analysis of the data gathered throughout the research and application in the case study.

18

2.2 MULTIPLE TRIANGULATION

Combining two or more data sources and two or more methodologic approaches helps overcome the fundamental biases that might arise from the use of a single method or data source (Thurmond, 2001). In addition, data triangulation allows researchers to support findings with different rationales and makes their data set richer and more understandable (Stickdorn, Lawrence, et al., 2018), therefore, the triangulation method was employed "to increase the credibility and validity of research findings" (Noble & Heale, 2019).

The combination of various types of triangulations is called multiple triangulation (Thurmond, 2001), which has been employed for the research of this project as data triangulation and methodologic triangulation approaches have been conducted. Data triangulation includes matters such as periods of time, space, and people (Noble & Heale, 2019), whereas methodological triangulation, which is the most common one (Heale & Forbes, 2013), consists in "combining both quantitative and qualitative methods to answer a specific research question" (Ibid.). After the preliminary desk research was conducted to gain a general understanding of the CE and related concepts, a secondary desk research approach was embraced with the aim to source data through exploration in the context of the difficulties faced by SMEs adopting a CBM to help determine if similar findings occur in different places and time. Comparing and analyzing different studies allowed me to identify patterns that helped "determine the completeness of my data" (Heale & Forbes, 2013). After the secondary desk research was conducted, quantitative and qualitative research methods in the format of surveys and user interviews were combined to provide a clearer understanding of the problem and increase confidence in the research data (Thurmond, 2001). Although some researchers might argue that combining "qualitative and quantitative paradigms differ epistemologically and ontologically" (Thurmond, 2001, p.255), both approaches are similar in scope and objectives, having thus the potential of exploring information that with the use of only one approach or research method might remain undiscovered (Ibid.).

The disadvantages of data and methodologic triangulation were taken into consideration while conducting the research. I was aware that data triangulation can easily entail a large amount of data that "may lead to false interpretations of the phenomenon being studied" (Thurmond, 2001, p.256), whilst the combination of qualitative and quantitative methods in methodologic triangulation might not always fill the gaps of each other, investing a larger amount of time in comparison to single strategies without guaranteeing a contribution to the research (Ibid.). Yet the multiple triangulation approach was adopted to strengthen research results by obtaining complementary findings from different methods to create the space to arise the biases that I might have and not be aware of.

3. LITERATURE REVIEW BLOCK 1

3.1 FROM LINEAR ECONOMY TO CIRCULAR ECONOMY

3.2 CIRCULAR ECONOMY AND SUSTAINABILITY

3.3 CIRCULAR ECONOMY LEVELS

3.4 CIRCULAR BUSINESS MODEL

3.5 DIFFICULTIES THAT SMES FACE IN THE PROCESS OF ADOPTING A CBM

3.6 CONCLUSION ON LITERATURE REVIEW BLOCK 1

In this chapter, the result of the preparatory desk research conducted during phase "Discover 1" is presented. The main field, CE, and concepts related to it, such as the different levels of circular economy, were analyzed to understand better the project topic. This facilitated the subsequent research and understanding of the problem field and the definition of the preliminary problem statement. In addition to this preparatory desk research, secondary research was conducted to prove the assumption the preliminary research question was built upon by exploring the difficulties that SMEs face when adopting a CBM.

"Which difficulties do the SMEs within the fashion industry face while adopting a CBM, and how could SD help them on that journey?"

3.1 FROM LINEAR ECONOMY TO CIRCULAR ECONOMY

As much literature and evidence support, climate change is happening faster than ever due to the consumerism model implanted in the system. Human activities and resource exploitation are the principal cause of the deterioration of the ecosystems that our societies depend on. (Guldmann, 2018) It is shown that between 2018 and 2019 the world's average temperature rose 0.4%, which might sound inconsiderable, but this has led to intense fires in some locations in recent years while others experienced heavy precipitations leading to flooding (van den Berg, 2019). This evidence of global warming and therefore climate change, originates in a system where the world's ecosystem stays at the bottom of the priority list while consumerism and capitalism remain at the top. This is perfectly reflected in the linear economy model that has remained prevalent since the industrial revolution (Guldmann, 2016).

This economic model is based on a take-make-dispose (Angelis, 2018), where companies extract raw materials that are made into products for later sale to the consumer. The consumer, after

some time, disposes of these products that are either landfilled or incinerated. In most cases, the embedded materials and the products are not recovered from being reused or recycled. Hence, the waste that this model generates is highly quantitative. (Guldmann, 2016) In this type of economic model, there is a continuous need and demand for raw material, and in consequence, "around 65 billion tonnes of raw material was extracted within 2010" (MacArthur Foundation, 2014), which "brings us to a system that now demands over 50 percent more than what the planet can regenerate" (Global Footprint Network, 2012).

Being proven that the world's eco-system cannot stand the lineal economy model for much longer as the planet has finite resources and a limited capacity to absorb waste (Bonciu, 2014), the economic model is moving toward a Circular Economy model which has "benefits that are operational as well as strategic" (MacArthur Foundation, 2014). This economy model is emerging and evolving fast as humanity is facing various challenges like climate change, pandemics, and environmental devastation, which widens social inequalities (Tonelli & Cristoni, 2019) (Liu, 2021); thus, CE is defined by many literature articles as "an industrial system that is restorative or regenerative by intention and design, uses and reuses natural capital as efficiently as possible, and finds value throughout products' life cycles"

(Koszewska, 2018). The word "restorative" is important as the Circular Economy "aims to repair previous damage by designing better systems and not only reduce pollution" (Murray et al., 2017).

Namely, it is a systems model in which every part of a product is considered a valuable resource that should be carefully handled from cradle to cradle (Guldmann, 2016). It eliminates the use of toxic chemicals, shifts towards the use of renewable energy, and aims for the elimination of waste through the superior design of materials, products, systems, and business models (MacArthur Foundation, 2014). The CE model involves closing, slowing, and narrowing the loop of materials' flows (Nikolaou & Tsagarakis, 2021), creating return cycles: resources–products–resources (Katarzyna Brendzel-Skowera, 2021). The idea behind CE is to "return to the production stage the end-of-life products which until now were intended for final disposal to landfills." (Nikolaou & Tsagarakis, 2021) and therefore preserve as long as possible the added value of products and eliminate waste, saving thus raw materials (van den Berg, 2019). To preserve the value of the products, the components and materials are extended through reuse, repair, and recycling, increasing, thus, the efficiency of the product and, in turn, reducing the need for a new product and raw material. (Guldmann, 2016).

In the following diagram in figure 3, the "butterfly

diagram" made by The Ellen MacArthur Foundation (The Ellen MacArthur Foundation, n.d.-a), the CE system is represented by showing the flow of materials, components, nutrients, and products within CE (Ibid.). This flow is divided into four closed cycles or resource loops, "i.e., the maintenance, reuse/redistribute, refurbish/re-manufacture and recycle loops" (Guldmann, 2016).

The maintenance loop shows the strategy of prolonging the lifetime of the products through maintenance and repair and by designing for durability, keeping thus the product and materials in use, and removing the need to create a new one (The Ellen MacArthur Foundation, n.d.-b).

The reuse/redistribute loop shows how the materials and the products can be reused by other users or slightly changed for their redistribution (Ibid.).

The refurbish/re-manufacture loop shows these two slightly different processes for restoring a product. Refurbishing a product is repairing it as much as possible without replacing components, whereas by re-manufacturing it, the product is disassembly, and components are replaced (Ibid.).

Lastly, the recycling loop shows the process of reducing a product to its basic material level, thus allowing the use of these materials to create new products (Ibid.).
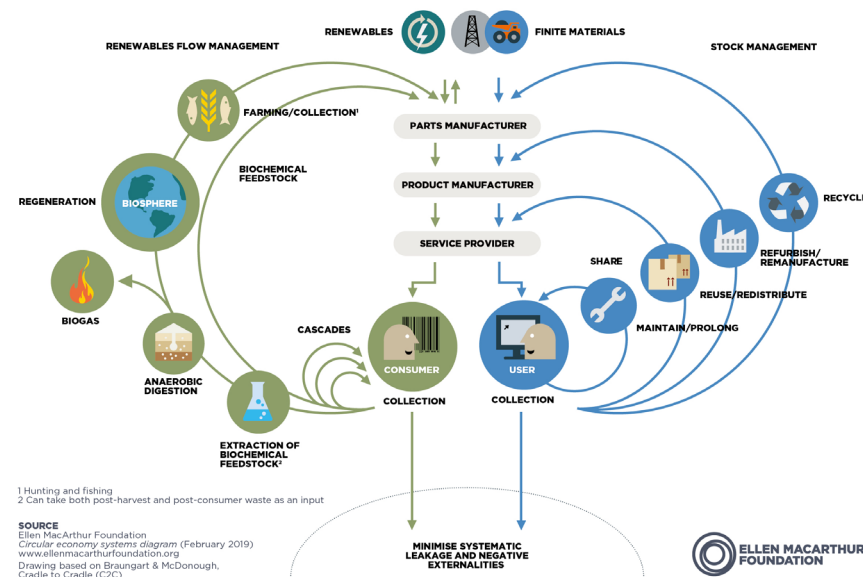

FIGURE 4. The "Butterfly diagram"

3.2 CIRCULAR ECONOMY AND SUSTAINABILITY

To have a better conceptual understanding of the Circular Economy, a comparison with the sustainability concept is presented below. It is shown in the literature that the relationship between both concepts is quite blurry, which hinders the efficacy of using the approaches in research and practice. (Geissdoerfer et al., 2017) This section addresses these differences to bring clarity to the CE concept.

Cambridge Dictionary defines Sustainability as "the quality of causing little or no damage to the environment and therefore able to continue for a long time" (SUSTAINABILITY | Meaning in the Cambridge English Dictionary, n.d.); however, when it comes to definitions, there is an estimation of around 300 of them for Sustainability (Johnston et al., 2007) and therefore, to facilitate the understanding of the following discussion, the sustainability definition in this report stands for "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Suárez-Eiroa et al., 2019).

What mainly distinguishes Sustainability from CE is that Sustainability is part of the Biosphere, i.e., natural systems such as the carbon cycle, the nutrient cycle, and the water cycle. Within these systems, we find circularity, but unlike the circular economy systems, these systems will cycle regardless of human interaction, and therefore, the def-

ining component between Sustainability and CE is the human impact (van den Berg, 2019). In other words, all the species on the planet evolve to adapt to the changing environment, while humans have evolved to adapt the environment to them and their new needs (Cillian Lohan: The Circular Economy: A Simple Explanation | TED Talk, n.d.). On the other hand, CE refers to the Technosphere, i.e. human designed systems and processes such as those involved in manufacturing. When these designed systems meet established human requirements to manage the environmental impact of those activities is called CE. These differences do not mean that Sustainability and CE are not related; moreover, a circular economy can be defined as one which balances economic development with environmental and resource protection, and therefore, it appears to be close to the three pillars (economic, environmental and social) of sustainable development. (Murray et al., 2017) Yet, many works of literature show that economic and environmental pillars are frequently addressed in the CE literature, and the social aspect seems to be obviated (van den Berg, 2019) as CE focuses on the redesign of manufacturing and service systems to benefit the Biosphere and not that much in the social aspect that Sustainability does in terms of human well-being, human stakeholders, and human rights (Murray et al., 2017).

3.3 CIRCULAR ECONOMY LEVELS

In this section, the different frameworks of implementation, the three CE implementation levels, micro, meso, and macro-level, are introduced. At a micro-level, organizations are assisted in integrating and implementing the CE principles described below within their companies into their production and operation procedures by adopting a proposed circular business model (Kristensen & Mosgaard, 2020). The meso-level refers to the interactions between companies to collaborate using the waste of some, as raw materials, for others (Suárez-Eiroa et al., 2019). Finally, the third level, the macro-level, refers to the general policies to integrate and promote the CE principles within society, i.e., in cities, regions, nations, and the international community (Geng et al., 2012). The main instrument to be considered in this third level is legislation (Zhijun & Nailing, 2007).

Cambridge dictionary defines principle as: "a basic idea or rule that explains or controls how something happens or works" (PRINCIPLE | Meaning in the Cambridge English Dictionary, n.d.). Within the literature, it seems not to be a consensus about what the CE principles are. Some of them identify and define six different principles (Velenturf & Purnell, 2021), while others define five (Guldmann, 2018). The CE principles that have been found relevant for this research are the following three defined by the Ellen MacArthur Foundation (The Ellen MacArthur Foundation, n.d.-b):

• "Design out waste and pollution":
The CE must reveal and design out to the damage that the negative impacts of economic activity cause to natural systems and humans. This includes the pollution of air, water, and land, the release of greenhouse gases and dangerous substances, as well as structural waste.

• "Keep products and materials in use":
The CE must advocate for activities that conserve value in the form of materials, labor, and energy. Thus, designing for reuse, durability, recycling, and re-manufacturing to keep materials, components, and products circulating in the economy.

• "Regenerate natural systems":
The CE must enhance the use of renewable resources, avoiding the use of non-renewable ones, for example by using renewable energy instead of using fossil fuels, or by supporting regeneration by returning valuable nutrients to the soil.

3.4 CIRCULAR BUSINESS MODEL

Cambridge dictionary defines a business model (BM) as "a description of the different parts of a business or organization showing how they will work together successfully to make money" (BUSINESS MODEL | Meaning in the Cambridge English Dictionary, n.d.), i.e. a business model "describes the rationale of how an organization creates, delivers and captures value" (Alexander Osterwalder, 2010) "to customers, and then converts payment received to profits" (Teece, 2010). Nine basic elements of a business model are identified according to (Alexander Osterwalder, 2010): value propositions, customer segments, revenue streams, customer relationships, key resources, key activities, channels, key partnerships, and cost structures that can be combined in different ways to create different BM.

When a BM is aligned with the take-make-dispose paradigm, it is called a linear business model (Guldmann, 2018), which is considered the most common business model nowadays (Ibid.). On the other hand, when a business model "captures economic value while maintaining or regenerating natural, social, and economic capital beyond its organizational boundaries" (Schaltegger et al., 2016), it is considered a sustainable business

model (SBM) (Guldmann, 2018). Within the SBMs, we can find the circular business models (CBM) (Geissdoerfer et al., 2018) defined by Linder and Williander as "a business model in which the conceptual logic of value creation is based on the use of economic value retained in products after applying new offers in production" (Linder & Williander, 2017). Thus, the CBM aims to make profits by moving material, resources, and products over time instead of making it by selling products (Katarzyna Brendzel-Skowera, 2021) by integrating economic and environmental value creation via BM strategies that close or slow loops (Guldmann, 2018).

Many authors define five types of CBM (Liu, 2021)

1. Circular supply: replacing traditional inputs with renewable, bio-based, or recovered materials which can be fully recycled, thus allowing the use of the same resource several times.

2. Product life extension: to reuse, maintain, repair, refurbish, and re-manufacture to extend product life, ensuring that circularity of material and components is considered at the design phase.

3. Sharing: aims to increase the efficiency of using products by encouraging consumers and/or companies to collaborate, share and exchange goods through a provided service.

24

4. Resource recovery: to recover valuable materials and resources from products that have reached their end life, i.e. this model involves recycling waste to close material loops.

5. Product-service systems (PSS): the customer has access to a product, but the ownership remains with the supplier, i.e. the customer pays for the product's effective use and not for the product per se.

3.5 DIFFICULTIES THAT SMES FACE IN THE PROCESS OF ADOPTING A CBM

This chapter of the research focuses on researching literature and studies that show the difficulties that SMEs face in the process of adopting a CBM.

The European Commission defined in 2011 medium and long-term objectives to transform the European economy into a sustainable one, and hence clear responsibilities were established for the Member States in terms of "increasing resource efficiency, effective use of the resulting waste, and advising and supporting small and medium-sized enterprises in the field of resource efficiency and sustainable use" (Ghenţa & Matei, 2018). SMEs' role in achieving a circular future has been acknowledged as highly important, especial-

ly regarding their contribution to activities such as recycling, repair, and innovation (Ibid.). But the pad to achieve this goal is not easy for these SMEs as the literature appreciates, highlighting the different barriers that the SMEs most often face ((Rizos et al., 2015)(Tan et al., 2022)(Ritzén & Sandström, 2017)(Kirchherr et al., 2018)(Ghenţa & Matei, 2018)):

1. The management values and attitude and organizational culture towards the environmental issues.

2. The considerable financial investments related to the implementation of sustainable solutions.

3. The difficulties in accessing funds to support sustainable performance and innovation.

4. Lack of appropriate legislation/adequate government support (public funding opportunities, training, appropriate tax policies, complex administrative or legal procedures, etc.).

5. Lack of information and expertise on the benefits of implementing a circular economy.

6. "The high level of bureaucracy in monitoring and reporting data on SMEs' performance in the field of the circular economy" (Ghenţa & Matei, 2018, p.298).

7. "Lack of internal technical competencies facilitating the transition to a circular business model that allows for the implementation of sustainable production and consumption technologies." (Ibid.)

8. "Insufficient support from suppliers and consumers due to their low interest in environmental issues." (Ibid.)

Mihaela Ghenţa and Aniela Matei coordinated in 2016, together with the European Commission, a survey that was shared with 441 Romanian SMEs regarding actions related to the circular economy (Ghenţa & Matei, 2018). 62% of those 441 SMEs declared that "they had undertaken activities related to the circular economy" (Ibid.), and from the barriers listed above, 38% of the SMEs declared that they had faced a lack of information and expertise on the benefits of implementing circular economy, a 32% had experienced lack of appropriate legislation/adequate government support, a 33.1% faced considerable financial investments related to the implementation of sustainable solutions, a 31.4% faced the difficulties with accessing to funds to support sustainable performance and innovation where "most of the circular economy activities implemented (...) were self-financed (72.5%)" (Ibid.), and finally 38.9% experienced lack of internal technical competencies facilitating the transition to a circular business model that allows for the implementation of sustainable production and consumption technolo-25

gies.

Katarzyna Brendzel-Skoera conducted another research in 2021 (Brendzel-Skowera, 2021) where a survey about the complexity of adopting a CBM for SMEs was shared with 121 enterprises from the northern sub-region of the Slaskie Voivodeship. Of the 99 respondents, two different groups were identified, the enterprises that had been operating for more than three years, which represented 56,56% of the respondents, and the ones that had been operating for less than three years, which represented 43.44%. 91% indicated that they had undertaken activities reducing the negative impact on the environment, including a 13% who implemented a circular business model. On the other hand, 9% had not taken any measures to reduce the negative impact on the environment because of the considerable investment to implement sustainable solutions (86%) and the lack of knowledge "about technical and/or technological solutions" (Ibid.) to limit the negative impact on the environment (12%). 53% of the respondents experience a lack of knowledge "about what solutions can be implemented" (Ibid.), and 76% acknowledge the "greater effort in both financial and organizational terms" (Ibid.).

Marta Ormazabal in 2018, conducted an investigation where a survey was shared with 95 SMEs from the regions of Navarra and Basque Country in Spain, to analyse the barriers and difficulties they face when adopting a CBM, among others(Ormazabal et al., 2018). Of the total respondents, only 37% had an environmental certification. Besides, more than 50% agreed on the most critical barriers being lack of support from public organisations, insufficient financial resources, and lack of customer interest in the environment .

The Lifestyle & Design Cluster (LDC) conducted in 2022 a survey to 48 textile SMEs within Denmark to research how the companies engaged with sustainability (Lifestyle & Design Cluster (LDC), 2022). From the total of the surveyed, 42% were considering circularity in their design process. 71% see time and lack of resources as a main barrier in transitioning to a more sustainable and CBM, whereas 21% seem uncertain about whether they can obtain the right data and documentation from their suppliers. 25% express the fear of suppliers not being able to meet new requirements, and 23% mention budget and material availability as a barrier.

3.5.1 Analysis of Barriers faced by SMEs
To have an overview of the secondary research outcome, studies containing data on the same barriers were pooled to point out the most relevant ones and confirm the initial assumption, thus obtaining a direction on which to base the subsequent research.

Barrier 1, organizational culture and management values, and attitude towards the environmental issues, appears in 1 of 4 studies (25%), where 76% of a total of 99 surveyed find it relevant.

Barrier 2, considerable financial investments, appears in the totality of the studies, 4 of 4 (100%), where from a total of 682 SMEs 41% considered this a barrier.

Barrier 3, difficulties in accessing funds, is named in 1 of 4 studies (25%), where 31,4% of 441 respondents claim to have faced it.

Barrier 4, lack of government support and appropriate legislation, is found in 50% of the analyzed studies, 2 of 4, where from a total of 536 participants, 35,19% faced this barrier.

Barrier 5, lack of information and expertise on the benefits, appeared in 2 of 4 studies (50%), where 40,75% from a total of 540 participants claim to have faced it.

Barrier 6, a high level of bureaucracy in monitoring and reporting data, was not analyzed in any of the studies, thus being 0% of the studies with 0% of respondents.

Barrier 7, ack of internal technical competencies facilitating the transition , appears in 2 of 4 studies (50%); 37,34% of a total of 489 participants, 26

claimed to have faced it.

Barrier 8, insufficient support from suppliers and consumers due to low interest, appears in 2 of 4 studies (50%), from a total of 143 participants, 40,26% claimed to have faced it.

Figure 4 shows the statistics of each of the identified barriers.

Barrier	Total of studies	Total SMEs	Statistics
1. Organisational issues.	25% (1/4)	99	76%
2. Considerable financial investments.	100% (4/4)	682	41%
3. Difficulties in accessing founds.	25% (1/4)	441	31,4%
4. Lack of appropriate legislation/adequate government support.	50% (2/4)	536	35,19%
5. Lack of information and expertise on the benefits.	50% (2/4)	540	40,75%
6. High level of bureaucracy in monitoring and reporting data.	0% (0/4)	0	0%
7. Lack of internal technical competencies facilitating the transition.	50% (2/4)	489	37,34%
8. Insufficient support from suppliers and consumers due to their low interest.	50% (2/4)	143	40,26%

FIGURE 5. Statistics of the identified barriers.

Only Barrier 2 appears in all studies, considering it one of the most relevant ones. From the barriers that appear in half of the studies, Barrier 5 and 8 seem to be the ones that affect SMEs the most. From the Barriers that appear in 25% of the analyzed studies, Barrier 1 seems to affect the highest percentage of participants. Through this analysis, a better understanding of the scope of each of the barriers was gained. Thus, it helped structure further exploration by focusing on these discovered barriers and proving thus the initial assumption. Yet, although some of these barriers were not found in most of the studies and seemed less relevant than the ones that were proven to be more common among the barriers faced by SMEs, none of them were discarded as all were considered appropriate for further investigation. Figure 5 shows an overview of the barriers in a diagram.
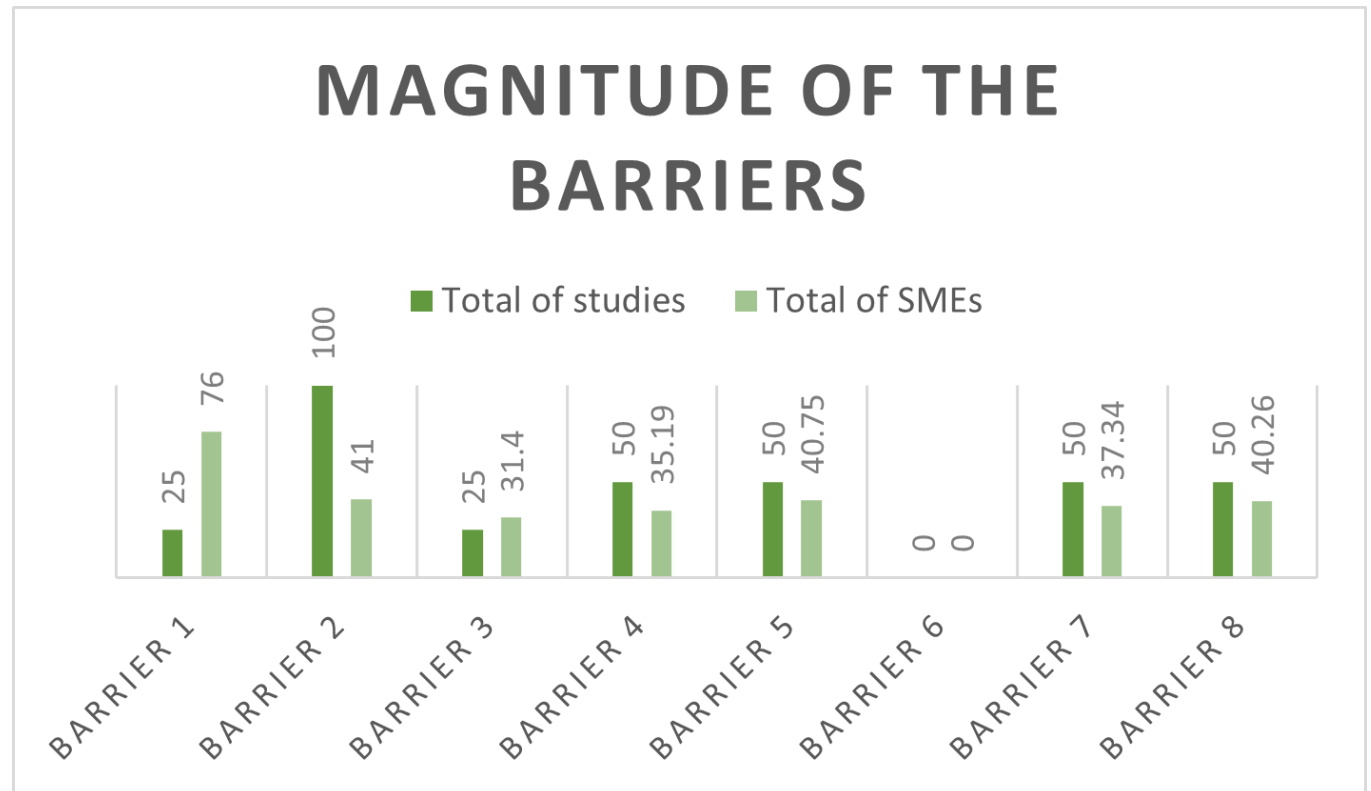
FIGURE 6. Barriers diagram

3.6 CONCLUSION ON LITERATURE REVIEW BLOCK 1

This section summarises the insights gained throughout the literature review block 1 within the areas of CE and related concepts, and difficulties faced by SMEs when adopting a CBM, that helped define the preliminary problem statement.

This first block of the literature review is considered preliminary research and secondary research to cover the topics of the preliminary research question and gain a general background on the main topic of the CE. The research and analysis of the literature of this block took place during the development of the phase "Discover 1" of the Double Diamond (Design Council, 2019). The aim of this Block 1 was to gain a basic understanding of the field of CE due to my unfamiliarity with the field, which was essential to communicate with stakeholders in future interviews. Therefore, although it is not part of the problem statement per se, it is considered relevant for the reader to understand the topic at hand and for having been part of the process that helped build this project. In addition, in this block, the assumption the preliminary research question was built upon is proven, by finding and analyzing barriers that SMEs face while adopting a CBM. These barriers helped define the further research focus and Literature block 1 helped build the preliminary problem statement:

"How might Service Design help SMEs within the fashion industry to adopt a CBM?"

4. DEFINE 1: STAKEHOLDER MAP

4.1 STAKEHOLDER CLASSIFICATION

4.2 CONCLUSION ON STAKEHOLDER MAP
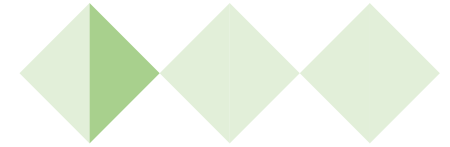
As the preliminary research question:

"Which difficulties do the SMEs within the fashion industry face while adopting a CBM, and how could SD help them on that journey?"

was already quite precise in the subject to research from all the possibilities that the CE and SD field present, developing a concept focused on helping the SMEs to implement a CBM based on the difficulties that would be found in the further research was considered as a potential scope. Although we were aware that this was another assumption based on the first one, we needed to prove that the first assumption of the difficulties was accurate, analyze those difficulties, ideate the concept to help the SMEs face those difficulties, and test if the concept was meeting the expectations. Even though it was a risky move as we were directing the project towards a very defined goal from the beginning and thus closing the doors to other opportunities, we believed that considering the time given to develop this project and my initial unfamiliarity with the CE field as a hassle, these assumptions were providing us with a clear direction to start developing the project by narrowing down the field, speeding up the start, and facilitating thus the process.

Hence, to define the Stakeholder map, the PM-BOK method was followed (Project Management Institute & Project Management Institute, 2017).

1. I**dentify Stakeholders**: The stakeholders are identified and relevant information regarding their involvement, interests, influence, impact, and interdependencies are analyzed and documented.

2. **Plan Stakeholder Engagement**: The approaches to involve the stakeholders in the project are developed. These are based on their expectations, needs, the potential impact on the project, and interests.

3. **Manage Stakeholder Engagement**: to work and communicate with the project stakeholder to address issues, meet their needs and expectations, and encourage appropriate stakeholder engagement.

4. **Monitor Stakeholder Engagement**: To monitor the stakeholder relationships and adapt strategies to engage stakeholders through modification of engagement plans and strategies. (Ibid.)

As the aim of this stakeholder map was to identify the stakeholders with whom the SMEs interact, their relevancy, and their impact on the project, only the first step was carried out as the other three involved activities were conducted following the double diamond model.

To identify the Stakeholders, Sustainn, as experts in the field and with their experience in working

with SMEs within different industries, provided me with a list of Stakeholders that are often involved in the SME ecosystem. This list was reviewed, and some stakeholders were added in a brainstorming session consulted by Sustain, which gave veracity to the list as the decisions on adding different stakeholders were based on their experienced criteria and knowledge of the field.

The Stakeholder list was divided into four clusters, the project, the Users, the Collaborators, and the Media. Within each cluster, different stakeholders of the field were identified. This helped to have an easier understanding of the role of the various stakeholders in the ecosystem. To categorize the stakeholders the power-interest grid was carried out (Ibid.). To build this grid, the power, interest, impact, and influence levels of the stakeholders were analyzed.

The **power** consists of the level of authority that the stakeholders have in the project, the **interest** is the level of concern the stakeholders have on the project outcome, the **influence** is how much a stakeholder can influence the outcome of the project, and the **impact** is how much our project would impact the stakeholders (Ibid.).

This categorization is helpful to build relationships with the identified stakeholders as it is a classification model that adapts easily to small projects with "simple relationships between stakeholders and the project, or within the stakeholder community itself" (Project Management Institute & Project Management Institute, 2017, p.513). This categorization can be found in the table of content 1, where the four levels of all the identified stakeholders from the four clusters are shown.

Once the levels of influence and impact are defined and based on those results, the levels of power and interest of a stakeholder in the project are defined (Ibid.). For instance, the impact our project can have on a SME and how they influence it, as shown in table of content 1 is high and relevant because of all the mutual benefits they can contribute to each other, being thus the level of interest and power that this stakeholder might have on the project high. Hence, the levels of power and interest were defined based on the impact and influence of each stakeholder.

By defining the power/interest grid, the different engagement levels of the stakeholders towards the project are defined (Project Management Institute & Project Management Institute, 2017, p.521). The four classifications on the level of engagement are:

1. Resistant: The resistant stakeholders have a low level of interest and power. Therefore, their project engagement would be minimal, yet monitoring them is always recommendable.

2. Neutral: The neutral stakeholders have a high level of interest but low power in the project. This group of stakeholders must be informed about the project and never ignored to keep them satisfied.

3. Supportive: The supportive stakeholders have a high level of power but a low level of interest. Considering their power, this group of stakeholders must be informed and involved in the project as much as possible to work closely with them and meet their needs.

4. Leading: The leading stakeholders have a high level of interest and power. This group must be managed in detail by listening to their interests as their engagement in the project is maximum.

FIGURE 7. Interest/Porwer grid

4.1 STAKEHOLDER CLASSIFICATION

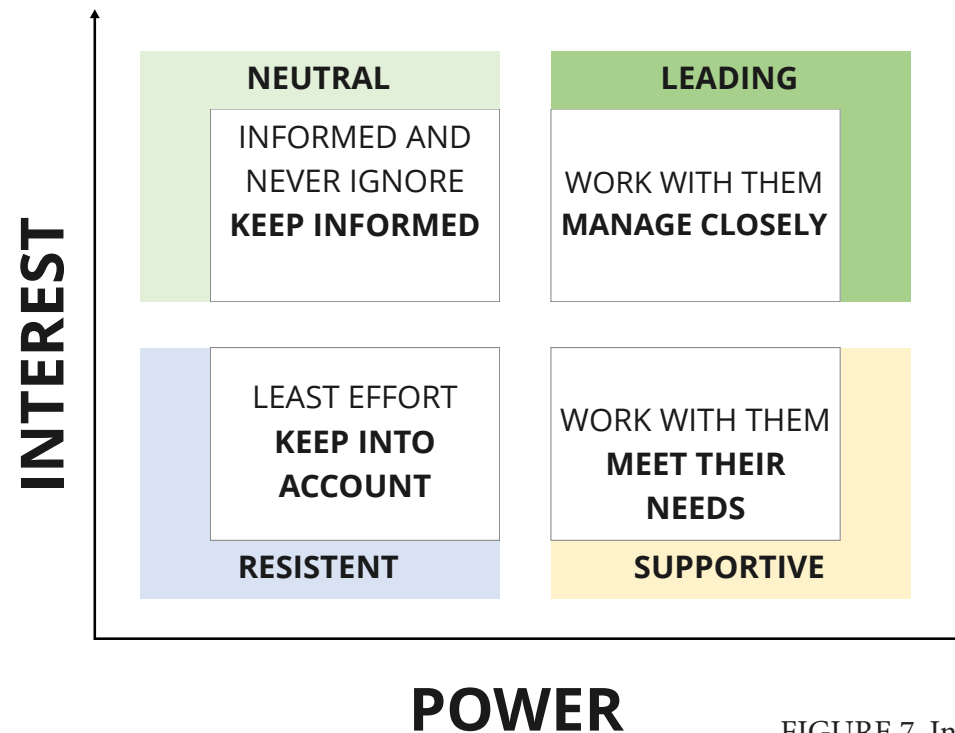| Stakeholder	Influence How do they affect the project?	Impact How does the project impact them?	Interest	Power	Result
Project Owner	Project Management (development, coordinator, decision maker, subcontracting). Define scope and requirements. Stakeholders approach and contact. Financing.	Incomes Positioning Info about the sector, needs of SMEs Networking	High	High	Leading
Employees of the project	Build the concept, manage updates, marketing campaigns, etc.	Employment/ Income/ Exprience/ Contacts	High	High	Leading
Subcontractors	Contribute to the proper functioning and creation of the concept	Employment/ Income/ Experience/ Contacts	High	Low	Neutral
Users					
SME Textile Sector	Contribute with information, needs, barriers & opportunities. Potential Customer (membership, fee, etc). Bring new potential clients WoM. Define requirements. Give feedback.	Networking, Information, partnerships, guidelines, methodologies, tools, knowledge, state of the art	High	High	Leading

FIGURE 8. Stakeholder classification

Stakeholder	Influence How do they affect the project?	Impact How does the project impact them?	Interest	Power	Result
Experts (sustainable design, LCA, etc.)	Contribute with information, expertise, opportunities. Bring new potential clients WoM Partnership with the project (exclusive publications, facilitating workshops...) Potential Customer (membershio, fee, etc) Give feedback	Networking, Partnerships Recognition Income	Low	High	Supportive
Waste Management Companies	Contribute with information, expertise, opportunities Bring new potential clients WoM Potential Customer (membership, fee, etc) Give feedback	Networking, partnerships Clients Guidelines, methodologies, tools, knowledge, state of the art	High	Low	Leading
Material Providers	Contribute with information, expertise, opportunities Bring new potential clients WoM Potential Customer (membership, fee, etc) Give feedback	Networking, partnerships Clients Guidelines, methodologies, tools, knowledge, state of the art	High	Low	Neutral
Software developers	Contribute with information, expertise, opportunities related to software development and research Bring new potential clients WoM Potential Customer (membership, fee, etc) Give feedback	Networking Business opportunities (Clients) Promotion space	Low	Low	Resistant

Stakeholder	Influence How do they affect the project?	Impact How does the project impact them?	Interest	Power	Result
CE consulting Companies	Contribute with information, expertise, opportunities Bring new potential clients WoM Partnership (exclusive publications, facilitating workshops, design new methodologies, Royalties...) Potential Customer (membershio, fee, etc) Give feedback	Networking, partnerships Clients, income Recognition	High	High	Leading
Collaborators					
Prescribers (Influencers, Sustainable Fashion Association Barcelona)	Promotion (SoMe/interviews/reports/ Collabs....) Bring new potential clients Wom	Networking, partnership Income	Low	High	Supportive
R&D Centers	Contribute with information, expertise, opportunities Partnership (exclusive publications, facilitating workshops, design new methodologies, Royalties...) Give feedback	Networking, partnership Income	Low	High	Supportive
Partners	Contribute with information, expertise, opportunities Bring new potential clients Help to build the concept	Contribute with information, expertise, opportunities Promote their business.	High	High	Leading
Universities, Business Schools, Design Schools, etc.	Contribute with information, expertise, opportunities Give feedback Potential Future Customer (membership, fee, etc)	Internship opportunities. Future job opportunities. Expertise and knowledge.	High	Low	Neutral

Stakeholder	Influence How do they affect the project?	Impact How does the project impact them?	Interest	Power	Result
Financiers	Fundings	Investment	High	High	Leading
Public Administrations (Policies, legislation)	The project must be aware of and adapt he future laws and regulations. Update and adapt the concept information, terms and conditions.	-	Low	High	Supportive
Media					
Specialized Media	Publications in science and CE magazines Promotion	Content for their media. Income.	Low	High	Supportive

Considering the stakeholders' level of interest and power, they were classified into these four categories. Thanks to this process and to this final classification, it was possible to identify the stakeholders, identify the relationships between them, and identify their engagement towards the project by defining their power, interest, impact, and influence. Thus, thanks to this information the stakeholder map shown in figure 7 was built by putting the project in the center and placing the four categories, resistant, neutral, supporting, and leading, around to visualize the outcome of the explained process.
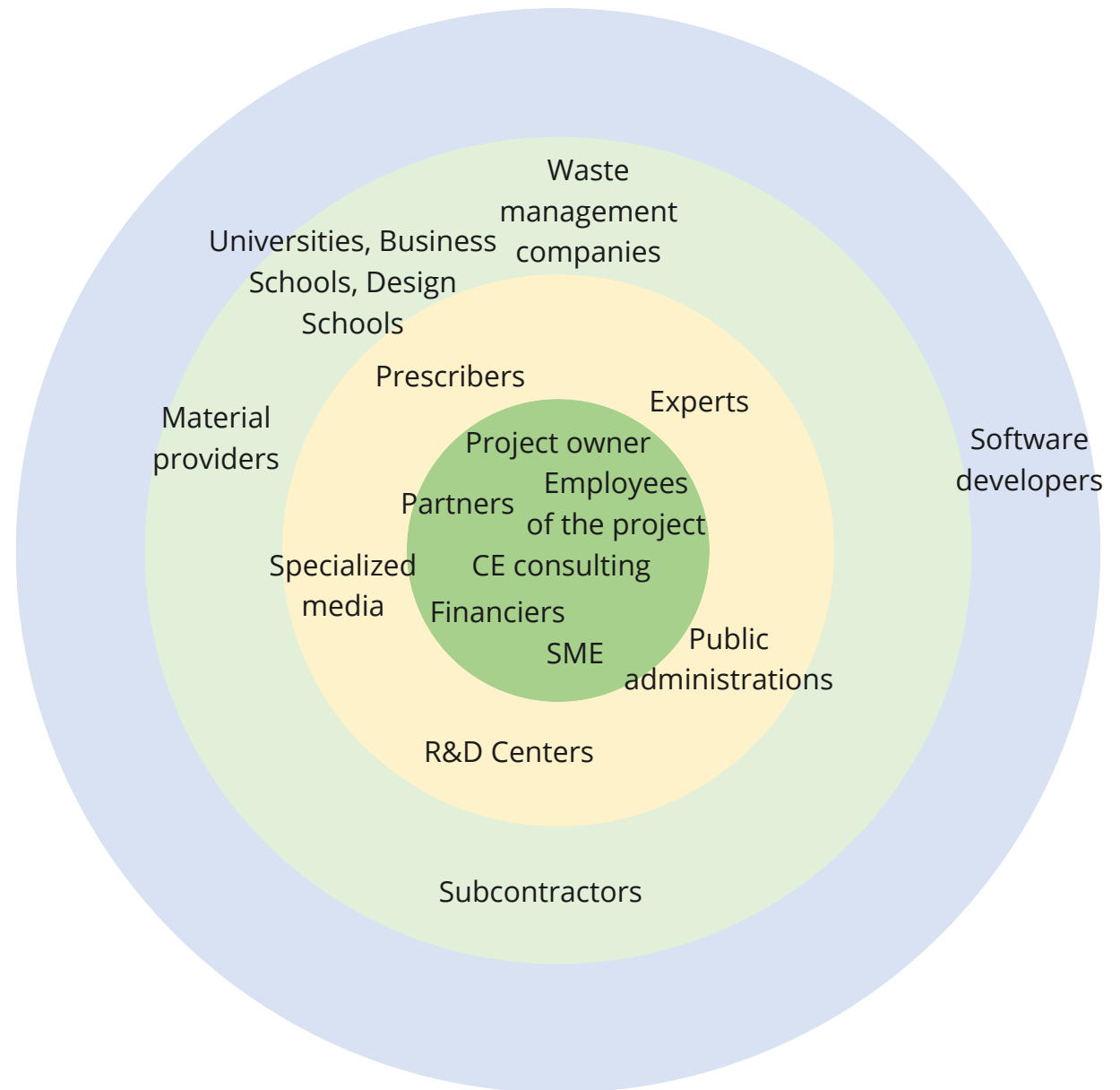
FIGURE 9. Stakeholder map

4.2 CONCLUSION ON STAKEHOLDER MAP

By following this process, I identified the appro-
priate approach to engage the different stakehold-
ers as it allowed me to prioritise the stakeholders
and identify their role in the eco-system (Ibid.).
Although it is shown in the stakeholder map that
not only SMEs are in the leading group regarding
the project, we kept the SMEs as the primary
target group that was going to be reached out
for further research and exploration. This deci-
sion was initially made as the research that was
conducted further was focused on the SMEs to
narrow down the research field, yet this does not
close the door to future possibilities to scale the
concept by also considering the needs and diffi-
culties faced by the rest of the leading stakehold-
ers.

In addition, by defining the stakeholder map, an
opportunity to research the ecosystem where
these stakeholders take place and cohabit arose.
Thus, the research focus moved towards an eco-
system perspective, investigating the concept and
the relationship and applicability it could have
with SD and CE.

5. LITERATURE REVIEW BLOCK 2

This chapter presents the outcome of the research focused on investigating the Ecosystem concept conducted in the "Discover 2" phase of the Double Diamond (Design Council, 2019). In addition to SD, a relevant topic for the project, the Ecosystem concept, is analyzed from different perspectives and introduced in the following section.

5.1 SERVICE SYSTEMS DESIGN

To understand what service design is, it is essential to analyze the context where this discipline arose. During the Industrial revolution that took place in Great Britain, continental Europe, and the United States during the period from 1760-1840 approximately, the Good Dominant Logic (GDL) where "(...) value is embedded into products and is measured through the monetary output that companies generate" (Hartwig et al., 2021, p.86), became the prevalent business paradigm thanks to the possibility of exporting these tangible goods to increase the wealth of the nations (Lusch & Vargo, 2006, p.46). Yet, in 1848, Bastiat stated the following:

"[...] the great economic law is this: Services are exchanged for services [...] It is trivial, very commonplace; it is, nonetheless, the beginning, the middle, and the end of economic science."
-(Joiner & Lusch, 2016, p.26)

Even though Bastiat was ignored, he was ahead of his time as the GDL paradigm moved into a Service-Dominant Logic (SDL) approach which considers "(...) specialized skills and knowledge as the focus of economic exchange and one of the fundamental foundations upon which society is built" (Lusch & Vargo, 2006, p.43). This means that the business paradigm and society moved from creating value by exchanging goods, primarily physical, to co-creating value during the actual usage process or service application and not during the exchange process (Hartwig et al., 2021, p.86) where if goods were "involved in the exchange, they were seen as mechanisms for service provision" (Lusch & Vargo, 2006, p.43).

Thus, Service Design emerged as a necessary way to organize the activities and interactions within those services and to design the components of which they are composed (Morelli et al., 2018). Although SD has not had a unanimous definition (Stickdorn & Schneider, 2011), services can be defined as "experiences that happen over time" (Morelli et al., 2018, p.9) and that "need to be

organised through a sequence of interactions between service providers and customers" (Ibid.), hence, SD is "an interdisciplinary approach that combines different methods and tools from various disciplines" (Stickdorn & Schneider, 2011, p.22) to explore an open-ended problem involving different actors where value is co-created (Morelli et al., 2018). In 2010 (Stickdorn, Hormess, et al., 2018a) defined the five SD principles that would be modified in 2017, being the outcome of the following six principles:

1. **Human-centred**: Service design must consider the experience of all the people affected by the service.

2. **Collaborative**: Stakeholders from diverse functions and backgrounds should be actively involved in the service design process.

3. **Iterative**: Service design is an adaptive, experimental, and exploratory approach, which iterates toward implementation.

4. **Sequential**: The service should be orchestrated and visualized as an interrelated action sequence.

5. **Real**: Research and prototypes should be carried out in real scenarios, and intangible values evidenced as digital or physical reality.

6. **Holistic**: Services must sustainably address the needs of all stakeholders throughout the service and across the enterprise.

It is summarising thus SD as a "human-centred, collaborative, interdisciplinary, iterative approach which uses research, prototyping, and a set of easily understood activities and visualisation tools to create and orchestrate experiences that meet the needs of the business, the user, and other stakeholders" (Stickdorn et al., 2018a, p.73).

5.2 SERVICE ECOSYS-TEMS

In biology, an ecosystem is "a biotic community or assemblage and its related physical environment in a particular place" (Trudgill, 2007, p.502) that regardless of their scale, they include a physical environment (where), living organisms (who) and interactions within them (how) (Ibid.). Throughout the years, scholars have been adopting this biological conception of an ecosystem from different perspectives, such as social science, engineering, economics, innovation management, etc; defining thus concepts like "Urban ecosystems" or "Industrial ecosystems" (Autio & Thomas, 2022). Therefore, a general definition for an ecosystem could be "constellations of organizational participants

participants that collectively cocreate ecosystem-level outputs" (Ibid.).

Several pieces of literature have identified four commonalities in the ecosystems which help understand better the ecosystem concept (Adner, 2017; Autio & Thomas, 2022; Teerikangas et al., 2022). First, the "System-level outcome", the outcome of the eco-system is both coherent and more significant than any individual actor can deliver alone, i.e., the actions of many are coordinated within the ecosystem to create this system level output that wouldn't be possible to generate by a single participant alone. Secondly, "Heterogenous participants", actors have different roles in the ecosystem, the ecosystem is compounded of "heterogenous communities of stakeholders, hierarchically interdependent but adhered to specific roles within the ecosystem" (Autio & Thomas, 2022). Thirdly, "Interdependency", the actors within the eco-system are interdependent, i.e., "the heterogenous participants within the ecosystem are linked through interdependencies" (Ibid.), such as spatial proximity, economic links, technological complementarities, physical interconnection, mutual co-dependency, etc. Finally, the fourth commonality, "Coordination", the eco-systems have coordination mechanisms "that strike a balance between change and stability in eco-system outcomes" (Teerikangas et al., 2022, p.264) through "role definitions, complementarity and technological, economic and cognitive align-

ment structures" (Autio & Thomas, 2022).

At the beginning of the transition from GDL to SDL, concepts like Product-Service System (PSS) emerged "to consider the service value in the GDL territory" (Nie et al., 2019, p.3) as in the GDL, the service is considered to enhance the value of the products (Ibid.). However, while this transition was getting closer to the SDL paradigm, services started to be understood as an exchange that enabled value-in-context rather than the GDL perspective, where services were understood as an exchange of intangible products by following the value-in-exchange paradigm (Vink et al., 2021). This perspective shift "resulted in a major turn toward a systems orientation in SDL" (Vink et al., 2021, p117), moving the research focus towards a service eco-system perspective.

Thus, Vargo and Lusch define Service eco-systems as a "relatively self-contained, self-adjusting system of resource-integrating actors connected by shared institutional arrangements and mutual value creation through service exchange" (Vargo et al., 2017, p.119). This systems-oriented perspective in SDL stresses the role of institutional arrangements as drivers of value cocreation by "defining appropriate behavior as well as enabling and constraining social action" (Vink et al., 2021, p.171). Besides emphasizing the holistic and systemic perception of value cocreation, this perspective also shows how actors within the ecosystem can influence   41

value cocreation, which is why service ecosystems exist (Vink et al., 2021). Thus, the service eco-system perspective recognizes institutions and institutional arrangements "as the foundational facilitators of value cocreation" (Vink et al., 2021, p.174), being the actors always guided by them. Yet, actors can shape the ecosystem "by reconfiguring the institutional arrangements that are guiding them" (Vink et al., 2021, p.175), being thus involved in the service eco-system design process (Ibid.).

Nie et al. researched the applicability of a service ecosystem perspective to a service to increase service sustainability (Nie et al., 2019), understanding sustainable developments as "development that meets the needs of today's generation without harming the ability of next generations to meet their own needs" (Commission on Environment, 1987) and thus defining service sustainability as "satisfying the demands of current providers and recipients to create mutual values together without diminishing the quality of future value co-creation." (Nie et al., 2019, p.1). To define the service eco-system framework to understand how to improve or create a service from a service design perspective, Nie et al. define six different eco-system levels of interaction that indicate human development (Nie et al., 2019, p.5). These different ecosystem levels involve different actors in different system cycles, the interaction between the service providers and the service user

is defined within each level by establishing different communication platforms that support "many-to-many interactions that enable the creation of sustainable services through service ecosystem perspective." (Nie et al., 2019, p.5). These levels are Microsystems, Mesosystems, Exosystems, Macrosystems, and Ecosystems.

In the **Micro-System**, one-to-one interaction between the service encounter and the user is defined, a "receiver-provider" interaction, being the customer the focus to be studied. For instance, this could be the Student Orientation Services of the education eco-system, where the user could make an appointment via email, call, or website with a counsellor to have a one-to-one interaction, or, another example, a doctor specialist giving a diagnosis to a patient. I.e., this level considers the touchpoints between the service receiver and the provider, (Nie et al., 2019).

In the **Meso-system**, the relationship is defined as the 'receiver-service' interaction where "Service design becomes a connector to create co-value among different stakeholders within one institution, initiating social engagement" (Nie et al., 2019, p.13). For instance, within the education ecosystem, the interaction between a student (Receiver) and the school (Provider) would be within this level of interaction. The student interacts with several actors, teachers, directors, foreign students, etc, to co-create value through

different activities that are provided by the school.

In the **Exo-level**, the "receiver-community" pattern is defined where "many-to-many interactions among different service entities" (Ibid.) take place. The idea behind this level is that a "single service is co-created by diverse institutions in a larger setting" (Ibid.). For instance, within the education ecosystem, this level would involve activities with other Universities, High Schools, Companies, and parents. A good example would be a job fair held by Universities and Companies (Community) for new graduates (Receiver).

Unlike in the micro-, meso-, and exo-systems, there are almost no direct interactions between the service receiver and service providers in the **Macro-system** as the micro-, meso-, and exo- levels represent a "Concrete service" within the service ecosystem whereas the Macro and Eco levels represent "Service Influence factors." (Nie et al., 2019). Hence, in the Macrosystem the service is co-articulated by cultural and political institutions, practices, and economics. As a result of the "Receiver-Strategy" interaction, this level covers cultural belonging and national identity, specifically, laws, national policies, economics, society, etc., affecting thus the service sectors and organisations. In the education ecosystem this level could be the collaborations among institutions on the international and national levels and the national

laws.

In the **Eco-System**, the focus is put on building an environmental boundary that "indirectly affects the users or specific services in a broad way" (Nie et al., 2019, p.14). In other words, this "Receiver-Environment" interaction system adapts to the current environmental changes, regardless of the social behavior and direct or indirect human interactions. This adapting process influences people's daily life and social structure; some examples could be 'Globalization', 'Liquid Society', 'Uncertainties', 'Diversity' (Ibid.), and pandemics as is happening with the Covid case. In figure 8 a summary of all the system levels is found.

	Mico	Meso	Exo	Macro	Eco
Type	Concrete Services			Service Influence Factors	
Definition	One-to-one interactions, touchpoints between the service re-ceiv-er and supply sys-tem.	Value co-cre-ation among dif-ferent ac-tors within the service or-gani-zation.	Different ser-vice enti-ties interact in a larger setting to provide a service.	National identi-ty and cultural be-longing. Law, econom-ic, policies etc., which influ-ences pre-vi-ous service systems.	Environmental boundaries and phenome-na that influ-ence the ser-vice structure.
Interaction	Receiver-Pro-vider	Receiver-Ser-vice	Receiver-Com-munity	Receiver-Strat-egy	Receiver-Phe-nomenon
Example	A student has supervision with their tutor.	A student joins a class provided by their school and interacts with several actors (teach-ers, other stu-dents..)	A new grad-uate goes to a fair held by sev-eral Uni-versi-ties and Com-panies.	The educa-tion-al system of a country is governed by a law, depending on the cul-ture, tradi-tions, and needs of the country, these laws will be dif-ferent.	Covid, global warming, etc.
Key Sources	(Nie et al., 2019)				

FIGURE 10. Service ecosystem system levels

5.3 CIRCULAR ECONOMY ECOSYSTEM

As it is explained above, the CE challenges the dominant linear model of "take-make-dispose" that causes excessive waste and inefficient use of resources; however, circularity wouldn't be possible without a change at the system level of environmental sustainability in markets and society, resource efficiency, and material, value, and energy flows (Teerikangas et al., 2022).

As this change requires the involvement of multiple actors, municipalities and cities, organizations, and consumers, which co-create value through different levels of interaction, the concept of eco-system has a relevant role in understanding how liner models can become circular, representing material flows and resource efficiencies organized by interconnections between different actors and feedback loops (Ibid.). Thus, Teerikangas et al. define CE eco-system as "communities of hierarchically independent, yet interdependent heterogeneous set of actors who collectively generate a sustainable eco-system outcome." (Teerikangas et al., 2022, p.261), where sustainable eco-system outcome is defined as "a system-level outcome typified by circular processes of recycling, reuse, and reduction." (Ibid.).

Different literatures have suggested three different CE eco-systemic flows based on their system-level goals and the system interactions and flows (Autio & Thomas, 2022; Teerikangas et al., 2022). The definition of the different eco-systemic

flows doesn't mean that many ecosystems "may include comprise elements from different types of ecosystems" (Autio & Thomas, 2022). The suggested flows are the following:

Flow of Energy and Materials: Within this flow, we can find two different types of ecosystems, Industrial and Urban ecosystems. The CE Industrial ecosystem is defined as:" a regional community of hierarchically independent, yet interdependent heterogeneous set of actors who sustainably produce industrial goods and services in symbiotic collaboration and resource use." (Teerikangas et al., 2022, p.268). In these ecosystems nonhuman "natural" ecosystems are used as models to recycle matter by developing closed-loop systems in industrial parks or regions (Autio & Thomas, 2022).

The CE Urban ecosystem is defined as: "a regional urban community of hierarchically independent, yet interdependent heterogeneous set of actors who collectively produce sustainable urban amenities." (Teerikangas et al., 2022, p.268). I.e., the outcome of the urban ecosystem is the urban convenience, considering infrastructures and environment, sustainable production of goods and services, and societal activities from a sustainability perspective, built by a non-hierarchical actor network that includes local and city governments, utilities, service providers, consumers, and transportation authorities (Autio & Thomas, 2022)

Flow of Knowledge: In the flow of knowledge, two different types of ecosystems are defined, the Entrepreneurial Ecosystem, and the Knowledge Ecosystems. The CE Entrepreneurial Ecosystem is defined as: "a regional community of hierarchically independent, yet interdependent heterogeneous set of actors who facilitate the start-up and scale-up of entrepreneurial new ventures focused on sustainable business opportunities." (Teerikangas et al., 2022, p.269). i.e., in this ecosystem type, novel business models are developed by participants that share knowledge to value co-create. These participants are research and education institutions, and the government, together with specialized participants such as coworking spaces, new venture accelerators, and markerspaces (Autio & Thomas, 2022).

The CE Knowledge Ecosystem is defined as: "a regional community of hierarchically independent, yet interdependent heterogeneous set of actors who advance the translation of advances in CE research knowledge into sustainable products and services." (Teerikangas et al., 2022, p.269). The participants in this ecosystem collaborate to research and develop new knowledge about goals such as sustainability or CE, being these participants public research institutions or Universities (Autio & Thomas, 2022).

Flow of Value: In the flow of Value, The Innovation, Platform, and Business Ecosystem is defined as: "a community of hierarchically independent, yet interdependent heterogeneous set of actors who collectively deliver a sustainable value offering typified by resource recycling, reuse, and/or reduction." (Teerikangas et al., 2022, p.270). An example of this ecosystem would be when a company reinvents its business ecosystem to increase resource efficiency and reduce waste through recycle, reuse, and/or reduce, thus a sustainable value offering is co-created, which would be the outcome of the ecosystem.

Figure 9 clarifies the different characteristics of the CE ecosystem flows.

Ecosystem flows	Flow of energy and material		Flow of knowledge		Flow of value
Flow description	Ecosystems that enable energy and material flows within a geographical-ly defined context		Ecosystems that enable the production of knowledge within a geograph-ically defined context		Ecosystems that enable the production of economic value
Ecosystem Type	**Industrial eco-system**	**Urban eco-sys-tem**	**Knowledge ecosystem**	**Entrepreneurial ecosystem**	**Innovation, platform and business ecosystems**
Ecosystem Outcome	Sustainable in-dustrial pro-duc-tion	Urban con-ven-ience	New knowl-edge	New business models	Value proposition
Ecosystem Definition	Production of industrial goods and services in reciprocal collab-ora-tion	Collective pro-duction of urban convenience.	Collective trans-lation of ad-vances in re-search knowledge into products and services	Collective facilita-tion of start-up and scale-up of entrepreneurial new ventures focused on business oppotunities	Delivery of a value proposition through collabora-tion
Ecosystem Participants	Manufacturers, Service providers, resource providers, utili-ties	Utilities, local government, city government, transportation authorities, ser-vice providers, consumer citi-zens residents	Universities, public research institutions, for-profit firms	Investors, accel-erators, cow-ork-ing spaces, mak-erspaces, educa-tional and re-search insti-tu-tions, government	Focal firm, comple-mentors, suppliers, consum-er-prosumers
Key Sources	(Autio & Thomas, 2022; Teerikangas et al., 2022)				

FIGURE 11. Ecosystem flows description

5.4 CONCLUSION ON LITERATURE REVIEW BLOCK 2

This section summarises the insights gained throughout the literature review block 2. This block analyses and synthetizes the literature found related especially to the ecosystem concept from a SD and CE perspective. This Literature block represents the outcome of part of the research conducted throughout the "Discover 2" phase of the Double Diamond (Design Council, 2019). It focused on understanding the ecosystem concept to be able to better understand and define the ecosystem where the identified stakeholders from the stakeholder map take place and cohabit.

The ecosystem concept was analyzed from SD and CE perspectives to better understand its adaptability to different phenomena and therefore how it could be applied to the project per se. Four commonalities were identified that helped define a general conceptualization of an Ecosystem, in addition, the different interaction levels of a service ecosystem and the three different eco-systemic flows within the CE Ecosystems were identified. This helped to gain an understanding of the characteristics that define an ecosystem and how it could enrich the project.

6. CASE STUDY

In the following sections, the design process followed to explore further the preliminary problem statement is presented:

"How might Service Design help SMEs within the fashion industry in the process of adopting a CBM?"

The process goes through the four phases of the Double Diamond: Discover 2, Define 2, Develop and Deliver (Design Council, 2019). In the case study, the two lines of investigation of this project meet by defining a platform-based service to fulfill the first line of investigation which researches the barriers faced by SMEs, and a service ecosystem map based on this platform-based service is defined to fulfill the second line of investigation which researched about the service ecosystem concept.

6.1 DISCOVER 2

This phase of the project presents the quantitative and qualitative methods involved throughout the research process. Starting from the preliminary problem statement built based on the data gathered through the phases "Discover 1" and "Define 1", different methods were carried out to explore further these barriers and potentially discover new ones, a survey was shared among different groups and interviews with stakeholders were conducted.

In this phase, two lines of investigation were carried out in parallel. The first one focused on exploring further the barriers that the SMEs face while adopting a CBM identified during the Discover 1 phase. The second line of investigation focused on researching the Ecosystem concept first addressed during the Stakeholder map definition process, and that aims to research SD and Service-related concepts that could support circularity. The outcome of the second investigation is the Literature review Block 2.

6.1.1 QUESTIONNAIRE

An online questionnaire was shared with different groups to explore and gain more insights into the eight barriers identified during the secondary desk research. To facilitate the answers to the respondents, as many closed questions as possible were asked, trying not to bias the responses with the options given by using yes/no questions. Thus, having a total of five closed questions out of ten.

The requisites to choose the respondents were that they had to be SMEs within the fashion industry and that they had adopted or were adopting a CBM. The questionnaire was divided into two different sections:

1. The first section focused on collecting data on why and how these SMEs had adopted a CBM to explore the motivation behind this action.

2. The second section focused on exploring further the identified barriers. To not bias the respondents, they were asked first which barriers they had faced during the process, thus having the opportunity to identify new barriers. After, to gain more insights into the identified ones, a closed question was asked where the eight barriers were explained to give them the option to choose the faced ones. At the end of this section, questions related to barriers that the SMEs might be facing after having adopted a CBM were asked.

The questionnaire was shared on Facebook and on LinkedIn with the aim of reaching the most quantity of SMEs possible. After an extended search on Facebook, 16 groups with a total of 500.413 people within the groups were found. We were aware that the target group was particular; therefore, the effort was put into finding groups that contained the chosen target group. Yet, it was also shared in groups with similar interests, like circular economy, groups where SMEs were not necessarily from the fashion industry, sustainable fashion groups, and groups with SMEs with all the characteristics (CBM, LBM , different fields...) overall to increase range considering that within all the participants, some would fulfill the requirements. Thus, we are aware that not all the

members of those groups saw our questionnaire or were our target group as the users that are not active in general and the ones that don´t fulfill the requirements need to be considered. Before sharing the questionnaire, it was checked that the group was active at least every two days to increase the response probability.

At the same time, the questionnaire was shared in eleven LinkedIn groups after a search that followed the same criteria as the one for Facebook. Within these groups, a total of 67.618 people were reached. At the same time, the questionnaire was shared in eleven LinkedIn groups after a search that followed the same criteria as the one for Facebook. Within these groups, a total of 67.618 people were reached. The same reasoning is applied to this case as many of the groups were not specific to the chosen target group, thus many members would not be part of our target group. In addition, Carlos from Sustainn shared the questionnaire within his LinkedIn network, reaching more SMEs that fulfilled the requirements and thus increasing the chances of obtaining more responses.

Unfortunately, only one response was obtained after one week of sharing the questionnaire. Hence, the survey was adapted and reduced to more specific questions to bring more answers. After a couple of weeks, it was shared again in the groups, obtaining the same result as in the first round: a single participant.

With a total of two respondents, it was decided that the gathered data could not be considered for the project as it was not representative; hence, it was decided to discard the questionnaire. We do not know what the reasons behind why we hardly got answers are, however, we attribute this to SMEs' lack of time and lack of interest in sharing information. Further in the research, during the interviews, this hypothesis made sense as SMEs affirmed that they are reluctant to share information in general due to high competition and the difficulty they have experienced in obtaining information, stating for instance "the providers are like our little secrets, we help each other but to a certain extent, in the end, we are direct competition." Although it was an unexpected result, this was a motivation to continue the research using another method; thus, interviews were conducted to gather new insights.

6.1.2 INTERVIEWS

Since the questionnaire did not provide sufficient answers and data, semi-structured interviews were conducted with different SMEs. This qualitative method (Stickdorn, Lawrence, et al., 2018) was exploratory to define the focus area better and understand the background of the SMEs and the barriers these face during the CBM adoption process. These diverse backgrounds were relevant for the research to understand the motivation behind each SME, the initial economic situation, and knowledge of the field. These parameters directly affect the development and adoption of a CBM as the obstacles the SMEs face and why they face them would differ depending on their initial conditions. In addition, the eight barriers identified in the secondary research were discussed together with the SMEs. This would reveal further barriers that the SMEs had faced and also identify the reasons behind those difficulties, thus gathering an overall understanding of the different experiences the SMEs had when adopting a CBM. This method should help achieve this goal while letting a door open to new perspectives. The transcription of the interviews can be found in Appendix 1.

Although the stakeholder map defined in the preliminary research identified stakeholders with the same potential as the SMEs towards the project, it was decided to continue with the SMEs as the primary target group for the project due to the difficulties involved in contacting these stakeholders and SMEs.

6.1.2.1 PREPARING THE INTERVIEWS

The interview was structured in three parts. The first one was focused on gathering data on the background of the SMEs and their initial conditions, especially on the economic situation, knowledge of the circular economy and entrepreneurship field, and the motivation behind starting their projects. Next, to avoid biasing the results, an open question about the difficulties faced in the process of adoption was asked. After the discussion, the eight identified barriers were named to the interviewed, and the effect of each of them on their experiences was discussed. Having an initial structure in the interview helped to have a guide not to lose focus on the main discussion topic. In turn, being an open guide allowed extensive discussions with the possibility of debating new issues that arose during the interview.

The interviews were conducted online as all the SMEs were based in Spain, Teams was used as the main communication channel, and printed material to help me guide the interview was used.

6.1.2.2 LIMITATIONS IN THE SEARCH FOR PARTICIPANTS

I was aware of how difficult it could be to get an interview with an SME due to the short time they usually have and how they prioritize it. Hence, Sustainn provided several contacts of different

SMEs and sustainable fashion associations. Through these associations, several contacts were found; in addition, deep google research was conducted to find as many potential participants as possible. Some of the found contacts were cooperatives or freelancers that were just starting out and were not large enough to be considered SMEs, even so, all contacts were reached out to increase the possibilities of response and thus be able to have the most significant possible number of participants. Even though we are aware that a freelancer or a cooperative is not an SME, the difficulties that they face during the process are similar or the same as it would be shown further in the research. Thus, to facilitate the reading experience of this paper, when talking about the participants as a whole, they will be called SMEs, even though we know that not all of them are.

Of a total of twenty-four SMEs reached, nine reached back. Of those nine SMEs that answered the email, one did not want to collaborate and another one asked for money, which was impossible given my economic situation as a student. Another four agreed to the interview, which were dated within a period of three weeks. The remaining three provided a new date to be contacted due to their busy schedule.

Of the four SMEs that agreed to collaborate on the interview, one cancelled at the last moment due to a lack of time. The three SMEs that gave a future

date to be contacted were reached out after that given date, but no other answer was received. Thus, a total of three SMEs agreed on collaborating with participating in the interview being the total number of interviews three. It is necessary to consider the time elapsed between the whole searching process, from when the search began and the different rounds of contacting the potential participants were carried out, to when the interviews were finally carried out; more than a month passed in total. Therefore, for the sake of the project, once the interviews were carried out, it was decided to continue with the following design phase, Define 2 (Design Council, 2019).

6.1.2.3 INTRODUCTION TO SMES

To be transparent, at the beginning of the interview, I introduced myself and the project to the interviewee. In addition, the objective of the interview and a short introduction to the structure of the interview were presented. Also, the interviewees were asked to be recorded, and they all agreed with the condition of remaining anonymous.

The background and initial conditions of the three SMEs were completely different from each other. Yet, it was seen that the motivation behind their projects was based on a personal experience in all the cases. To have a better overview of the gathered insights, the following figure 10 collects the most relevant data from this part of the interview, classifying it into 4 different topics and comparing the insights from the three SMEs to have a complete overview of the data.

	Interviewee 1	Interviewee 2	Interviewee 3
Demographics	-Spain. -3 Members (25-30 y/o)	-Spain -3 Members (30, 35, 60 y/o)	-Spain - 1 member (>50 y/o)
CBM	-Cooperative. -2 years on the pro-ject -They make clothes out of surplus fabrics from other brands and other factories. -Production stays in the peninsula (Spain and Portugal)	-SME -2 years on the pro-ject. -They make clothes with organic cotton. -Production stays in the peninsula (Spain and Portugal)	-Freelancer -13 years on the project. -She practices upcycling, "the creation or creative modification of any product out of used materials in an attempt to generate a product of higher quality or value than the compositional elements" (Sung et al., 2014, p.1). -Production stays in the peninsula (Spain and Portugal)
Study back-ground	Background on lead-er-ship, entrepreneur-ship and innovation, and business man-agement. Have expe-rience with entrepre-neurship in small pro-jects for the universi-ty.	The three members are industrial en-gi-neers and work as consultants.	She is a housewife and in her free time works on her busi-ness.
Economic situation	As they are a coop-er-ative, they accessed fi-nancial support from the govern-ment, yet, they are supported also by their parents, espe-cial-ly since they don't have significant earn-ings to support them-selves.	One of the members of this SME is the fa-ther of the other two, his role in the SME is basically being the major investor. This initial investment facilitated the start of the project.	Her business does not require a high in-vestment as it is based on the upcy-cling technique, most of her suppliers are friends and acquaint-ances. The business is economically sus-tainable, so part of the earnings is rein-vested, and the rest is kept.

FIGURE 12. SMEs´ backgrounds

6.1.2.5 EXPERIENCED BARRIERS BY SMES

During this part of the interview, the participants shared the barriers that they had faced in their personal experiences with their businesses. Some of these barriers coincided with the barriers identified in literature review block 1. Yet, the interviewees revealed two new barriers that were not part of the identified eight barriers. Two of the three interviewees identified the first barrier was the excessive greenwashing that the large companies practiced. This practice affected consumers' perspective on sustainable companies due to a lack of confidence as companies that are not sustainable claim to be sustainable. In addition, providers try to fulfill the requirements to cover and serve circular SMEs, resulting in misleading providers. These two businesses had negative experiences with suppliers that claimed to be sustainable but, when they checked the factory, they discovered this was not the case. Furthermore, this misunderstanding of consumers towards sustainable companies affects the sales and image of these SMEs since something positive and appealing to the consumer is perceived as a fraud.

This gives rise to the second barrier: getting out of the green bubble. The green bubble addresses a sustainable customer and not the general public due to the business's characteristics that attract a more sustainable public. This hinders sales and access to new clients, which is crucial for the *sustenance and development of these businesses. In addition, getting out of the green bubble requires knowledge of fields not always familiar to the members of the SME, for instance, marketing and finances. To solve these problems, SMEs try to educate themselves in different fields, and in most cases, it is challenging to find free training or specific ones in these fields for SMEs.*

52

6.1.2.6 THE IDENTIFIED 8 BARRIERS ACCORDING TO THE SMES

In the following table, the experiences lived by the SMEs with the eight barriers are shown.

Barrier	Interviewee 1	Interviewee 2	Interviewee 3
1. Management values and attitude and or-ganisation-al culture towards the envi-ronmental issues.	None of the three interviewees considered to have faced this barrier.		
2. The considerable financial investments	- "As we are a cooperative, the mon-ey we invested at the beginning was refunded by the Basque government: 12000 euros." - "We still do not have a salary since the business is not profitable. Our parents continue to support us."	- "Having the finan-cial support from our dad was crucial when we started the busi-ness." - "Thanks to that, we have been able to hire many external people that have helped us a lot. For instance, a marketing team, who does branding also, all the patronage someone did it for us also be-cause we had no clue." - "Our production costs around 77.000 €."	- "I have been doing this for 13 years. My initial investment was minimum as I can find recycled material everywhere, and everything is handmade."
3. The difficulties in accessing funds	- "It is not easy to find this economic support from institu-tions and private companies." - "Even though we are really close to the council director, to the Environ-ment de-partment, it is still hard for us to know when to sign up for this help, to what, how..." - "They are long pro-cesses also." - "As we have a close relationship (with the council director), they tell us when to apply, but I would find it difficult for other SMEs."	- "When it comes to financial help, it is hell. All the paper-work is really compli-cated, we would ba-sically need to hire someone that works specifically on apply-ing for these grants." - "Besides, the grants are not clear, there is no place to find a list with the financial helps or anything like that. Clear and intui-tive."	- "I know nothing about this. They have helped me because I am an artisan, but nothing else." - "I try to find everything on the internet, but it is not easy. They are very complicated processes and not clear at all."

Barrier	Interviewee 1	Interviewee 2	Interviewee 3
4. Lack of appropriate legislation/adequate government support	- "In all these circular economy formations, there is a lot of talk about how circular economy is super cool and all that, but they never talk about how to sell, how to make it profitable, about the business model itself." - "They never talk about finances as they are super fo-cused on the sustain-able part, and we need that info." - "There should be more variety in the courses and be more promoted, if you don't look for our-selves, you won't find out anything."	- "The grants are tiny, like 2500 euros, what am I going to do with that if the production costs us 77000?" - "Many of these grants are given by big private compa-nies that try to greenwash their brand." - "The governments also give some grants to greenwash, and they are very small." - "If it hadn't been for the consultant, I don't think the public institutions would have helped us. At the beginning with the first provider, we had to do all the pat-ronage, we tried to find a public course or something as we were an SME but nothing."	- "I found first a bit of training and for-mation help in the Municipal Initia-tives Center of my city. They even or-ganize an event to give us some visibility with people from the community." -"Also, as I am con-sidered an artisan, during the pandemic they have helped us a lot with financial support." - "I found everything online, all the people that have helped me with training or to know about financial helps y found them in the platforms that I found online."
5. Lack of information and expertise on the benefits	- "If we were lineal, we would have a better income for sure, but still, when you are circular there is more help with training and economical help." - "If we were lineal, it would have been easier as we would have fewer red lines. It is not that restricted."	- "Everything is clear-er if you chose to adopt an LBM, the pad is more defined, easier and cheaper, for sure it would have been easier and more profitable."	- "I have no clue." - "I am aware that what I do is upcy-cling, but I don't es-pecially do it because of that, I do it be-cause the final prod-uct is beautiful and my clients like them." - "My clients are not really sustainable, they buy the product because they like it, there-fore I don't real-ly focus on this as-pect of my business."
6. The high level of bureaucracy in mon-itoring and reporting data	None of the three interviewees considered to have faced this barrier.		
7. Lack of internal technical competen-cies	None of the three interviewees considered to have faced this barrier.		

Barrier	Interviewee 1	Interviewee 2	Interviewee 3
Insufficient support from suppliers and consumers due to their low interest	- "With the providers is a bit tricky, there is a big trend with the sustainability now and everybody wants to take advantage of it. We had a bad experience with one as we went, and it was not what they promised." - "Since that experience, we like to have a close relationship we the providers and check everything with them. We like to go once every three months to see it with our own eyes, also the warehouses." - "Now everybody talks about sustainability, even Inditex now says that they are sustainable, that's why we talk about activism, the action more than the marketing."	- "We had a bad experience with a Portuguese provider because everything was a mess, they were also providing for big companies and therefore, we were not the priority, basically, they ignored us a lot, and nothing was working." - "The biggest barrier was basically to find the providers and decide the prices also, we knew nothing about how this worked, so it was difficult to know that you were doing right." - "People are tired of the sustainable concept, it has been so exploded by the big brands with all the greenwashing that people don't believe anything anymore, that's why we are trying to focus our sales more with an experiential approach, we don't sell clothes but an experience, a lifestyle." - "Nowadays, we still work hard on making people aware of prices, which is a big barrier, people's mindset. We are working on making people aware, that people know the brand and the movement."	- "My providers are friends, hairdressers, doctors... whoever that keeps the mate-rial I use." -"I have clients that they are sustainable, but it is not the ma-jority, It is also some-thing that I don't re-ally put the focus on, everybody knows that it is recycled, but they buy it because it's beautiful."

FIGURE 13. Identified 8 barriers analysis

6.1.3 CONCLUSION OF THE DISCOVER 2 PHASE

The discovery phase used qualitative and quantitative methods to explore further the preliminary research statement. The outcome of the three interviews provided insights related to the barriers identified in the secondary research (Stickdorn, Hormess, et al., 2018b) at the beginning of the Discover 1 phase (Design Council, 2019). The interviews aimed to explore further the insights gathered with the questionnaire. Due to the failure of this one, the interviews fulfilled the purpose of the surveys, in addition to exploring different topics like the backgrounds of the SMEs. It was fascinating to see the different SMEs' conditions and experiences that directly affect the business process. Besides, these insights were used to build personas in the phase Develop (Design Council, 2019). In addition, finding new barriers opened new opportunities for the research while having direct information on the identified barriers helped to prioritize and narrow down the list.

It needs to be considered the limitations found in this phase. First, the failed attempt to explore the identified barriers during the secondary research further with a questionnaire that aimed to narrow down the barrier list to the most relevant ones. Based on Sustainn's experience with working working with SMEs and on the insights gathered in the interviews, one could say that SMEs are very reluctant to share any information about their process or modus Operandi due to the considerable effort they had to make to achieve their current position. In addition, during the interview preparation, it was seen that these SMEs often have a very hectic schedule, which pushes them to prioritize other tasks. Hence, they don't usually check social media unless they need advice from the community or to find specific information . As the first interviewee stated: "I have the chat muted as I don't have time to check it." And the third one: "I don't use social media much, sometimes my kids post a picture, but I am not active on them." This could justify why some SMEs did not see the questionnaire or did not consider it a priority. The second limitation was the difficulties in finding participants for the interviews already explained.

It is relevant to underline that the insights gained from the three interviews should be researched further and that three interviews are not enough as a basis to carry out a project. However, considering the project's timeframe, it was decided to start with the Define 2 phase (Ibid.). Although we were aware that the insights gathered in the Discover 2 phase (Ibid.) would not be enough in a non-university project, it was considered that the resulting information was enough to start analyzing it in the next phase, "Define 2".

6.2 DEFINE 2

This project phase presents the methods that helped analyze, structure, synthesize, and visualize the data collected in the previous phase, "Discover 2" (Stickdorn, Lawrence, et al., 2018). In addition, these methods will help define the new problem statement (Ibid.).

6.2.1 CLUSTER ANALYSIS

The interviews carried out had a well-constructed structure that helped to group the data from the beginning; however, they were semi-structured, which allowed open discussions throughout the interviews. These discussions provided different data in all interview sections that needed to be analyzed and pooled. A cluster analysis was conducted to manage the data and make it more accessible (Stickdorn, Lawrence, et al., 2018).

During the interviews, it was discovered that the eight barriers identified in the secondary research were not as accurate as expected. The interviewees did not recognize some of them and claimed to have faced others that were not on the list. Therefore, it was decided to analyze the data without clustering it in the eight barriers by identifying new ones and analyzing the data overall. Still, some of the new barriers are similar to the ones on the list.

A research wall (Stickdorn, Hormess, et al., 2018b) was built to visualize the data from the interviews. This was structured in three different boards, one for each interview. While the data was synthesized, the barriers were identified by clustering, merging the insights from the three interviews, and prioritizing the most relevant ones (Ibid.). To prioritize the data, the ones more likely to be resolved were chosen by considering the stakeholders involved and the importance of each for the SMEs. The involvement of the stakeholders had a relevant role when prioritizing the data. It is not the same to consider an economic aid of 2500€ as a barrier (i.e., the initial investments in this business are significantly elevated, which makes this aid insignificant for the SMEs) to consider the difficulty involved in finding the information to apply for such aid a barrier.

The first barrier would imply dealing with institutional levels if it was decided to take action. The second would have a more straightforward solution since it would not depend on dealing with institutions. This method helped identify the final barriers the next phase "Develop" would try to solve. The clusters included background, providers, information and training, and economic funding. The background was analyzed to help build personas in the next phase of the design process, realizing how different the initial conditions of the SMEs are and how much these affect their experiences. In addition, most of the data pointed to the

identified three barriers as the data is linked to them. Thus, the final three barriers are:

1. DIFFICULTY IN FINDING PROVIDERS

Two of the three interviewees claimed that finding providers that fulfilled their requirements was the most significant barrier they faced. In addition, both had bad experiences with different providers that claimed to be sustainable and trustworthy when they weren't. According to both, it is difficult to find help within the community as the providers are "our little secrets" as they are direct competition. Furthermore, it must be considered that the background of the SME members plays an essential role in this barrier. One of the interviewees had a background in leadership and entrepreneurship at university, which provided them with an extensive network of contacts in the field of circular businesses as they stated: "… in the university network itself we found support, it was easier to reach out to stakeholders from the university email and with the support of some teachers". Yet, they claimed to have had some difficulties with the providers as they said that "with the providers is a bit tricky, there is a big trend with the sustainability now and everybody wants to take advantage of it. We had a bad experience with one as we went, and it was not what they promised". Besides, the initial economic situation of the SME directly affects the search for

suppliers; for example, one of the interviewees states, "having the financial support from our dad was crucial when we started the business," and they add, "thanks to that we have been able to hire many external people that have helped us a lot, for instance, a marketing team, and a consultant that found the providers." This creates a significant inequality between SMEs; therefore, finding a way to help all of them find providers regardless of their initial economic situation was seen as a challenge for this project.

2. DIFFICULTY IN FINDING ECONOMIC FUNDING
Together with finding providers, finding funding was the most significant barrier that the interviewees experienced. Even though one stated that "there is a bigger financial support if you go circular as institutions want to support sustainability more," the three said, "it is not easy to find this economic support from institutions and private companies." The interviewee that had contact with the university and therefore it was also easier for them to find this funding, also recognized that finding this funding was difficult: "as we have a close relationship, they (council director of the environmental department) tell us when to apply, but I would find it difficult for other SMEs," and normally "they are long processes." In addition, the bureaucracy involved in the process to apply for this funding doesn't help, as stated by one of the interviewees: "when it comes to financial help, it is a hell, all the paperwork is really

complicated, we would basically need to hire someone that works specifically on applying for these grants." Furthermore, there is not a clear place where these funding applications can be found in an easy way, as they remarked: "...clear aids, intuitively, clearly. It is not that I can go to the City Hall or the website of the community of Madrid, or the page of the Spanish government, and there I quickly find the application forms. The truth is that we have done everything ourselves; there is nothing."

3. DIFFICULTY IN FINDING SPECIFIC TRAINING AND INFORMATION THAT COULD HELP DEVELOP THE BUSINESS

This barrier could be seen as the trigger of the other two. As one of, the interviewees stated when talking about finding providers "the biggest barrier was basically to find the providers and decide the prices also, we knew nothing about how this worked so it was difficult to know that you were doing right." This statement shows that the unfamiliarity with the business world, as the background of the members of this SME was engineering and consulting, and the lack of knowledge in the field, in general, triggered several difficulties in, not only finding providers but also finding funding as they stated, "If it hadn't been for the consultant, I don't think that the public institutions would have helped us. At the beginning with the first provider, we had to do all the patronage

ourselves, we tried to find a public course or something as we were an SME, but nothing." The interviewees also stated that the training that the council and government offered was too focused on circularity and sustainability, but when it comes to basic things like finances and selling it is more complicated to find information: "In all these circular economy formations, there is a lot of talk about how circular economy is super cool and all that, but they never talk about how to sell, how to make it profitable, about the business model itself." Finally, the third interviewee claimed that she found courses and training through a platform from her municipality after searching online for options: "I found everything online, all the people that have helped me with training or information about funding are from the platforms that I found online."

6.2.1.1 REFLECTION ON CLUSTER ANALYSIS

This method provided a clear outcome from the initial data after analyzing and classifying it into relevant clusters, in addition to satisfying the initial assumption that SMEs face difficulties, this helped prioritize the problem focus by choosing the most relevant barriers. Besides, it was revealed to find that the barriers were connected to each other, meaning that some of them trigger others and are originally related to the initial conditions of the SMEs. This method provided a strong ground that served as the basis for further

synthesizing the data to build the new problem statement.

FIGURE 14. Research wall.

FIGURE 15. Cluster analysis.

6.2.2 PRELIMINARY SERVICE ECOSYSTEM MAP

When the literature about the " Service Eco-system" concept was found, an opportunity to explore it further through the project case study arose. One of the personal learning objectives of the project was to be challenged and not comfort-able, and therefore, together with the interest in the Ecosystem topic, this opportunity was taken.

Hence, a Service Ecosystem Map (Stickdorn, Hormess, et al., 2018b) that is shown in figure 13 was built on the stakeholder map defined in the preliminary research section to understand better how the identified stakeholders would interact within the Service Ecosystem based on an initial vague concept that would cover the needs of the SMEs. This initial concept could be defined as "a service that helps SMEs to face the identified three barriers." This Service Ecosystem map was built considering the different levels of interaction: Mi-cro, Meso, Exo, Macro, and Eco.

It needs to be considered that the same stakehold-er can be at different levels within the ecosystem. Here, the Why, What, Where, How, and Who of each system level of the ecosystem are predefined which helped understand the characteristics of each system level. In addition, defining this map helped in the future to identify different possibili-ties for the concept definition, as the "how" part of the ecosystem map presents potential solutions.

Thus, the preliminary Service Ecosystem Map shows a hypothetical ecosystem that defines the interactions between the stakeholders identified in the stakeholder map around an undefined service concept that is intended to help SMEs to face the previously identified three barriers. Each system level of the ecosystem together with the What, Why, Where, How, and How define the characteristics of the different interactions. In ad-dition, the colours of the stakeholders show their relationship to the project based on their power and interest.

FIGURE 16. Preliminary Service Ecosystem Map

6.2.3 CIRCULAR ECONOMY ECOSYSTEM

As explained in the literature review block II, Teerikangas et al. define CE eco-system as "communities of hierarchically independent, yet interdependent heterogeneous set of actors who collectively generate a sustainable eco-system outcome." (Teerikangas et al., 2022, p.261) where sustainable ecosystem outcome is defined as "a system-level outcome typified by circular processes of recycling, reuse, and reduction." (Ibid.). In addition, Oxford Dictionary defines sustainable as "able to be maintained at a certain rate or level." (Sustainable Adjective - Definition | Oxford Advanced Learner's Dictionary, n.d.), so it could be considered that the CE eco-system is also self-maintained. As stated before, Vargo et al. defined a Service Ecosystem as: "Relatively self-contained, self-adjusting system of resource-integrating actors connected by shared institutional arrangements and mutual value creation through service exchange" (Vargo et al., 2017, p.119). Therefore, one could define CE Service Ecosystem as a: "Relatively self-contained, self-adjusting system where the value co-created by a hierarchically independent, yet interdependent heterogeneous set of actors through service exchange, is a sustainable eco-system outcome".

Thus, the service ecosystem defined in this project is considered a CE Service Ecosystem as it fulfills the definition presented above. This suggests that within a CE Service Ecosystem the involved actors co-create value through service exchange where the outcome is a sustainable ecosystem outcome, supporting thus circularity and circular processes overall.

6.2.4 CONCLUSION OF THE "DEFINE 2" PHASE

The "Define 2" phase can be understood in two parts. The first part covers the research that answers the preliminary problem statement, and the second part focuses on applying the Service ecosystem concept theory to the preliminary outcome of the first line of investigation. The preliminary problem statement was based on the first "Discover 1" and "Define 1" outcome which was based on an initial assumption that has been successfully proven thanks to the conducted research and the data analysis. By clustering, the insights gained in the "Discover 2" phase, the three main barriers that SMEs face when adopting a CBM identified in this case study were defined. Furthermore, the research on the ecosystems, CE and Service, was crucial to define an important concept of this project, the CE Service Ecosystem. It was built by integrating the theoretical framework of the CE ecosystem into the Service ecosystem one, which resulted in a Service ecosystem where different actors, through service exchange, co-create value in the form of sustainable ecosystem outcome, i.e., the actors improve, through services exchange, the environmental sustainability in society.

Moreover, defining the Service Ecosystem Map helped identify potential concepts that would be explored further in the "Develop" phase. Thus, one part of the preliminary problem statement stayed remained with some small change, the part on the difficulties of the SMEs. However, the focus of the following design phase was on finding and defining a solution to the identified barriers in a form of a service, to further redefine the Service Ecosystem Map to apply the found theory to a real case to analyze the characteristics of this concept. The Service to be developed is an example of one of the services that could be provided within the Ecosystem that serve the purpose of helping SMEs within the fashion industry adopt a CBM, thus contributing to creating a more sustainable society. Hence, the preliminary Problem Statement was modified.

Preliminary Problem Statement

"How might Service Design help SMEs within the fashion industry to adopt a CBM?"

Final Problem Statement

"How might we define a CE Service Ecosystem which involves a service that helps SMEs overcome the three identified barriers?"

62

6.3 DEVELOP

In this phase of the project the collected insights in the previous phases were used to create a concept that would help explore further the CE Service ecosystem concept. This concept would focus on developing a service that could solve the identified barriers to help the SMEs within the fashion industry adopt a CBM, defining and analyzing the Micro, Meso, and Exo system levels of the service.

6.3.1 BRAINSTORMING WITH SUSTAINN

It was known that developing a concept that could cover the five system levels of the Service Ecosystem was going to be impossible due to the timeframe of the project, the limitations of being only one person, and the stakeholders involved in each of the levels. Therefore, it was decided that a service that covers the Micro, Meso, and Exo levels, which represent the "Concrete Services" within the ecosystem, would be defined and tested to explore further the service ecosystem concept by analyzing the interactions between the stakeholders engaged in the different system levels.

The previously defined preliminary Service ecosystem map helped pre-ideating different service concepts that could help fulfill the aim of the case study. Thus, since the three barriers had in common the difficulty of accessing information or contacts, it was decided together with Sustainn to develop an online platform to facilitate the SMEs to find this information and contacts. This decision was based on interview insights, the interviewees affirmed searching for information on the internet and finding most of the contacts and information in different forums or platforms: "I found everything online, all the people that have helped me with training or to know about financial help are from the platforms that I found online".

Furthermore, a platform would be more accessible for all SMEs no matter their location, reaching the SMEs of, for instance, a whole country. In addition, it was more convenient for us to develop a digital concept due to the circumstances of our collaboration, which impeded the development of something that implied being in the same room as we were in different countries. Therefore, defining a platform would facilitate the case study's development and testing. Thus, it was decided that an online platform was going to be the concept to be developed for the case study; hence, the base on which this platform was built needed to be discussed.

6.3.1.1 THE PALTFORM´S BASIS

An online brainstorming session with Sustainn to find different solution ideas (Stickdorn, Lawrence, et al., 2018) was conducted where different aspects of the platform were brought to discussion. The three barriers were analyzed and potential solutions were discussed by defining the what, why, who, and when of each barrier. In addition, all the stakeholders that could help in achieving that barrier were taken into consideration. This helped define the how, which represents the possible solutions to these barriers. Firgure 14 shows the outcome of the brainstorming.

FIGURE 17. The platform´s basis

	What?	Why?	When?	How?
Difficulty in finding providers.	SMEs need to find in an easy way providers that fulfill their requirements, they need to be competitive.	The business is not possible without the providers, they are co-dependent. The better the relationship between them, the easier to develop the business faster. Finding the proper provider from the beginning facilitates the whole process.	SMEs Providers	-A list of providers that fulfill your requirements. -A form that the SMEs fill with their requirements to find matches. -Direct interaction between providers and SMEs, first contact meetings/emails…
Difficulty in finding economic funding.	SMEs need subsidies that facilitate and accelerate the development of their business	The more they can invest to cover their needs, the faster they can develop their business and be profitable.	SMEs	-Place in the platform with all the info. -Filter to select privet or public funding. -Filter to select International/National. -Calendar with deadlines and application periods.
Difficulty in finding specific training and information that could help develop the business.	Many SMEs don't have a background in concepts like business management, marketing, patronage, etc., fields very useful to enhance their business.	Identifying the needs of the business and being able to solve them themselves save money and time for SMEs. Being able to understand what subcontracted companies do facilitates communication and enhances the experience of the business development.	SMEs Experts	-Information that support their business case. -Filter to find relevant information for your case, papers, training… -Experts that could help the SME with their specific barrier or concern (mentors).

In difficulty in finding providers, an opportunity to involve the providers arose. However, due to the project's timeframe, it was impossible to start looking for providers and contacting them to conduct interviews to gain direct data from them.

Yet, it is known that SMEs and providers depend on each other as they cannot exist without the interaction between them. Therefore, the interviews with the SME were considered a reliable source of information about the providers' possible behavior towards the platform. During the interviews with the SMEs, the relationship with the providers and the way they work were discussed, which helped gather data about the providers from a SME perspective. In the interviews, the SMEs stated that they found providers at fairs, which means that providers are interested in finding clients by attending these networking events, thus, being the platform a tool that would facilitate these connections it was assumed that the Providers would be interested in using it.

. Also, one interviewee said: "We have been lucky as we didn't have any knowledge in patronage, but the provider that we work with has, and they have helped us a lot with that. Besides, the relationship is very close as they are a small provider, they have a maximum of 10 clients." in the other hand, another interviewee said: "We had a bad experience with a Portuguese provider because everything was a mess, they were also providing for big compa-

nies, and therefore we were not the priority. Basically, they ignored us a lot and nothing was working.". This suggests that the big providers prioritize big companies, whereas the smaller providers work better with SMEs or smaller companies, assuming that the small providers would find useful the platform to find clients. In addition, quick research was done to check if the providers could be interested in other aspects of the platform. It was found that the government of Spain gives economic aid to providers to help them enhance their business, which means that the funding part of the platform could also be interesting for the providers. Thus, based on these assumptions, it was decided to take a shortcut to involve the providers in the platform as users to facilitate the collaboration between them and the SMEs. It needs to be considered that under other circumstances, with more time to develop the project, the providers would be contacted and interviewed to gather direct data. However, due to the advanced stage of the project, it was decided to base this assumption on the data collected during the SME interviews. Besides, during the brainstorming, the possibility of involving experts in the platform to help SMEs with the lack of information barrier was considered. Yet, there was no data that could support this decision, and even though exploring it would be interesting, it is an option that was left out of the project's scope.

6.3.1.2 ROLE OF THE PLATFORM OWNER AND EMPLOYEES

Another point to be discussed was the involvement level and role of the service provider on the platform. One main role of the service provider was to manage and maintain the platform, yet, it needed to be decided if the service provider would have direct contact with the users and, if so, how these interactions would be. Some initial ideas where the service provider was very involved with the SMEs were discarded because of the complexity it entailed. In the service ecosystem pattern, the goal of the service should be to facilitate the many interactions between customer networks and service provider networks to co-create service experiences (Nie et al., 2019). To achieve this, new design approaches establish communication platforms to support these interactions that allow the co-creation of sustainable services between service designers and service actors (Ibid).

Thus, it was decided that the service actors of the platform, SMEs and providers, could provide the service designers, me, in collaboration with Sustainn, with some feedback to successfully adapt and develop the platform further based on their needs. Therefore, fulfilling the service goal through these feedback interactions as the service experience is cocreated between the customer and the service provider, and facilitating a service

where the service provider's involvement remains minimal. In addition, it needs to be considered that a platform-based service works differently to a service where the user interacts with the front-stage of it. For instance, services like Airbnb that is a platform-based services, works as a mediator between the different types of user, in this case the guest and the host. The platform mediates the interactions between the users until they meet face to face. Thus, the platform to be defined is going to have the same mediator role approach.

6.3.1.3 SUMMARY OF THE PLATFORM´S CHARACTERISTICS

To sum up, the following figure 15 gives an overview of the platform's characteristics.

	SME	PROVIDER
Difficulty in finding providers	1. Find providers based on needs (Filters): will provide the user with a list of providers and their contact info. For instance: I need providers that work with 100% organic cotton. Different filters can be applied location-based, material-based, etc. 2. Channel to start the communication. (Chat, Videocall...). A calendar will be used to schedule the meeting (Teams style) 3. Suggestion on interesting providers for the user. A matchmaker: If the SME doesn't have a specific need, they will be able to answer some questions (Filters) and the system will suggest them providers that could be helpful for them.	1. Be contacted by potential clients. (I fill the form with what my company offers, the filters and matchmaker suggest me to potential clients.) 2. Channel to start the communication. (Chat, Videocall…) 3. Facilitate contact data to potential clients. (The SMEs can find more information about what I offer by checking my profile and the link to my website.)
Difficulty in finding economic funding.	1. A list of the different funding options and the links to the official pages. There is a filter to help find aid location-based, private/public, date-based, characteristic based, etc.	1. A list of the different funding options and the links to the official page. There is a filter to help find aid location-based, private/public, date-based, characteristic based, etc.
Difficulty in finding specific training and information that could help develop the business.	1. A list of the different articles, training options, etc., with the links to the official page. There is a filter to help find articles and training location-based, topic-based, date-based, private/public-based, etc.	There was not enough data to support that the providers need training or information; therefore, this part remains out of scope.

FIGURE 18. Platform´s characteristics

6.3.2 PERSONAS & SCENARIOS

Considering the SME diversity observed in the interviews, three personas (Stickdorn, Lawrence, et al., 2018) based on types of SMEs emerged from the empirical data gathered to ensure that the platform would cover all the identified needs. Also, they were used as a storage for information which helped understand the platform end-user (Nielsen, 2004). These personas that represent different SME archetypes within the fashion industry that adopted a CBM, will be used as a guideline to develop the platform. They highlight the obstacles that they deal with when implementing a CBM. In addition, it was proven that the educational background, initial economic status, and knowledge in the CE field directly affected the experiences of the SMEs during the CBM adoption, thus, they were also considered when defining the personas.

The personas illustrate how SMEs have different motivations, skills, initial conditions, goals, experiences, and obstacles, which directly influence the process of implementing a CBM. Furthermore, Scenarios were written to understand better and discuss how the different personas could reach the platform considering their different characteristics. Finally, the provider persona was not created as there was insufficient data to support it.

PERSONA 1

Name: Carmen
Age: 45
Nationality: Spanish
Gender: Female
Occupation: housewife
Marital status: Married and mom of 2 kids

DESCRIPTION

Carmen is a 45 y/o mother of 2 that has a small business together with her sister. They weave bags and backpacks using recycled magazines, newspapers, telephone directories, flyers, etc. Carmen learned this technique on a trip to Latin America, where in several countries they use this interlocking weaving technique in a traditional way to create baskets. To practice, and because is a cheap material, Carmen was using paper from magazines and advertising booklets, cutting them into strips and then braiding them. When Carmen was back in Spain from Latin America, she decided to start creating bags and backpacks using this technique. She waterproofs the strips with varnish for paper and by interlocking them she creates the bags. Carmen opened her small home business together with her sister who became her business partner. Together, they go to fairs to exhibit their work and sell their products. Carmen and her sister know nothing about the circular economy and they are not aware that what they do is called "upcycling". When they started, they didn't know much about how to run a business, hence they decided to hire an accountant that takes care of the financial part of the business. They have been contemplating the possibility to hire a person that could help them prepare the paper strips to speed up the process, however, financially they cannot afford it. They don't have high ambient awareness, they basically weave the bags and sell them at fairs and via Instagram to have an income as both are housewives and don't have a salary. Yet, they are lucky as their material providers are their friends that gather newspapers, magazines, etc for them, thus, the initial and actual investment in this part of the business is minimum.

SCENARIO

Carmen is in one of the fairs that she and her sister normally attend with her brand to sell their products. At the fair, they find a flyer advertising a platform that aims to help SMEs and small businesses on their adventure of becoming more sustainable by adopting a circular business model. Carmen takes it to check it at home. Once the fair is over and Carmen is back at home, she asks her daughter if she could help her with the platform thing. The daughter who is a millennial rapidly takes the flyer and types into the browser the webpage name. By introducing some general information they create an account and start navigating the platform.

BACKGROUND AND INITIAL CONDITIONS

	Low	Medium	High
Educational background	●		
Initial economic status	●		
Knowledge in the CE field	●		
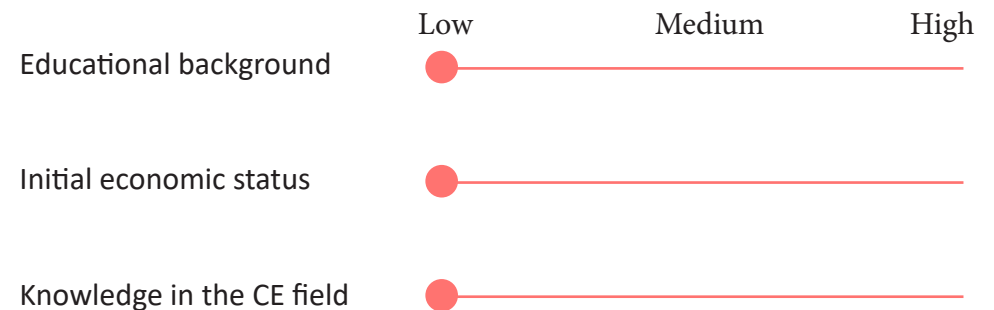
PERSONA 2

Name: Maria
Age: 24
Nationality: Spanish
Gender: Female
Occupation: Cooperative member
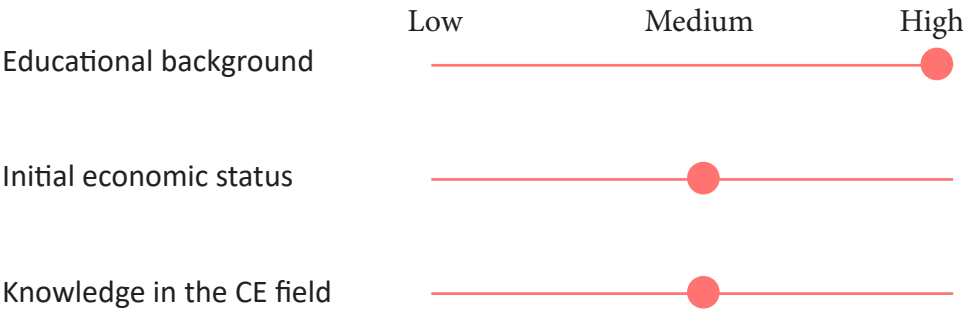Marital status: Single

DESCRIPTION

Maria has just finished her studies in Entrepreneurial Leadership and Innovation and for her graduation trip, she decided to go to Bangladesh with some other people from her bachelor's. After seeing the horrible conditions in which textile factory workers worked, and once they were back in Spain, Maria and two other bachelor classmates who had also gone to Bangladesh decided to create a sustainable clothing brand. Maria runs the business with the other two partners, they all have the same background, and responsibilities are divided equally. They have a high Ambiental awareness and therefore they like to verify if their providers are trustworthy by going there. This is one of the biggest challenges that Maria and the rest of the team have faced, finding a fair fabric provider for their designs that can also help them with pattern making. Apart from that, Maria and the team have economic support from their parents as the business is not profitable yet and all profits are reinvested in the company to boost its growth. In addition, they have applied for several public financial aids that have been granted, and therefore they have been able to cover some of the expenses of the initial investment. One of the big challenges that the team is facing, apart from finding providers that fulfill their needs, is the sales of the brand. They need to learn how to make the brand profitable by promoting it. Yet, none of them has knowledge of the field, and hence, they are looking for some public courses that could help them with the sales part of their business.

SCENARIO

Maria is catching up with a friend from university while they have a cafe in the city. Her friend is working on a similar project as she is, so they start talking about how they are doing with their businesses. Carla, Maria's friend, talks about a platform that she is using to find contacts and information that has been really useful to her and her business. Maria, curious about it and knowing that she has been struggling with finding good suppliers, asks Carla to share more details about the platform to be able to use it. Carla opens her account in the browser of her phone, and by clicking on invite friends, sends an invitation to Maria's email to join the platform. Maria, later at home, opens her email and clicks on the link in the invitation.

BACKGROUND AND INITIAL CONDITIONS

	Low	Medium	High
Educational background			●
Initial economic status		●	
Knowledge in the CE field		●	

PERSONA 3

Name: Carlos
Age: 34
Nationality: Spanish
Gender: Male
Ocupation:
Marital status: Single

DESCRIPTION

Carlos is an engineer who likes to go surfing whenever he has time, especially on weekends. Since he has been surfing for many years, he has closely seen the amount of plastic in the oceans and the struggles with the pollution they cause. So, bored of his routine as an engineer, and driven by the need to clean the seas, Carlos decides to cut his working day in half to start his own sustainable T-shirt brand together with his surf friend Oscar. The aim of the brand is to invest part of the benefits in organizing cleaning campaigns to make trips to different coasts and clean the areas. Besides, the brand must be as sustainable and respectful with the environment as possible, adopting thus, a circular business model. Carlos made a big investment from his savings gained working as an engineer to start the project. The aim was to produce everything in the peninsula and use 100% organic cotton for the T-shirts. It was very complicated to find providers, he was searching on the internet and by attending different fairs. After a bad experience with a provider that was not fulfilling the requirements, Carlos had to hire a consultant that would help him find the proper providers. This took a big economic effort for Carlos as his company was not profitable yet. In addition, as Carlos was an engineer, he didn't have knowledge about marketing, and therefore it was more complicated to promote their business to make it profitable to achieve the goal of celebrating the cleaning campaigns. Carlos and his friend Oscar focus on the T-shirt designs and the cleaning campaign design, yet they did not know either about textile patterns, which complicates the process even more. The long-term goal of the brand is to reuse the plastic that they gather from the seas and recycle it into a fabric to create T-shirts, besides designing the cleaning campaigns and the T-shirts, Carlos and Oscar and working on finding methods to do this in the best way possible.

SCENARIO

Carlos is looking for information related to new methods to recycle the plastics that he gathers from the sea to transform them into fabrics to make his T-shirts. His frustration levels are quite high as he cannot find much useful information. While he is browsing around different web pages, he sees a banner of a platform that ensures would help him find what he is looking for, Carlos clicks on the banner and a short description and visuals describing the platform are shown followed by a link to the page to create an account. Carlos, after reading the introduction decides to click on the link and try the platform.and clicks on the link in the invitation.

BACKGROUND AND INITIAL CONDITIONS

	Low	Medium	High
Educational background			●
Initial economic status			●
Knowledge in the CE field	●		

70
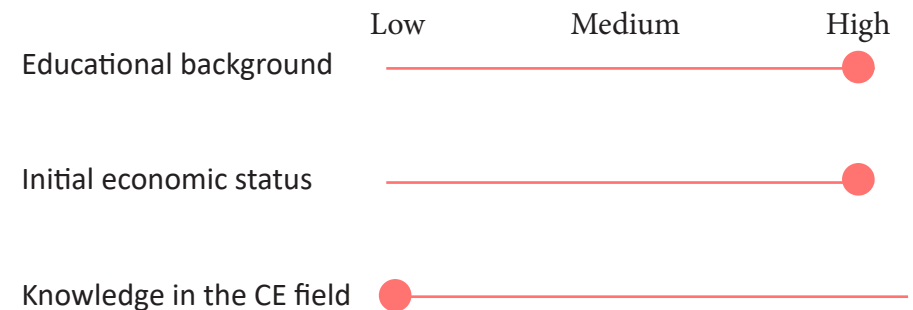
6.3.3 USER JOURNEYS

Journey maps in Figure X were defined to visualize the personas' experiences through the platform (Stickdorn, Hormess, et al., 2018b; Stickdorn, Lawrence, et al., 2018). In addition, describing the steps the user follows while using the platform also helped pre-define how the platform would look. The first journey map was defined based on the previously described Carlos persona as he was the one that covered the three needs: finding data, finding providers, and finding economic aid. Thus, the journey covers the obstacles that the persona dealt with in the CBM adoption experience. In addition, even though a persona for a provider was not defined, it was decided to create a user journey map from a provider perspective to cover how the platform would look and how the interactions within it would happen. Thanks to the journeys, it was understood that two different profiles exist within the platform, the provider, and the SME.

The SME would be the most active user as they would have the chance to look for providers directly; on the other hand, providers would receive collaboration requests from SMEs, i.e., potential clients, according to their profile information and characteristics. Thus, the providers would be the most passive users of both. Both users will have the chance to use filters to find different types of economic aid. However, only the SMEs will have access to the information tag to find articles and training, as there was no data to support the provider´s interest in this feature of the platform. In addition, after defining the User Journeys, it was decided that the matchmaker algorithm would also provide articles, training, and funding options according to the user's needs. This matchmaker concept was seen as a starter pack to help the SMEs find different information that could help them even though they didn't have a specific need. Basically, they are suggestions that could help SMEs start and enhance their business.

The emotional curve of the user journeys helped identified the pain and gain points on the different user steps which represent the user actions throughout the experience. In addition, the channel shows if the user is on the platform or has been sent to an external browser page, for instance, when the user clicks on the link of one of the funding options, the platform redirects them to the official funding webpage, being thus outside of the platform in that moment. Lastly, in the provider user journey, a vertical line that says "meeting day" was used to show a jump forward in time. This was made to avoid making two different user journeys to facilitate the understanding of the whole experience as the actions that happen after the "meeting day" line are a direct consequence of the actions that happen before the line.
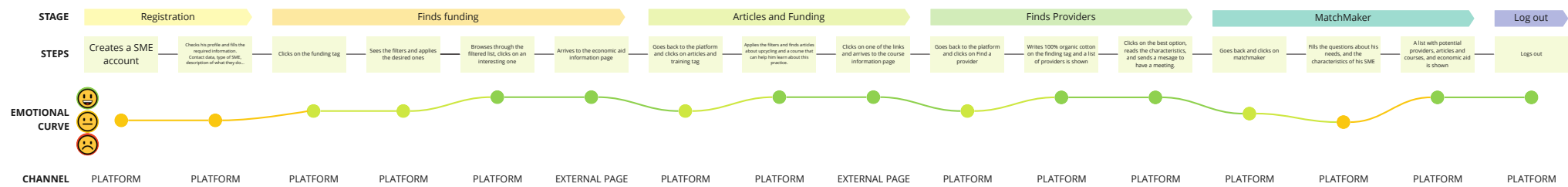
USER JOURNEY 1: CARLOS

FIGURE 19. Carlos´ User Journey

USER JOURNEY 2: PROVIDER
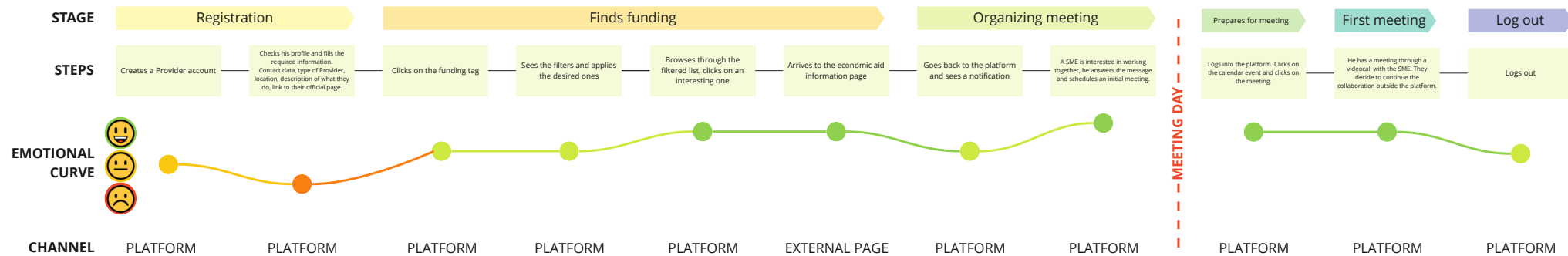
FIGURE 20. Providers´ User Journey

6.3.4 PROTOTYPING AND TESTING

A low-fidelity interactive wireframe prototype (Stickdorn, Hormess, et al., 2018b) was made with the Adobe XD program to test the platform concept with SMEs. This wireframe was defined following the user journeys described above. As the interviewees were unfamiliar with design methods, this wireframe facilitated the conceptual understanding of the platform and the benefits it would bring to them. It was not possible to test the concept with providers for the same reasons why they were not contacted during the process, as explained in previous chapters. Appendix 3 presents a step-by-step service walkthrough (Stickdorn, Lawrence, et al., 2018) of the platform which it is recommended to check before reading on. The interactive wireframe can be found by clicking on the following link:

https://xd.adobe.com/view/527097b7-992d-4a32-991c-8733fd4d37c8-0723/?-fullscreen&hints=off

When the SMEs were interviewed for the research, they were asked at the end of this if they would participate in concept testing when the concept was developed, and the three of them agreed. Thus, they were reached out and three test sessions were conducted online. The prototype was first made in Spanish as the participants of the tests were Spanish native speakers.

Later it was translated into English to present it in the project. The transcript of the tests can be found in Appendix 4. In the testing, the link to access the platform prototype was shared with the users and they were asked to interact with it. To avoid biasing the participants, no comments or explanations were given when they first interact with the different features. It wasn't until the participants had expressed their first impressions that a small introduction of the feature was given to them. It was observed during the test the comments that arose while interacting with the different parts of the platform, which gave rise to discussions on the pain points and highlights of the platform. The purpose of the testing was to find these pain points and highlights of the platform to improve it in future iterations (Stickdorn, Lawrence, et al., 2018).

FIGURE 21. Prototype of the platform

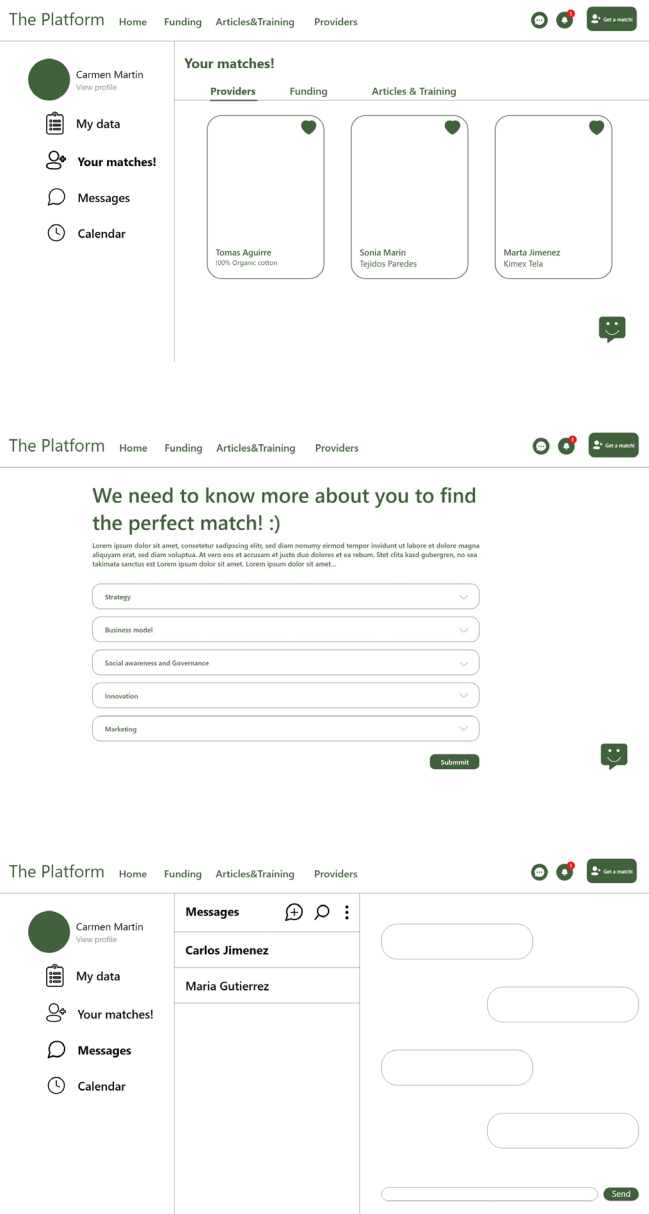*6.3.4.1 USER FEEDBACK*

As in the previous interviews, the interviewees wanted to remain anonymous, yet they agreed to have their voices recorded for the sake of my investigation. The script of the feedback can be found in Appendix 4.

Funding tag
The feedback from the funding tag with the filters was completely positive as the three of the participants stated, "I would definitely use this". The three interviewees agreed that this tag would facilitate everything as they could have all the information in the same place. They agreed that it was very convenient and facilitated the accessibility to the official pages. One of the interviewees suggested that it would be a good idea to have a calendar with the deadlines for the funding applications you have made or want to apply for. In addition, another interviewee suggested adding a filter to define the range of money that is given in the funding. Thus, apart from interface details and more filter options, the users found this feature of the platform very helpful.

Articles and training
One interviewee stated, "having options to find formation and training would help a lot, for instance, our marketing company, the one we hired, says that everything is going good, and we cannot do anything but trust them because we don't know anything about the numbers, so having a bit of knowledge to control your whole business would be great". This part of the platform received good feedback in general. However, one of the interviewees shared his concern about this part being a bit overwhelming, as the said, "there are thousands of articles and specific training, even though there are filters it is possible to end up receiving too much information at ones, which would be very overwhelming. The filters should be very clear and accurate on what you are looking for".

It is true that during the discussions all three participants agreed that they would not use the option to search for articles, as one said ", the topic of the courses is interesting, the articles can be a little less interesting since in the end we are not doing any research either, at least not us". Overall, the participants really liked the training tag as it could help them learn about relevant topics for their business, however, they stated that the article tag, even though it might be useful for other users, it was not for them.

Providers tag
"This is just what I need", "If I had had this in the beginning it would have saved me a lot of money and time.", these are some of the comments made by the interviewees when they saw the "Providers" tag. This tag received the best feedback of all, "it is awesome, if I need a specific fabric to find the providers that could help me would be amazing". The interviewees highlighted how much time and money this would have saved them, especially at the beginning when everything seems to be more complicated as you are not part of the network yet. One of the participants addressed a very interesting point, they said "The problem would be that there are no providers that use it and the platform is full of SMEs and zero providers". Later, the importance of properly promoting the platform so providers could be part of it thus having the opportunity to connect with each other was addressed.

Matchmaker
This part of the platform is the one that got the less positive feedback, they agreed that it could be useful for a beginner, but one stated that "the problem with these platforms is that you get to know about them when you are almost done with everything.", and she added, "if the platform is promoted in places where new SMEs can be reached, then it would be very useful, otherwise I don't think I would use it".

It was seen that for the SMEs that were already a bit further in the process this might be too much information at once, however for beginners who have no contacts and don't know how to start this would be helpful. Thus, one more time the importance of properly promoting the platform arose. They agreed that if they had had this platform

from the beginning it would have been very helpful, hence they were asked to suggest different places to promote it and the answers were: online, events, fairs, sustainable fashion associations, municipalities, universities, etc.

General comments
Many discussions arose during the testing about the different features. At the end of the testing, the interviewees were asked to add some general comments, like additional features that they would like to find in the platform. Some of the general comments that the interviewees said were related to the importance of properly promoting the platform so the users could find it before they are done with their business case.

Also, some interviewees suggested having a common chat to enhance the community feeling and being able to make direct questions to other people, in the other hand, another interviewee stated that she normally mutes those chats, because there are too many people, they end up being overwhelming and difficult to follow. Yet, it is true that the three of them were interested in a solution that would enable collaboration between SMEs. They suggested that this feature could help them create sustainable value, organize events, find partners, etc. In addition, some of the participants suggest to involve more stakeholders on the platform, like consultants that could help them in general with their businesses.

6.3.4.2 REFLECTION ON THE THESTINGS

Testing the platform with real users brought a lot of valuable feedback that could be used to improve the platform in future iterations. Yet, as no more testing sessions were going to be conducted it was decided not to change the platform since it is considered that it solves the identified needs properly. In addition, to future iterate the platform, it would be convenient to have stronger data to base the decision-making as well as properly involve the providers. I.e., we are aware that 3 participants are not enough to test a concept in a real scenario, for instance, it can be seen in the testings when one participant wants a chat in the platform and another one doesn't. Considering that is a sample of 3 participants, this data is not strong enough to support any decision-making.

The general feedback of the testing was positive since the result of the implemented service was satisfactory for the users by fulfilling their needs, as well as being sufficient to carry out the analysis from the CE Service Ecosystem perspective. It needs to be considered that the provider part of the platform was not tested as the involvement of this stakeholder was assumed based on the gathered indirect data from the SME interviews. Therefore, no real providers were involved in the development of the project. However, the participation of the providers in the platform is mainly passive and the gathered indirect data is

considered enough to involve the stakeholders at this level. In addition, the final discussion with the interviewees opened a door to future explorations of the outcome of the platform that will be explained in the Future opportunities chapter.

6.3.5 SERVICE BLUEPRINT

A service blueprint was defined to visualize the user actions in relation to the organizational actions and logistics of the service provider part (Penin, 2018). As Lara Penin states, "the service blueprint should be approached as a flexible and customizable tool, reflecting the specificities and characteristics of each service" (Ibid). Thus, it needs to be considered that the defined service of this project is an online platform that facilitates the collaboration between two different users, the SMEs and the Providers. Therefore, the blueprint of a platform-based service requires an approach different from a traditional service blueprint. The following ideated model in Figure 19, visualizes how the platform service mediates the interaction between the two types of users and how it affects the system.

As the features of the platform that help the users "find funding", "find articles and training", "find providers", and the "matchmaker" work in the same way towards the system, i.e. they are based on a filter algorithm that would provide the user with different information based on their filter choice, only the "find providers" part is represented in the blueprint. The "find providers" feature is what connects the two types of users, the SMEs and the providers, that after connecting will be able to have a meeting. Thus, this feature was seen as the most relevant one as it is the one that

brings the most value to the platform. Therefore, a blueprint where the SME uses the "find provider" feature and how the SME and the contacted provider celebrate a meeting after was defined.

It is known that a blueprint shows the actor's action in a sequence (Stickdorn, Hormess, et al., 2018b), yet, it was interesting to be able to show the meeting interaction between the two users of the platform in the same blueprint where the "find providers" feature is represented as these two actions are directly related. Therefore, a line to clarify that the actions shown after that line happen in a different moment in time but after the previous actions, was added to the blueprint.

Also, it needs to be clarified that the action definition for the SME and the provider is not as precise as it should, i.e. considering that this is a platform-based blueprint, to open a feature of the platform and apply some filters the user must make several clicks on the interface, if every click would be shown in the blueprint the initial objective of shortening it by defining only a specific case would be in vain. Therefore, to facilitate the shortening of the blueprint, several user actions were shown as one in the blueprint.

In addition, some pre-conditions are needed to understand this blueprint:

1. The SME and the provider have already created an account.

2. The SME and the provider are both logged into the platform.

3. After the "Meeting day" line both of the users are logged in.

Find Provider

Schedule meeting

Meeting

STAGE of SME	
SME ACTIONS	Clicks on Find a provider: Writes 100% organic cotton on the finding tag → Browses the provider list → Clicks on the best option, reads the characteristics, and sends a message to have a meeting. → Receives notification → Accepts the meeting → Receives call notification → Answers the call and has the meeting.

Interaction & Interface Line-SME

| **SME INTERFACE** | Provider page | Provider page: list | Provider profile | Notification page | Notification page | Notification page | Videocall page |

Line of visibility

| **INTERACTION PLATFORM (system)** | Filters applied: provider list | Mesage sent from SME1 to Provider1 | Meeting date proposal is sent from provider 1 to SME 1 | Meeting accepted by SME 1 Meeting scheduled | Contacting the SME1 | Videocall ongoing |

Line of visibility

| **PROVIDER INTERFACE** | Notification page | Calendar page | Notification page | Calendar page | Videocall page |

Interaction & Interface Line-Provider

| **PPROVIDER ACTIONS** | Receives a message notification → Schedules an initial meeting. → Receives notification of accepted meeting. | Clicks on the calendar event and clicks on the meeting. → Has the meeting. |

STAGE of PROVIDER
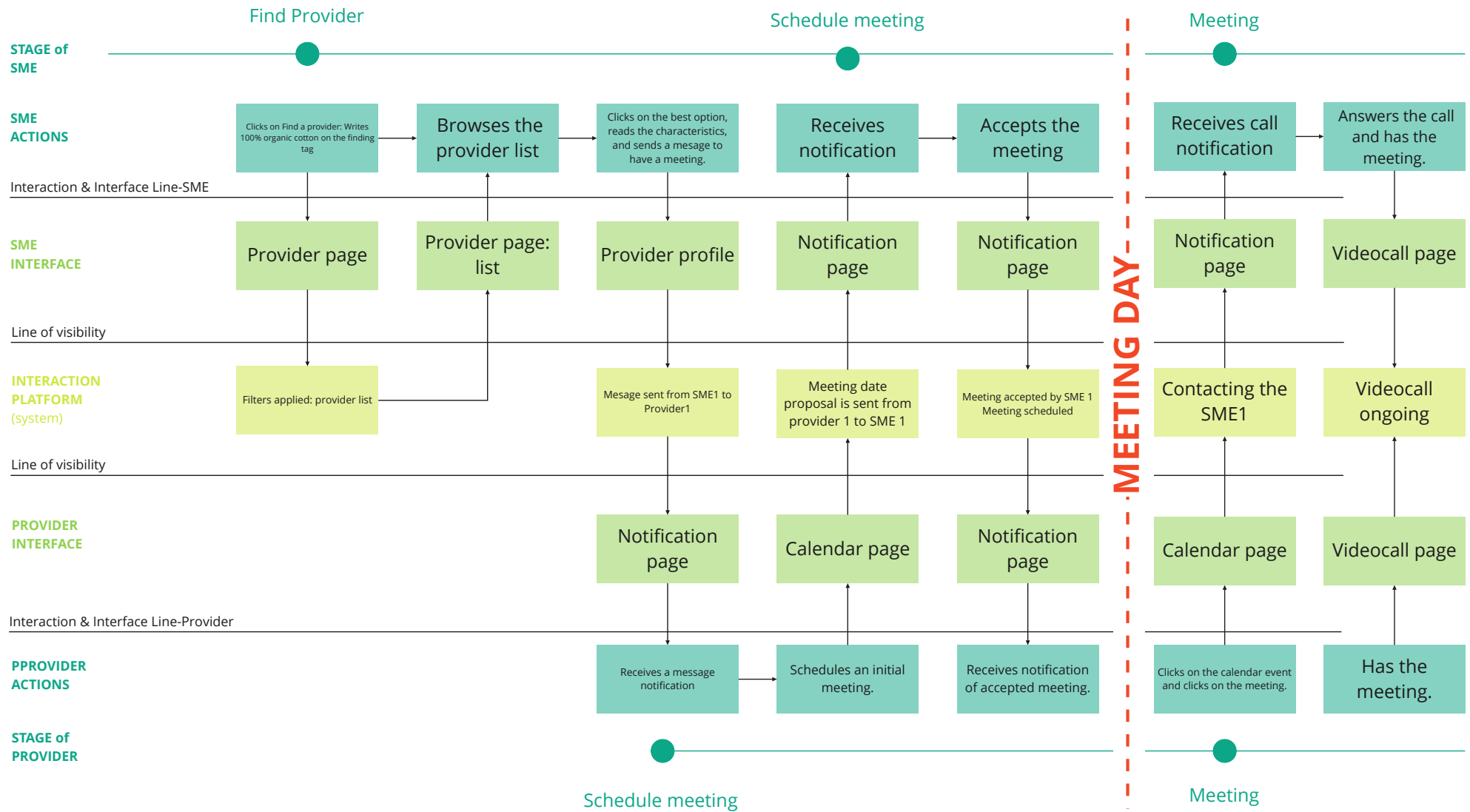
Schedule meeting

Meeting

MEETING DAY

FIGURE 22. Connecting with provider and meeting Blueprint.

The interaction platform
This lane of the blueprint is located in the middle of it. This lane represents the interactions that happen within the system when the different users, SME and provider, interact with the platform. Unlike the interface lane, where each user has a different interface, the interaction platform is the common place where the actions happen. Here, the system gives back the asked information to the users by applying the filters. It represents what happens in the system, and what do the user actions trigger in the system.

The SME and Provider Interfaces
This lane is above and below the Interaction platform lane separated by a line of visibility. As the users are different, SMEs and providers, they interact with different interfaces, and therefore they are located on both sides of the Interaction platform lane as they can trigger actions in the system at the same time. The interfaces are what the users see, they interact with the system through it.

User actions and stage
Above and below the user's interface lanes and separated by the Line of Interaction & Interface, the actions and stages of the user are shown. The actions represent the steps that the users follow on the platform, where hey click and what they do. The stage gives a general title of what is happening in that part of the blueprint.

In this way, the interactions between the two types of users through the platform are shown. This model also visualizes the interactions of the users with the system when applying filters to obtain the desired information. This blueprint must be read from the edges to the centre simultaneously to understand how the platform reacts to the user interaction with it and between them. To summarize, defining this blueprint facilitated the understanding of how the platform works as a mediator between the two types of users, besides, choosing a case to represent allowed the definition of a short blueprint that can be seen as a reference of how the rest of the features would work.

In addition, the blueprint in figure 20 was made to show the interactions between the user and the platform owner/employee when the user provides feedback. As it is shown, the blueprint follows the already explained structure, and the users fulfill the pre-conditions explained: already have an account, and already are logged into the platform. These blueprints were made to cover all the possible interactions that can happen in the platform between all the stakeholders. It needs to be considered that the way the platform owners receive the feedback could change, for instance instead of the employee using another interface, the system could send the feedback via email. These are details that should be considered if the platform is developed in a real scenario, however, it is considered that

this discussion doesn't bring value to the project, thus, this kind of details are not going to be addressed.

STAGE of SME

Send Feedback

SME ACTIONS

| Clicks on Give Feedback | Writes feedback | Clicks on Send | Reads: your feedback has been succesfully sent. |

Interaction & Interface Line-SME

SME INTERFACE

| Feedback page | Feedback page | Feedback page | Feedback page |

Line of visibility

INTERACTION PLATFORM (system)

Feedback sent from SME 1 to platform owner. Feedback notification sent to SME 1.

Line of visibility

PLATFORM OWNER INTERFACE

| Home page | Feedback page |

Interaction & Interface Line-Provider

PLATFORM OWNER ACTIONS

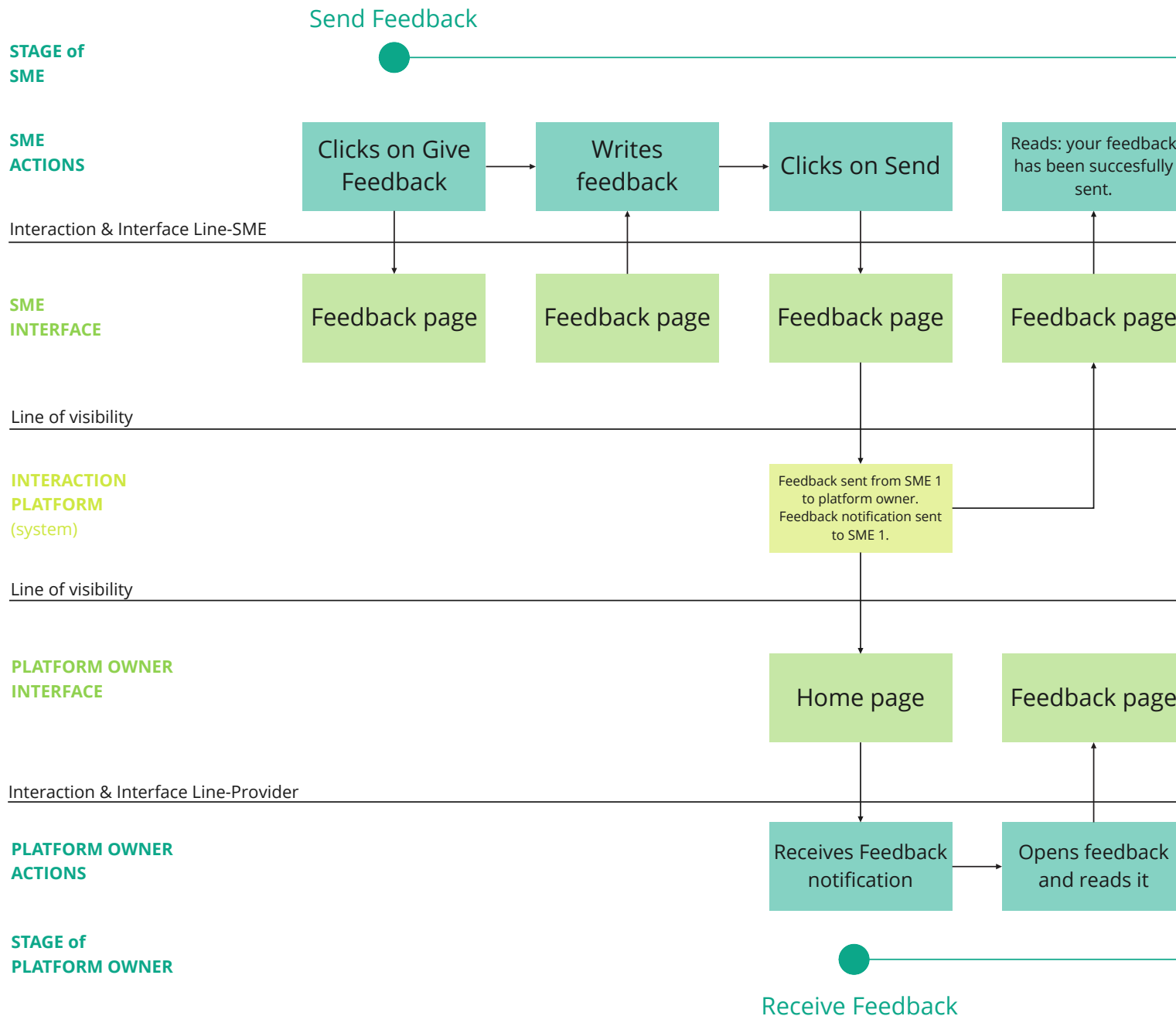| Receives Feedback notification | Opens feedback and reads it |

STAGE of PLATFORM OWNER

Receive Feedback

FIGURE 23. Providing feedback Blueprint

79

6.3.6 UPDATED STAKEHOLDER MAP

At the beginning of the process of this project, a Stakeholder map was defined to analyze the context where the SMEs exist, the relevant actors around them, and the relationships between them, which helped understand the target group ecosystem of the project. This was developed around a non-defined project concept to help analyze and evaluate its impact of it on the stakeholders and vice versa. Once the project concept was defined, the stakeholder map was adapted to the defined service, the platform. The stakeholders involved were analyzed in the same way they were the first time, by analyzing the Influence and Impact of the stakeholders on the project, and based on that the Interest and Power.

	Influence How do they affect the project?	**Impact** How does the project impact them?	**Interest**	**Power**	**Result**
Project owners (Marta Salazar in collaboration with Sustainn)	Research on stakeholders. Concept ideation. Concept definition.	Incomes Positioning Info about the sector, needs of SMEs Networking Research opportunities Networking Contribute to the change	High	High	Leading
Employees (UI designers, programmers...)	Concept implementation	Employment/ Income/ Experience/ Contacts	High	Low	Neutral
Users					
SMEs textile sector	Contribute with information, needs, barriers & opportunities. Users of the platform. Bring new potential clients WoM. Define requirements. Give feedback.	Providers contacts Funding information Articles and training Research opportunities Networking Contribute to the change	High	High	Leading
Provider	Contribute with information, needs, barriers & opportunities. Users of the platform. Bring new potential clients WoM. Define requirements. Give feedback.	Clients Contacts Funding information Research opportunities Networking Contribute to the change	High	High	Leading

FIGURE 24. Updated Stakeholder list

This stakeholder map represents the stakeholders that have been involved in a direct or indirect way in the platform development. It doesn't mean that to develop this platform in a real contest other stakeholders wouldn't be involved, for instance, financiers, public administrations, subcontractors, etc. This stakeholder map served to build the service ecosystem map that represents the ecosystem in which this service takes place.
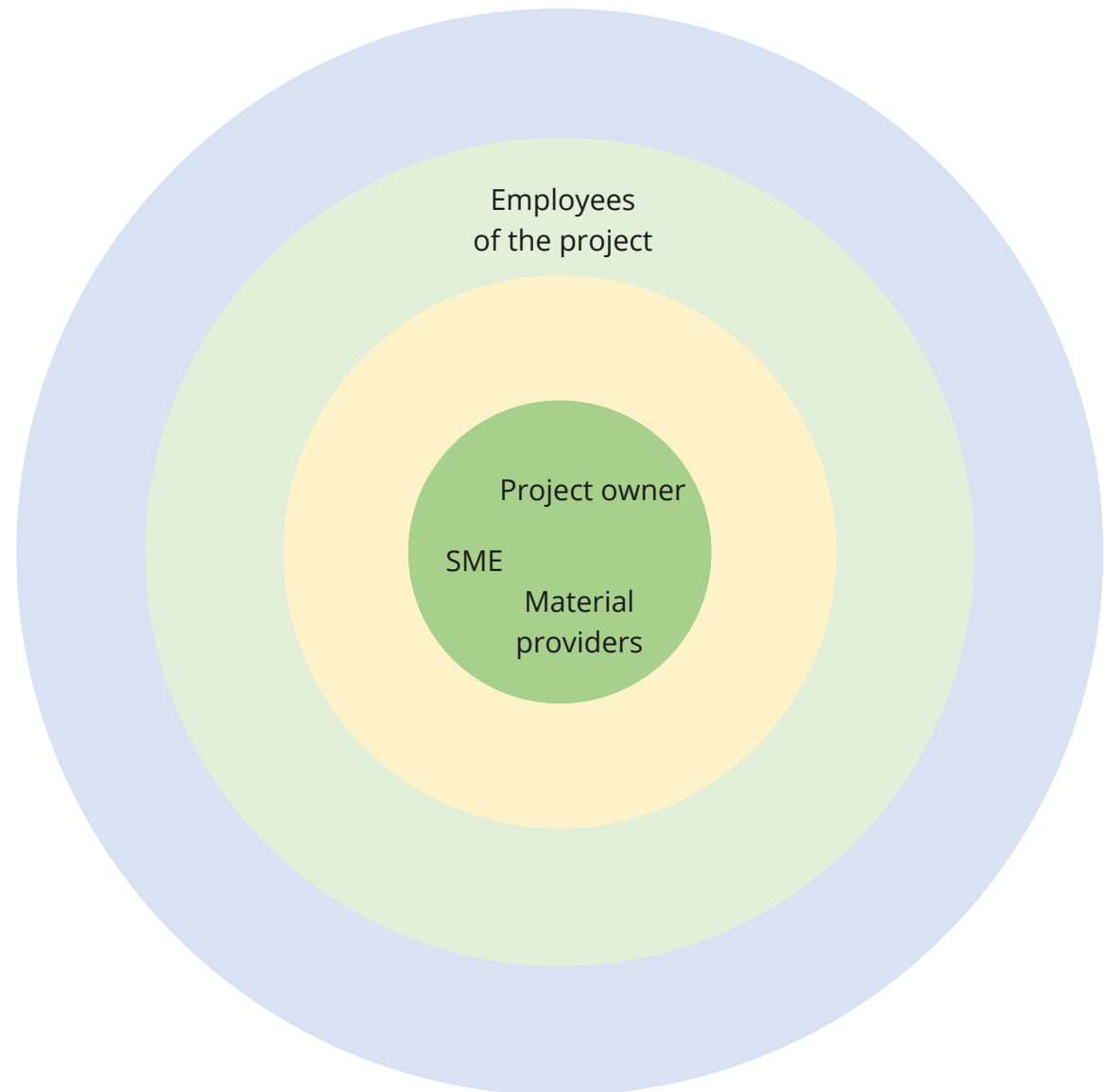
Employees
of the project

Project owner

SME

Material
providers

FIGURE 25. Updated Stakeholder Map

6.3.7 UPDATED SERVICE ECOSYSTEM MAP

Based on the updated Stakeholder map the Service Ecosystem Map was updated. This Ecosystem is contemplated as a CE Service Ecosystem as it is considered that it fulfills the general CE Service Ecosystem definition, where the value co-creation by "a hierarchically independent, yet interdependent heterogeneous set of actors" happens through service exchange being the outcome of a "sustainable ecosystem outcome". It must be remembered that only the Micro, Meso, and Exo system levels of a Service ecosystem are the ones that represent the "Concrete Services" and the Macro, Eco system levels represent the "Service influence factors". Therefore, the Macro and Eco levels didn't differ from the already defined Eco-system Map, as those system levels would affect all the services within a service ecosystem in the same way, i.e., all the services and actors must adapt to the laws and regulations that the institutions define.

Thus, only the Micro, Meso, and Exo System levels were adapted to the defined service, considering the stakeholders involved and analyzing the interaction level within the different levels. Adapting the Service Ecosystem Map considering the defined service, helped understand better the ecosystem where this service would exist, by analyzing the relationships that the stakeholders within the service have with each other and the environment. In the following service ecosystem map in figure 23 , the who, when, where, what, why, and how of the different service system levels are defined**.**

Micro-System
This system level, receiver-provider, represents the direct interaction between the SMEs and providers. Thanks to the platform, these two types of users can celebrate meetings, talk through chat, and connect with each other. It needs to be considered that in this platform-based service, the user acts like the service provider and the platform perse, the service, works as a mediator between them. That's why the SME, the active actor of the platform as they are the ones that look for the providers and first connect with them, receives a service from the Provider, the passive actor that is contacted by the SME, and that after an agreement, provides a service to the SME, i.e., provide material, help with the clothing pattern, etc.

Meso-System
This system level, receiver-service, represents the interaction of the users with whole the platform. The user interacts with the different features of the platform and with each other, besides they provide feedback to the platform employees (programmers, UI/UX designers, etc.) for them to adapt the platform to the user needs. The interaction here between the platform users (receiver) and the platform employees (service), is fully focused on enhancing the platform itself, i.e., the possibility of further collaborations between the platform owners and users to explore other concepts happens in the next system level of interaction.

Exo-System
This system level, receiver-community, represents how I as a service designer in collaboration with Sustain as CE consultants have designed a service to cover the needs of some ecosystem stakeholders by directly including them in the process through interviews and testing. Thus, we have created a community that focuses on enhancing the conditions for SMEs and providers (receivers) to interact besides covering the identified needs of finding different types of information (funding, articles, etc.). This level also represents future collaborations, platform iterations, and further explorations of the ecosystem concept that would provoke changes in the platform and give rise to new concepts and collaborations potentially involving more stakeholders.

FIGURE 26. Updated Service Ecosystem Map

6.3.8 CONCLUSION ON "DEVELOP" PHASE

The defined platform was inspired by the insights gained throughout the "Discover 2" and "Define 2" phases and successfully fulfils the identified user needs. The decision on the methods used to develop the platform was based on the need to organize the information to clarify the needs. During the brainstorming session, the bases of the platform were defined based on the insights from previous phases. Through the definition of personas and scenarios the connection between the defined platform features and the user's needs was made. Thus, these user archetypes and stories helped guide the development of the platform. Based on the personas and what they represent, the user journeys were defined by defining the potential experience these users would have when using the platform.

When defining the user journeys it was observed that most of the features of the platform worked the same way system-wise, i.e., the user by applying some filters obtains the desired information, either funding information, relevant articles, a list of providers, etc. This facilitated the blueprint definition since it was only needed to represent one of the features that the platform offers the user to be able to understand how the platform worked overall. In addition, the user steps defined in the user journey helped define the wireframe that represents the platform's interface.

Thanks to the platform's interface wireframe, three testing sessions were successfully carried out with the same SME interview participants which provided positive feedback on the platform per se in addition to future improvement ideas and additions. To represent the user actions in relation to the platform system, a traditional blueprint was adapted to represent the platform-based service characteristics and the simultaneous activity of the two types of users with the platform and between them through the platform.

Overall, the "Develop" phase was enriching and challenging at the same time. Through the different design methods, the platform-based service solution was successfully defined, developed, and tested. Besides, having defined a service that worked and fulfilled the user needs, helped adapt the service ecosystem map where this service would exist to fulfill the second line of investigation goal of further exploring the Service Ecosystem concept.

6.4 DELIVER

The "Deliver" phase presents the final concept defined and developed throughout the case study. The platform-based service concept was explained and presented in a product report that will be shared with Sustainn. The product report shows the insights gathered and collected through the followed structure of the Double Diamond (Design Council, 2019) and how the defined platform can help the involved actors, SME and Providers, to connect with each other and fulfil the identified needs in the previous phases, i.e., finding funding, finding articles and training, etc.

6.4.1 PRODUCT REPORT

This development of the case study had two objectives. First, to fulfill the collaboration with Sustainn by developing a service that would help SMEs to adopt a circular business model, proving thus the initial assumption that facilitated the start of the project. On the other hand, this case study was developed to explore further the Service Ecosystem concept, satisfying the personal learning objective of being challenged with the project and learning about new service design applications and concepts. As this second objective has to do with my personal learning objectives, only the first one is represented in the product report. Thus, this product report collects the insights gained from the case study and proposes the defined final solution, the platform-based service, that fulfills the users' needs found during the research.

This report also aims to inspire Sustainn in future projects to help SMEs face barriers and improve their CBM adoption experience and process from a SD perspective. This project opens the door to future applications of Service Design as a discipline in projects related to sustainability, demonstrating the adaptability of SD to multiple fields and the advantages of its application.

The product report presents the platform-based service approach and how this platform can help different users address the barriers identified during the research. The platform concept can be easily iterated and adapted to the feedback gathered from the users through the platform's feedback feature or with future collaborations with the involved stakeholders and with possibilities to involve others. It must be considered that the problem statement used in the product report is the preliminary problem statement to avoid talking about the ecosystem concept.

6.4.2 FUTURE OPPORTUNITIES

The platform has great potential to be adapted to all types of SMEs. Considering how the platform works, it could help SMEs from all kinds of industries since the research carried out suggests that SMEs tend to face these types of problems in general.

It must be taken into account that the first step to be carried out in the case of implementing the platform in a real scenario would be to involve the providers directly, in addition to obtaining more data from SMEs and testing.

In addition, in the tests, it was observed that the participants suggested involving more stakeholders, this is considered a great opportunity to create a co-creation platform that connects different stakeholders to help them with their needs and create a space in which to enhance the conditions to value co-create.

7. DISCUSSION

This chapter presents the reflections on the different topics covered in the development of this master thesis. First the reflections on the design process, methodology, and met limitations during the case study development are presented. A reflection on the final solution, the platform, and the overall Service Ecosystem concept research are presented, also it is analyzed if they answer the research question and problem statements. Lastly, reflections on the official and personal learning objectives are presented.

7.1 REFLECTION ON THE METHODOLOGY

7.1.1 REFLECTION ON THE TARGET GROUP AND PRELIMINARY RESEARCH QUESTION

At the beginning of this project, it was not clear what direction I wanted to take with its development. The topic of the circular economy is highly extensive and so it is my unfamiliarity with it, therefore, the project could take any direction and easily result in an unstructured research without a clear goal. Hence, deciding the project's target group from the beginning facilitated finding an initial direction to conduct the research giving rise to the preliminary research question that helped conduct the investigation that supports

this project.

The focus on SMEs within the fashion industry that are adopting or have adopted a CBM comes from the expertise that Sustainn has with working with them. Therefore, this could facilitate contacts, general information on CE, and specific information on how these SMEs behave and with who they interact, which helped build the stakeholder map. Researching the environment of the target group, helped me understand the target group per se before starting to work closely with them.

However, I am aware that having made these initial decisions also conditioned the project itself, knowing that the mere fact of changing the target group would have led to a totally different project. Even so, I consider that this decision has brought more positive than negative things to the project, being able to learn about CE from the perspective of SMEs and facilitating research that I personally consider very enriching.

7.1.2 REFLECTION ON THE DOUBLE DIAMOND

The double diamond is not an unknown model for me as I had previously used it to structure other projects throughout my masters. My familiarity and previous experience with this model facilitated the adaptation of it for the structuring of the project. Thus, this model helped work in a diver-

gent and convergent way, adapting the model through iterations to the needs found during the development of the project. The different iterations carried out throughout the project were not initially planned, but while the research was being carried out, different topics of interest arose, such as the service ecosystem concept, which was considered very enriching for the project and for my personal learning. Thus, being able to carry out non-planed iterations in the different phases of the double diamond facilitated the realization of the project per se and conducting research on topics of high interest to me and to the project.

Yet, this made it a bit difficult to decide when to stop the investigation, since multiple interesting concepts emerged during the research that, due to the project's time frame, couldn´t be addressed and investigated further. Therefore, the decision on which topics would be researched more and which not was made based on the initial course of the investigation, i.e., an initial course of the investigation was taken at the beginning of the project with the focus on the target group, the aim of researching these new concepts was not to completely change the scope of the research that was already being carried out, but to complement and enrich it. Therefore, if it was sensed that the concepts could be related and create meaning in the project, in addition to my personal learning interest, these were included in the project and further investigated.

Thus, adopting the double diamond model as a framework for this master's thesis allowed multiple investigations to be carried out simultaneously finally relating the concepts through the case study.

7.1.3 REFLECTION ON THE LIMITATIONS ON THE RESEARCH

As explained in previous chapters, many limitations were faced during the research and the development of the project per se. First, it must be considered that even though this project was developed in collaboration with a company, it was mostly developed and totally written by a one-person group. In addition, the time to develop this project was very limited due to the author's job which affected the timeframe of the thesis causing the extension of the original deadline. Furthermore, although there was a greater network of contacts thanks to the collaboration with Sustain, reaching the target group ended up being a big hassle in this project as very few participants were recruited for the interviews and the questionnaire was a flop in terms of response numbers.

Therefore, I am aware of the limitation in the data obtained, knowing that in a real project this number of participants would not be significant to support the decision-making as it is considered that it is not possible to generate a strong data-base from the insights of only 3 participants.

If this project had been developed in another context with more time, more participants would have been contacted and there would have been more time to carry out the interviews. It must be considered that the entire process of contacting SMEs and interviewing them lasted more than one month, proving that it is a process that takes a long time since it is necessary to adapt to the hectic schedule of SMEs. Lastly, it is known that to have a strong database that supports the decision-making of a project and in order to involve stakeholders in it, data directly from them must be collected. However, it is considered that when the project aims to research different topics to fulfil the learning objectives and due to the project's timeframe, it is understandable to involve, in this case the providers, based on assumptions built with indirect data collected during the interviews with the SMEs.

7.2 REFLECTION ON THE OVERALL RESEARCH

As explained above, this project can be understood as two different investigations that have been conducted in parallel and finally met in the case study. The investigations also achieve different learning objectives overall. On the one hand, we have the first line of investigation that fulfills the preliminary research question and the preliminary problem statement. Research on topics related to the CE to gain a background on the field and research to identify the barriers that SMEs face while adopting a CBM were conducted. This helped achieve the personal learning objective "learn about the CE concept and design a solution to support circularity through service design." This investigation served as a base to build the case study where the barriers were explored further, and a final solution in the form of a platform-based service which is considered to support circularity by helping SMEs in the CBM adoption process, was designed.

On the other hand, the second line of investigation focused on the personal learning objective "learn about new service design applications and related concepts and be able to apply the new knowledge." This learning objective focuses on personal learning interest and is also considered

fulfilled as the insights gathered during the research of this topic were applied to the defined platform-based service solution by defining the service ecosystem of this service per se to understand better the concept with a case example. Besides, this investigation helped also fulfill the learning objective "challenge myself with this thesis, avoid being comfortable by researching unfamiliar topics" as, in addition to the CE and related topics, the Service ecosystem topic and the concepts related to it were utterly unfamiliar to me.

7.3 REFLECTION ON THE COLLABORATION WITH SUSTAINN

This project would not have been possible without collaborating with Carlos León from Sustainn. Carlos has supported this thesis research in multiple ways; having regular meetings to discuss the project's direction and receiving valuable feedback from him has been a big support in the development of it.

In addition, thanks to his knowledge in the CE field and his expertise working with SMEs, the research was successfully conducted in one direction to facilitate the beginning of the project,

as well as guiding me in the proper CE topic research to help me gain a general background on the field. Even though Carlos is not a designer, in Sustainn they have a lot of experience working as consultants with SMEs and know different ways of defining and visualizing data, like the developed Stakeholder map by following the PMBOK method they taught me. In addition, he supported me throughout the research by sharing the questionnaire with his network and providing me with several web pages where I could find SMEs I could contact for the interviews. Lastly, the brainstorming session was conducted together to define the final solution of the case study, which helped to avoid personal biases in the decision of the final concept.

On the other hand, this collaboration also enriched Sustainn with new knowledge in the SD field. This project shows how SD can help to improve the conditions in which the SMEs adopt a CBM, being thus a valuable application in the CE field that can help Sustain fulfill its mission of guiding organizations toward a circular and sustainable economic model through innovation. Thus, the learning objective "successfully collaborate with Sustainn, and complement each other in the process with our different capacities" is considered fulfilled.

7.4 REFLECTION ON THE FINAL PLATFORM BASED SERVICE

The platform-based service is the final result of the first line of investigation conducted throughout this project. The insights collected during the definition and development process of the platform, as well as the final concept, are presented in the product report of this project.

The development of this final concept involved different challenges, such as the adaptation of a traditional blueprint model to be able to visually show the user interactions through the platform and with it simultaneously. It was important to be able to find the correct way to display this feature of the platform since it defines the main characteristic of a platform-based service, as the service itself works as the mediator that connects two types of users who co-create value through a common system.

By finding a way to overcome the challenges faced throughout the case study the learning objective "measure my capabilities as a service designer, recognize pain points to work on and continue learning" is considered achieved. Furthermore, this platform-based service successfully found a 89

solution to the SMEs´ needs and barriers that were identified in the research as is proven in the testings of the concept. Thus, this platform is considered to be a service with great future potential, as well as being easily adaptable to other fields and types of SMEs. It also presents many possibilities for improvements as it would be easily adaptable to the users´ needs, apart from providing the opportunity to involve other stakeholders of interest to SMEs in future iterations.

7.5 REFLECTION ON THE CE SERVICE ECOSYSTEM CONCEPT

The CE Service Ecosystem concept was defined based on the insights gained with the second line of investigation carried out through the project. The analyzed literature on the different types of ecosystems, the Services ecosystem and CE ecosystems, and the four commonalities defined for any type of ecosystem suggested that an ecosystem can be "Multielement". I.e., the same ecosystem can have characteristics from different ecosystem types.

To clarify this suggestion an example will be given in the following lines, the educational ecosystem outcome could be considered a "system in which all people grow up with an educational experience that empowers them to realize their full potential as active contributors to our collective well-being" (Slade, 2019), if this educational experience had the focus on investigating and learning about how to "eliminate waste and pollution, keeping products and materials in use and regenerate natural systems" (Ellen MacArthur Foundation, n.d.-b) one could suggest that this ecosystem could be defined as a system that facilitates the value co-creation between different actors through service exchange where the outcome is a system in which all people grow up with an educational experience that aims to investigate and learn about how to eliminate waste and pollution, keeping products and materials in use and regenerate natural systems, hence, considering this ecosystem a CE Educational Ecosystem. It must be clarified that to facilitate the understanding of this suggested definition of the CE Educational Ecosystem example doesn't follow the Ecosystem definition used throughout this project.

The reasoning above is the result of the personal understanding of the insights collected during the literary analysis of the ecosystem concept that was applied in this project by suggesting the CE Service Ecosystem definition and defining its characteristics throughout the case study. However, this does not mean that this reasoning does not already exist and is verified by the literary, it means that, due to the reduced time to develop this thesis, there was no time to delve into this characteristic of ecosystems, and hence, this reasoning is considered a personal reasoning suggested by the analyzed insights gained in the investigation carried out throughout the development of this master thesis.

Finally, one could say that this reasoning is proven in the CE ecosystem literature review chapter where it is stated that a CE ecosystem "may include comprise elements from different types of ecosystems" (Autio & Thomas, 2022). However, when the literature says "ecosystem" refers to CE ecosystem, and when it says "different types of ecosystem", it refers to the later defined CE ecosystem types that, as it is said in that chapter, can be defined based on their system-level goals and the system interactions and flows (Autio & Thomas, 2022). This means that a CE ecosystem could have elements from the CE Industrial ecosystem type and from the CE Innovation ecosystem type, being thus a CE Industrial Innovation Ecosystem. I.e., everything stays within the same main Ecosystem type, the CE ecosystem. Thus, the personal reasoning suggested above aims to consider the "Multi-element" characteristic of an ecosystem as a commonality that can be found in all ecosystems.

7.5.1 SUGGESTED COMMONALITIES

The investigation of the ecosystem concept carried out in this project suggests two new commonalities that could be characteristics of all ecosystems overall. Let us remember the four commonalities found in the literature (Adner, 2017; Autio & Thomas, 2022; Teerikangas et al., 2022):

1. "System-level outcome": the outcome of the eco-system is both coherent and more significant than any individual actor can deliver alone.

2. "Heterogenous participants": actors have different roles in the ecosystem, the ecosystem is compounded of "heterogenous communities of stakeholders, hierarchically interdependent but adhered to specific roles within the ecosystem" (Autio & Thomas, 2022).

3. "Interdependency": the actors within the eco-system are linked through interdependencies, i.e, spatial proximity, economic links, technological complementarities, physical interconnection, mutual co-dependency, etc.

4. "Coordination": the eco-systems have coordination mechanisms "that strike a balance between change and stability in eco-system outcomes" (Teerikangas et al., 2022, p.264) through "role definitions, complementarity and technological, economic and cognitive alignment structures" (Autio & Thomas, 2022).

The suggested two new commonalities are "Multi-element" which has been explained above and could be defined as:

5. "Multi-element": an ecosystem can be "composed of, containing or involving more than one distinct part or aspect" (Merriam-Webster, n.d.) of other ecosystem types.

And the 6th commonality suggested by this thesis research "Versatile actors". This commonality refers to how the role of the actors within an ecosystem can vary depending on the interaction system-level in which they are and the when, where, how, why, what, and who of the interaction. For instance, in the defined CE Service ecosystem, at the micro system-level, the provider interacts through the platform with an SME, this being the role of the provider the user of the platform. When the provider and the SME decide to collaborate outside the platform, and the SME hires the provider, the provider provides a service in the form of materials consulting, pattern-making knowledge, etc., the provider´s role changes in this interaction that happens within the same CE Service ecosystem, from platform user to a service provider. In this role change, the what, when, where, and how of that actor has changed along with the interaction system-levels. Another example could be within the educational ecosystem: my supervisor and I have a supervision about this master thesis, this interaction that happens at the micro level is formed by my supervisor, the provider as a professor, and me, the receiver as a student. However, if I become a tutor at the university, my role within the same educational ecosystem would change since I become a provider to the new students that are the receivers. This role change affects the entire ecosystem from the actor's perspective. When I become a tutor my when, how, where, what, and who of the interaction level changes, as well as my role within each system-level. Thus, it is suggested that in consequence of this role variability, the same actor acquires several roles in the same ecosystem, depending on the when, where, how, what, and who of the interaction and the system-level where it happens.

Hence, this 6th commonality could be defined as the following:

6. "Versatile actors": actors within an ecosystem can change their role affecting the What, When, Where, How, and Who of the interaction and the system-level in which it takes place.

91

One could consider that this 6th commonality could be intrinsic in the defined second commonality, "Heterogeneous participants." But if we analyze the given definition by the literature, it says, "heterogenous communities of stakeholders, hierarchically interdependent but adhered to specific roles within the ecosystem" (Autio & Thomas, 2022). I.e., it refers to the community of stakeholders, meaning that within an ecosystem, there is a variety in the roles of the actors; for instance, within the educational ecosystem, there are students, professors, mentors, tutors, etc., but it does not specify that the actors can change roles. Moreover, it says "(stakeholders are) adhered to specific roles within the ecosystem" which implies that the actors have specific roles within the ecosystem but at no time is reference made to the variability of roles of the same actor within an ecosystem.

It must be clarified that this suggestion of the two new Commonalities results from the personal interpretation of the insights gathered in this thesis research. This does not imply that non-researched literature has not written about or proven the made suggestions; it means that the outcome of the data analysis made in this master thesis, and considering the limitations of the same, is the suggested reasoning explained above. In addition, it is part of the personal learnings gained throughout the development of this thesis.

8. CONCLUSION

In conclusion, this master's thesis has helped me achieve the official and personal learning objectives. The Double Diamond model used as the structure of the process has helped conduct two investigation simultaneously thanks to its iterative nature.

The need to gain a general knowledge of the circular economy topic and related concepts was paramount, therefore the first investigation focused on gaining that general background as well as proving the assumption on which the preliminary research question was built. This research helped build the preliminary problem statement that facilitated the beginning of the case study of the project. In addition, this part of the research helped me gain confidence in the CE field by gaining a very basic background and yet, enough to feel comfortable when interviewing stakeholders related to the field. Furthermore, this research helped me achieve personal learning objectives by finally being able to investigate the CE concept.

Once the preliminary problem statement was set, this research continued investigating further the SME's barriers-related issues while the new investigation that researches the applications of SD and related concepts to CE issues arose. This second investigation focused on finding new service-related concepts and possible applications to, in this case, the CE field. It fulfills part of the personal learning objectives since, having been able to

ignore this part of the investigation and invest the time in the first investigation, it was decided to conduct this investigation simultaneously to research the Ecosystem concept as it was found challenging and very personally enriching. This investigation was carried out during the case study, where both investigations are combined, and the CE Service Ecosystem is defined and analyzed. Thus, the case study has two outcomes, the platform-based service that fulfills the first investigation, and the CE Service Ecosystem research and analysis as the result of the second investigation.

Throughout these two investigations, several limitations have been faced, especially regarding the investigation related to SMEs´ barriers. These limitations can be summarized as: difficulty in getting respondents to the questionnaire, difficulties in finding participants for the interviews, and limited time to develop this project and therefore having to involve stakeholders based on indirect data.

The platform-based service that aims to support SMEs in CBM adoption by providing them with valuable information and connecting them with providers was prototyped and tested with some SMEs receiving very positive feedback. The development of this platform helped to achieve the official learning objectives by not only putting into practice my skills and knowledge as a service designer but also challenging me to investigate new ways of representing and visualizing ideas, such as

the adapted blueprint. In addition, the conducted two investigations, helped me understand how the role of the service designer must be versatile. A service can be defined and analyzed from different perspectives, at different system-levels, and to achieve different goals, thus a service designer must be able to adapt to the different characteristics of the moment and to find the proper information for each different case through research.

Although it is considered that this project has great potential to continue investigating the discussed concepts, it has been decided that its development and research will not continue. The product report of this project provides insights on how to develop and improve the platform-based service further investigating the SMEs´ needs and including more interesting stakeholders. In addition, it is considered that interesting concepts to continue investigating would be the Service ecosystem concept and the commonalities in the ecosystems, however, this further research is out of the scope of this project.

9. REFERENCES

Adner, R. (2017). Ecosystem as Structure: An Actionable Construct for Strategy. Journal of Management, 43(1), 39–58. https://doi.org/10.1177/0149206316678451

Alexander Osterwalder, Y. P. (2010). Business Model Generation: A Handbook for Visionaries, Game Changers, and ... - Google Books. https://books.google.dk/books?hl=en&lr=&id=UzuTAwAAQBAJ&oi=fnd&pg=PP1&dq=osterwalder+and+pigneur+(2010)&ots=yYGOwaJ7WA&sig=61K6KKU6KU08m-cxt0tHCbUQOdRU&redir_esc=y#v=onepage&q=osterwalder and pigneur (2010)&f=false

Angelis, R. de. (2018). Business Models in the Circular.

Autio, E., & Thomas, L. D. W. (2022). Researching ecosystems in innovation contexts. Innovation and Management Review, 19(1), 12–25. https://doi.org/10.1108/INMR-08-2021-0151

Ball, J. (2019). The Double Diamond: A universally accepted depiction of the design process - Design Council. https://www.designcouncil.org.uk/our-work/news-opinion/double-diamond-universally-accepted-depiction-design-process/

Bonciu, F. (2014). The European economy: From a linear to a circular economy. Romanian Journal of European Affairs, 14(4), 78–91.

Brendzel-Skowera, K. (2021). Circular economy business models in the sme sector. Sustainability (Switzerland), 13(13). https://doi.org/10.3390/su13137059

BUSINESS MODEL | meaning in the Cambridge English Dictionary. (n.d.). Retrieved May 7, 2022, from https://dictionary.cambridge.org/dictionary/english/business-model

Cillian Lohan: The Circular Economy: A Simple Explanation | TED Talk. (n.d.). Retrieved April 30, 2022, from https://www.ted.com/talks/cillian_lohan_the_circular_economy_a_simple_explanation

Commission on Environment, W. (1987). Report of the World Commission on Environment and Development: Our Common Future Towards Sustainable Development 2. Part II. Common Challenges Population and Human Resources 4.

CURRICULUM FOR THE MASTER'S PROGRAMME IN SERVICE SYSTEMS DESIGN, 2020. COPENHAGEN MASTER OF SCIENCE (MSC) COPENHAGEN Link til denne studieordning. (2020).

Design Council. (2019). Framework for Innovation: Design Council's evolved Double Diamond - Design Council. https://www.designcouncil.org.uk/our-work/skills-learning/tools-frameworks/framework-for-innovation-design-councils-evolved-double-diamond/

Drew, C. (2019). The Double Diamond: 15 years on - Design Council. https://www.designcouncil.org.uk/our-work/news-opinion/double-diamond-15-years/

Ellen, M., & Company, M. &. (2014). Towards the Circular Economy : Accelerating the scale-up across global supply chains. World Economic Forum, January, 1–64.

Ellen MacArthur Foundation. (n.d.-a). Fashion and a circular economy | Ellen MacArthur Foundation. Retrieved September 22, 2022, from https://ellenmacar-thurfoundation.org/topics/fashion/overview?gclid=Cj0KCQjwj7CZBhDHARIsAPPWv3f3sgx8Toocy8qg3dGQgpD43AUCNdRrVcSzKp3gMJyO5g1WUSVm-HZ8aAlZaEALw_wcB

Ellen MacArthur Foundation. (n.d.-b). What is a circular economy? Retrieved September 26, 2022, from https://ellenmacarthurfoundation.org/topics/circu-lar-economy-introduction/overview

Ellen MacArthur Foundation. (2017). Fashion and the circular economy. https://archive.ellenmacarthurfoundation.org/explore/fashion-and-the-circular-econo-my

Geissdoerfer, M., Savaget, P., Bocken, N. M. P., & Hultink, E. J. (2017). The Circular Economy – A new sustainability paradigm? Journal of Cleaner Production, 143, 757–768. https://doi.org/10.1016/j.jclepro.2016.12.048

Geissdoerfer, M., Vladimirova, D., & Evans, S. (2018). Sustainable business model innovation: A review. Journal of Cleaner Production, 198, 401–416. https://doi.org/10.1016/J.JCLEPRO.2018.06.240

Geng, Y., Fu, J., Sarkis, J., & Xue, B. (2012). Towards a national circular economy indicator system in China: An evaluation and critical analysis. Journal of Clean-er Production, 23(1), 216–224. https://doi.org/10.1016/j.jclepro.2011.07.005

Ghenţa, M., & Matei, A. (2018). Smes and the circular economy: From policy to difficulties encountered during implementation. Amfiteatru Economic, 20(48), 294–309. https://doi.org/10.24818/EA/2018/48/294

Global Footprint Network. (2012). Annual Report. Global Footprint Network, 1–41.

Guldmann, E. (2016). Best Practice Examples of Circular Business Models. In The Danish Environmental Protection Agency (Issue December).

Guldmann, E. (2018). Circular business models - Innovation journeys towards a circular economy (Issue January).

Gustafsson, D. (2019). Analysing the Double diamond design process through research & implementation 2 Content.

Hartwig, K., von Saldern, L., & Jacob, F. (2021). The journey from goods-dominant logic to service-dominant logic: A case study with a global technology manu-facturer. Industrial Marketing Management, 95, 85–98. https://doi.org/10.1016/j.indmarman.2021.04.006

Heale, R., & Forbes, D. (2013). Understanding triangulation in research. In Evidence-Based Nursing (Vol. 16, Issue 4, p. 98). https://doi.org/10.1136/eb-2013-101494

Johnston, P., Everard, M., Santillo, D., & Robèrt, K.-H. (2007). Reclaiming the definition of sustainability. Environmental Science and Pollution Research International, 14(1), 60—66. https://doi.org/10.1065/espr2007.01.375

Joiner, K., & Lusch, R. (2016). Evolving to a new service-dominant logic for health care. Innovation and Entrepreneurship in Health, 25. https://doi.org/10.2147/ieh.s93473

Katarzyna Brendzel-Skowera. (2021). Circular Economy business models explained. Sustainability, 13(7059).

Kirchherr, J., Piscicelli, L., Bour, R., Kostense-Smit, E., Muller, J., Huibrechtse-Truijens, A., & Hekkert, M. (2018). Barriers to the Circular Economy: Evidence From the European Union (EU). Ecological Economics, 150(December 2017), 264–272. https://doi.org/10.1016/j.ecolecon.2018.04.028

Koszewska, M. (2018). Circular Economy - Challenges for the Textile and Clothing Industry. Autex Research Journal. https://doi.org/10.1515/aut-2018-0023

Kristensen, H. S., & Mosgaard, M. A. (2020). A review of micro level indicators for a circular economy – moving away from the three dimensions of sustainability? Journal of Cleaner Production, 243, 118531. https://doi.org/10.1016/j.jclepro.2019.118531

Lifestyle & Design Cluster (LDC): Johanne Stenstrup. (2022). SUSTAINABILITY PRIORITIES & GAPS RESULTS FROM 48 TEXTILE COMPANIES SUSTAINABILITY PRIORITIES AND GAPS FROM 48 TEXTILES COMPANIES. www.ldcluster.com

Linder, M., & Williander, M. (2017). Circular Business Model Innovation: Inherent Uncertainties. Business Strategy and the Environment, 26(2), 182–196. https://doi.org/10.1002/bse.1906

Liu, L. (2021). Introduction to Circular Economy 2021.

Lusch, R. F., & Vargo, S. L. (2006). THE SERVICE-DOMINANT LOGIC OF MARKETING.

Morelli, N., de Götzen, A., & Simeone, L. (2018). Service Design capabilities. In Adaptive Sensory Environments. https://doi.org/10.4324/9781315630519-23

Multielement Definition & Meaning - Merriam-Webster. (n.d.). Retrieved September 27, 2022, from https://www.merriam-webster.com/dictionary/multielement

Murray, A., Skene, K., & Haynes, K. (2017). The Circular Economy: An Interdisciplinary Exploration of the Concept and Application in a Global Context. Journal of Business Ethics, 140(3), 369–380. https://doi.org/10.1007/s10551-015-2693-2

Nie, Z., Zurlo, F., Camussi, E., & Annovazzi, C. (2019). Service Ecosystem Design for improving the service sustainability: A case of Career Counselling Services in the Italian higher education institution. Sustainability (Switzerland), 11(5). https://doi.org/10.3390/su11051427

Nielsen, L. (2004). Engaging Personas and Narrative Scenarios.

Nikolaou, I. E., & Tsagarakis, K. P. (2021). An introduction to circular economy and sustainability: Some existing lessons and future directions. Sustainable Production and Consumption, 28, 600–609. https://doi.org/10.1016/j.spc.2021.06.017

Noble, H., & Heale, R. (2019). Triangulation in research, with examples. In Evidence-Based Nursing (Vol. 22, Issue 3, pp. 67–68). BMJ Publishing Group. https://doi.org/10.1136/ebnurs-2019-103145

Ormazabal, M., Prieto-Sandoval, V., Puga-Leal, R., & Jaca, C. (2018). Circular Economy in Spanish SMEs: Challenges and opportunities. Journal of Cleaner Production, 185, 157–167. https://doi.org/10.1016/j.jclepro.2018.03.031

Osborne, M., Lambe, F., Ran, Y., Dehmel, N., Tabacco, G. A., Balungira, J., Pérez-Viana, B., Widmark, E., Holmlid, S., & Verschoor, A. (2022). Designing development interventions: The application of service design and discrete choice experiments in complex settings. World Development, 158. https://doi.org/10.1016/j.worlddev.2022.105998

Penin, L. (2018). Designing the Invisible: An introduction to service design.

PRINCIPLE | meaning in the Cambridge English Dictionary. (n.d.). Retrieved April 30, 2022, from https://dictionary.cambridge.org/dictionary/english/principle

Project Management Institute, & Project Management Institute. (2017). A guide to the project management body of knowledge (PMBOK guide).

Ritzén, S., & Sandström, G. Ö. (2017). Barriers to the Circular Economy - Integration of Perspectives and Domains. Procedia CIRP, 64, 7–12. https://doi.org/10.1016/j.procir.2017.03.005

Rizos, V., Behrens, A., Kafyeke, T., Hirschnitz-Garbers, M., & Ioannou, A. (2015). The Circular Economy: Barriers and Opportunities for SMEs. Ceps, 412, 25.

Saha, K., Dey, P. K., & Papagiannaki, E. (2021). Implementing circular economy in the textile and clothing industry. Business Strategy and the Environment, 30(4), 1497–1530. https://doi.org/10.1002/bse.2670

Salas, G., & Condorhuaman, C. (2009). hUEllA DE CARBoNo EN lA INDUSTRIA TEXTIl. In rev. Per. Quím. ing. Quím. vol (Vol. 12, Issue 2).

Schaltegger, S., Hansen, E. G., & Lüdeke-Freund, F. (2016). Business Models for Sustainability: Origins, Present Research, and Future Avenues. Organization & Environment, 29(1), 3–10. https://doi.org/10.1177/1086026615599806

Slade, S. (2019). Education is an ecosystem - ASCD. https://www.ascd.org/blogs/education-is-an-ecosystem

Stickdorn, M., Hormess, M., Lawrence, A., & Schneider, J. (2018a). This is Service Design Doing. In This Is Service Design Methods.

Stickdorn, M., Hormess, M., Lawrence, A., & Schneider, J. (2018b). This is service design methods.

Stickdorn, M., Lawrence, A., Hormess, M., & Schneider, J. (2018). This is Service Design Doing WITH GENEROUS SUPPORT FROM THE GLOBAL SERVICE DESIGN COMMUNITY.

Stickdorn, M., & Schneider, J. (2011). This is service design thinking. Basics — Tools — Cases.

Suárez-Eiroa, B., Fernández, E., Méndez-Martínez, G., & Soto-Oñate, D. (2019). Operational principles of circular economy for sustainable development: Linking theory and practice. Journal of Cleaner Production, 214, 952–961. https://doi.org/10.1016/j.jclepro.2018.12.271

Sung, K., Candidate, P., Cooper, T., & Kettley, S. (2014). Sustainable Innovation 2014 Individual Upcycling Practice: Exploring the Possible Determinants of Upcycling Based on a Literature Review-Kyungeun Sung.

SUSTAINABILITY | meaning in the Cambridge English Dictionary. (n.d.). Retrieved April 30, 2022, from https://dictionary.cambridge.org/dictionary/english/sustainability

sustainable adjective - Definition, pictures, pronunciation and usage notes | Oxford Advanced Learner's Dictionary at OxfordLearnersDictionaries.com. (n.d.). Retrieved September 7, 2022, from https://www.oxfordlearnersdictionaries.com/definition/english/sustainable?q=sustainable

Tan, J., Tan, F. J., & Ramakrishna, S. (2022). Transitioning to a Circular Economy: A Systematic Review of Its Drivers and Barriers. Sustainability (Switzerland), 14(3), 1–14. https://doi.org/10.3390/su14031757

Teece, D. J. (2010). Business models, business strategy and innovation. Long Range Planning, 43(2–3), 172–194. https://doi.org/10.1016/j.lrp.2009.07.003

Teerikangas, S., Onkila, T., Koistinen, K., & Makela, M. (2022). Research Handbook of Sustainability Agency.

The Ellen MacArthur Foundation. (n.d.-a). The butterfly diagram: visualising the circular economy. Retrieved May 2, 2022, from https://ellenmacarthurfoundation.org/circular-economy-diagram

The Ellen MacArthur Foundation. (n.d.-b). The Circular Economy In Detail. Retrieved May 2, 2022, from https://archive.ellenmacarthurfoundation.org/explore/the-circular-economy-in-detail

Thurmond, V. A. (2001). The Point of Triangulation.

Tonelli, M., & Cristoni, N. (2019). An Introduction to the Circular Economy. In Strategic Management and the Circular Economy. https://doi.org/10.4324/9781315102641-3

Trudgill, S. (2007). Tansley, A.G. 1935: The use and abuse of vegetational concepts and terms. Ecology 16, 284-307. Progress in Physical Geography, 31(5), 517–522. https://doi.org/10.1177/0309133307083297

van den Berg, N. J. (2019). Circular Economy in Business Modeling.

Vargo, S. L., Akaka, M. A., & Vaughan, C. M. (2017). Conceptualizing Value: A Service-ecosystem View. Journal of Creating Value, 3(2), 117–124. https://doi.org/10.1177/2394964317732861

Velenturf, A. P. M., & Purnell, P. (2021). Principles for a sustainable circular economy. Sustainable Production and Consumption, 27, 1437–1457. https://doi.org/10.1016/j.spc.2021.02.018

Vink, J., Koskela-Huotari, K., Tronvoll, B., Edvardsson, B., & Wetter-Edman, K. (2021). Service Ecosystem Design: Propositions, Process Model, and Future Research Agenda. Journal of Service Research, 24(2), 168–186. https://doi.org/10.1177/1094670520952537

Zhijun, F., & Nailing, Y. (2007). Putting a circular economy into practice in China. Sustainability Science, 2(1), 95–101. https://doi.org/10.1007/s11625-006-0018-1

10. APPENDIX

10.1. APPENDIX 1-INTERVIEWS WITH SMES

10.1.1 INTERVIEW 1

Marta:

Well, I've been looking at you a bit on the web and Instagram and everything, and in fact I realized that I had already heard about you when you did the route with the van. I hadn't realized it until I've been looking at the website and the truth is that I liked it a lot and I wanted to start by talking a little about you, your background, and what were you doing before starting this project. What pushed you? I have seen a bit about the trip to Bangladesh, which marked you a lot and I have seen a bit that you define yourselves as the one behind the suppliers, the one behind the invoices and the one behind the cameras, and the who is behind social networks. So, it's a little bit knowing, in the end, the difficulties that you usually have when starting a business, if you had, for example, experience or what studies you had, what background you had.

Stakeholder 1:

Ok, so I'll tell you. Well, there are still three of us, the same ones you saw on the web. Jon and I, the one with the cameras and I, studied LEINN, which is leadership, entrepreneurship, and innovation at Mondragon University. That's why we went to Asia because it's part of the degree. So, well, we really have a background in entrepreneurship, leadership, innovation, but well, being a super open career to be able to train in many things but at the same time without having very great knowledge in anything in particular, because it is a career a little special. And Mikel studied Business Administration and Management, he studied at the European University in Madrid and did internships in San Francisco and London in companies such as more digital ones and start-ups. Well, that was a bit of our experience when we started this we were in the race it was two years ago and it was when we were traveling through Asia. Really at the level of experience we have experience in projects that we have launched of a super small calibre, but hey, that is our experience. So obviously the problems we are facing now are new to us.

Marta:

And for example, from the university, did you have support when it came to wanting to make the business model sustainable?

Stakeholder 1:

Institutional support you mean? Yes, yes, yes, we have. In fact, also, in the Basque Country. Where are you from?

Marta:

From Bilbao.

Stakeholder 1:

Ah, right, right. There is a lot of help for being cooperative. Well, we have had as a help what each partner invested they gave back to us. And then at the level of aid, the Gipuzkoa Provincial Council gives a lot of aid to what has to do with circularity. And in the end, at the level of communication projects they have also been able to support us, if I tell you amounts that I do not know if you want it to reach that point, for example, in the 213 kilometers (project), what we did with the van they supported us with €6,000 more or less. That's the Provincial Council. Well, and so far we haven't asked for a lot of money because it's true that we haven't signed up for subsidies and all these other things that exist. But hey, now we're signing up. We are not going to be stupid. By the time we became a cooperative they gave us 12,000, which was what we had contributed in total between the three of us, and since then they have not given us any more aid. In fact, they gave us more before we established ourselves as a cooperative than now.

Marta:

And would you say that it is easy to apply for these grants? And above all, it is easy to find information, to know that these aids exist. The economic issue.

Stakeholder 1:

I think it's not easy, because we who are in a very close opposition to the director of the Provincial Council, that is, the Department of the Environment, it is already difficult for us to know when to sign up, to what, how... they are quite deadlines lengths in which you present the project, they give you the grant, everything is a bit long. So, well, I don't know, they notify us a lot, but because we have a close relationship, but I think that anything that you don't have is complicated and you have to be very attentive and connected in all the newsletters that they give you. information.

Marta:

And on the subject, for example, of training, why do you think that the process you have had when developing this project would have been easier if it had been a linear business model?

Stakeholder 1:

I think we would have had fewer problems when it came to being a business. Because well, in the end you have less red lines and you can shoot for many more paths. But on the other hand, I think, based on what I know, that there is like more financial and informational support as soon as you make something circular. In this sense, it is very cool because we have more support, but hey, if we were linear, it would surely be better for us financially because it would be simpler. But that there is much more help. If you are circular, there are formations, there is support and that is cool.

Marta:

Where did you start looking for this formation? For example, when you decided we have to do something after what we have seen in Bangladesh, which is a disaster. How did you start to find contacts? I do not know. Did you talk to other similar SMEs so that they could tell you a little about how they had done it?

Stakeholder 1:

Let's see, we already came from a quite entrepreneurial and innovative, social, circular environment, right? In the end we are all young entrepreneurs, so we go for businesses, even if they are not textiles, in fact there are few textiles, but there are. So we did start talking to people who were four years older, who had launched some projects like these. And then also in this Mondragón University entrepreneurship network we had, yes we had support. We didn't look for it especially either, but it was cool to have that network and then I don't know, we pulled the chestnuts out of the fire. In other words, we went to fairs to find suppliers. Anyway, I understand that like anyone, even if it wasn't circular, it would have been a bit the same process, right?

Marta:

Another question I wanted to ask you, because you are the one behind the suppliers. So I imagine that when it comes to textile waste and such, you will have to search a lot. I've been reading that you found one, I think in Barcelona or something like that. Then when you went you saw that it was a disaster and now you are working with someone from Portugal.

Stakeholder 1:

Let's see, in all this we are in a trend of sustainability, right? So working with someone who tells you that it is sustainable does not certify that it is, and well, we have experienced this firsthand. A company from Spain that told you that it was a provider of everything, super sustainable garments, all super cool. Until we came to record and found that the place where it was produced was not sustainable in any sense. Well, from there we are clear that whoever we work with we go to see it or even to the warehouse where our orders come from, because we also go once every three months. In short, we want to see it with our eyes.

Marta:

How would you describe the manufacturing process of the clothes you make? Why do you consider it sustainable or because it is circular?

Stakeholder 1:

The truth is that the model can resemble what is a fast fashion, that is, at a productive level. What happens is that at the level of materials we use, right now we are using all surplus fabrics from other brands and from other factories.

Marta:

In other words, garments that are left over from other brands and you use them?

Stakeholder 1:

Well, the fabric and then we make our garments, but at the color level. All this we choose once surpluses are bought. And well, well, look, we like this one and this one and with this we shoot. Right now we are doing it this way, on the one hand because it is more sustainable and that would go to waste and that also makes the fabric much cheaper, which is interesting. And that is where the most, that is, in the end it is in fashion, in textiles, where there is more environmental impact is in the fabric. So until now we have done it with organic cotton. Everything, yes, everything. But right now we have started to do with organic cotton or leftover organic cotton, because so far we have been lucky and it is always organic. But hey, it could be that I don't know what's recycled or even virgin cotton. What happens is that, if it doesn't go in the trash, or it stays there in the factory stock. And then it is above all at the social level, we have been looking for factories that were, well, that were good (working conditions). We have gone to Portugal because in Spain we have had a bad experience. And it has been easier, not having knowledge of design, or pattern making, or anything, being in a factory as it already had that industrial operation, right? That is why we have gone to one of that type. But it is a factory that has very small minimums, there are 25 workers, it is small, it is not very small, but it is quite small and the relationship is very close. In other words, they have ten clients at most, so well, we always go, they always take us to where the screen printing is done and there isn't much movement either because we take the fabric in the same factory, everything is woven there, the only thing that is outsourced is the screen printing and you buy the thread from time to time elsewhere and such. But hey, everything is at hand. So in that sense, circularity is important.

Marta:

The fabrics are recycled that are left over from other brands and such, they are already in the same factory.

Stakeholder 1:

Yes, really between manufacturers, because they have their tricks, right? For example, I have a bunch and I'll sell you these for a couple of bucks. And that's how they work. But well, no, they don't have that in all the factories because there are people who don't stock up with fabrics, fabrics, surpluses, but just like we have started working like this, well, this supplier is looking for a lot of fabrics for us. And well, now a little parallel to that we are also trying to work with more providers, but hey, they work just like this one.

Marta:

How long have you been in the project?

Stakeholder 1:

Let's see in the project as such three years ago now that we traveled to record the documentary. We were finishing the trip, but when we got serious, it really is two years ago, when the pandemic begins.

Marta:

Do you live from it?

Stakeholder 1:

Yes, but the three of us depend on our parents. The three of us have been on salaries for a year and a half, we started with a totally symbolic salary, but well, it has already been rising and this year it will rise more, but well, I would say, living badly from it.

Marta:

And then do you think that, for example, there is a strong community within sustainable SMEs in terms of the textile industry? You usually communicate with other SMEs to see what methods they use, to see what providers they use. Or, for example, I am talking to a girl who has contact with a company that makes coffee, and the bags of coffee that are left over are given to her and then with those bags she makes clothes and such. So I don't know, you have a contact with these people to see the projects that people have in this world.

Stakeholder 1:

Yes. In fact, in Guipúzcoa there is a cluster called GK Green Fashion, which was actually started by the Gipuzkoa Provincial Council in the Department of the Environment. It is with them that we have the closest relationship, because we are geographically close. So we do events, talks, we share a lot of things. Then there is the typical WhatsApp group through which not necessarily much has been said, but things are asked. Then there is the Sustainable Fashion Association of Spain, in which we are also, but there are a lot of people. And there are people like all kinds of models, so we're not very into it. We really are above all with people from Gipuzkoa. But, I mean, there are clusters, but I think the strongest and oldest is in Barcelona, in Catalonia. From what I know and from what Mikel Feijoo, from Skunfunk, tells us, I don't know if it sounds familiar to you. There is a network, especially in Guipúzcoa, Euskadi, not even, Vizcaya I'm a bit lost at the level of, I don't know, not enough, but I also think it's a bitch, right? But I think that one of the secrets is precisely like the supplier you have, which I just think that in sustainable fashion it is not like that because, because there are few, because we share them and because many people are designers and they produce it. But unfortunately it is one of the competitive assets and I think that, just like me, it doesn't work out for me to ask someone to see where they buy an organic cotton cord, well if not because it's something like simple, but where you produce everything at that price that I I know it's cheap, you know? It's like that secret that I think will continue to exist as in all industries.

Marta:

In other words, what I had in mind was more like a support network when starting your business. I mean, now I feel like it. Well, that, yesterday was Bangladesh, what I have seen has affected me a lot and I want to start a sustainable fashion and such and I remain blank. So where do I start? Here is a contact that is how my business has to be so that it is really sustainable and not what you put on the page. Not without a lot of certification, but then that was not sustainable and it was nothing. So it was, I mean, obviously not revealing your production secrets, but a bit like a support network for SMEs to be in contact and also separate, for example, on the platform it would be very useful if there were suppliers, for suppliers to come in to do some networking and to find clients.

Stakeholder 1:

I think that the biggest referents in a bit like advice, consultancy and such, is slow fashion next that if you have not contacted them, contact them. The director is Gema Gómez and she is a crack and this is precisely an aunt who has been in this for 20 years, but before she worked at Inditex, and right now she is the one who is leading the GK Green Fashion project that I tell you is the cluster of sustainable fashion in Gipuzkoa. She is in Madrid and I don't know how many people the team is made up of, but she has a platform where we are precisely sustainable fashion brands in Spain and it is a bit the same objective as you say about the platform, but with people who are already in the business. There are already courses, there are trainings and there is above all like that open chat, not divided by topics that on one side are the providers and everything.

Marta:

Ok, I'll take a look at what I have. For example, now that you have a bit of a start-up as an SME, what are the difficulties you are facing now? Once the whole mess of my mother is over, where are the suppliers, the contacts, how do I start this move? More or less you already have it quite fixed and now what is the biggest problem you find?

Stakeholder 1:

Well, now it's like more at the business level of how we make it profitable. If along the way we enlarge the team, professionalize it and how it is not to industrialize but rather to systematize all the processes. It is a bit right now we are in that fight. Well, we are going to put people in now in the middle of the year. Well, now we are in the process of looking for people, but above all, just like in any project you launch, right? You've been here for two years and now there are deadlines for x things to happen and for it to be profitable at that moment. But hey, that's something I understand as usual, but what you say is true, until now it was more like I solved the problems of locating myself and making this a reality, but right now the problem is more of profitability.

Marta:

How to make a living from it, right?

Stakeholder 1:

Yes, and it is true that, for example, in all these circular economy formations, circular economy supports, and such, there is a lot of talk about how chupiguay circular is and how beautiful it is. But you never think about the business model, what makes money, what doesn't, what is interesting and what sells and what doesn't, and it's a bit like the lack of all these trainings, no ? Right now we are in one that is sponsored by the Provincial Council of Gipuzkoa, which is cool. The training is quite complete, but there are eight modules and there is only one that is like finance, finance, pasta and such, right? And profitability. The rest is more like I don't know, I don't know. It always seems to me that it's like, we're still in that stage of circularity in the world in which we talk a lot about materials, social issues and such, but damn, and then it's very nice, but it has to be profitable.

Marta:

Do you think there is a lack of support from suppliers and consumers? In other words, you think it is more complicated in the end to sell your brand because I imagine it will be a little more expensive because it is sustainable. Or do you think people are aware?

Stakeholder 1:

I don't think enough people are aware. But we too, for example, are now in the constant struggle to get out of the green bubble, so that we (brand name) are not seen only as a sustainable fashion brand, but rather that it is a cool brand and that anyone buys it that you find it cool and that you don't have to have a slightly higher purchasing power. Because the competition that is not sustainable is more expensive. The world we live in is not very coherent. So, without further ado, I think it's like turning the screw, our red lines are clear and we are going to always be sustainable and hopefully continue to be a benchmark, but we are not going to be left alone with that message that in the end in the summer was the moment in which we most realized that we were giving the turra with messages of sustainability, transparency and everything. But the same people no longer want to hear what they simply want to hear, this is cool, I want to buy it, period. And that's where marketing quite different from what we had before comes in. That he is still an activist but not so aggressive.

Martha:

Activism, you started after creating the brand or before, because I have seen that you have done a lot of garbage collection on the coasts. About the van, right?

Stakeholder 1:

No, we are already activists. So, before we weren't so much organizers or anything, but it was with us that the brand was like that. And aside from the fact that in terms of marketing, sustainability is what everyone is, even Inditex is on its website. So we can't talk about sustainability, but we talk about activism. If it is to go one step further, also that we have to make noise and that from being a company and a brand, well, we can also do it.

Martha:

For example, the bureaucracy issue, the entire paperwork issue. Do you think there are more barriers for SMEs that want to be sustainable, like more requirements? Or they look at you with a magnifying glass to be able to say that you are sustainable or such or it is like calmer.

Stakeholder 1:

In our case I have not experienced it like that. In other words, in our case it was cooperative. That yes, that the same has as more, it is more of a pain, right? At the level of statutes and such as an S.L or an SA but, they are the same papers. In fact, it doesn't matter if it's circular or not. I think it's more like in the stage of obtaining certificates that proclaim you as such and where there is a lot, a lot of paper to fill out. But as far as setting up is concerned, no problem. In fact, in our case we have had a lot of support from Confe Cop, a cooperative that helps cooperatives, basically, and they are the ones who manage everything that is aid to cooperatives and all this. But it has nothing to do with circularity, simply with cooperativism.

Martha:

I mean, are you still cooperative now?

Stakeholder 1:

Yes. And we will continue to be. Unless. Let's see what doesn't fit. But at the time of establishing ourselves, we saw that it made more sense also because of the horizontality of the company and that we no longer wanted to depend on the morale of the people who were entering, but on the statutes themselves written at the beginning. But hey, being a cooperative also has its disadvantages as soon as people come in. Well, basically because everyone owns the company at the same level. So I don't know, for the time being we will continue to do so because we believe that it is the fairest thing to do. Well, in that sense, we just come from a career like more economics, business and such, but even so we didn't have much knowledge of it either. You're welcome at the level of what is the best for, I don't know, in this or that industry that is better.

Martha:

How do you find relevant contact? Are you in any forum?

Stakeholder 1:

I know they exist, like the one I told you about slow fashion next, that there probably are more, but I don't know them. But as the hell of it, let's say, is that you start to know them when you start to be inside the platforms, so it's true that knowing them at the beginning would be the coolest thing.

Martha:

In that sense, have you felt a little alone or helpless in the search?

Stakeholder 1:

No, the truth is that no, we have been super welcomed, but I don't know, I don't know if it is the case with everyone in this industry, but not in our case. Justo Gemma Gómez The one from slow fashion next has been very much our mommy, just like other people. Then Ethical Time you also know them. They started as a sustainable fashion marketplace. Now they have transformed as more sustainable fashion community. They too had just traveled to Bangladesh before. Then, like a little bit, they also took us under their wing. And then it has been people we have met by chance, through a Lein coach and things like that. That we went to Bangladesh with two aunts who had been working there for five years, you know, like things, I don't know, coincidences of life, really. Without looking for them we find them.

Martha:

And then I was struck a little by what you said that now you are at the point where you want to get out of the green bubble, right? Tel me about that.

Stakeholder 1:

Well, it's like I think that all of us who get into sustainable fashion and such are a little more hippies in the sense of not being obsessed with selling and money and such. And it's fair. In our case it has been constantly loosening the leg. We have done, we have communicated a lot, but we have never constantly taken the client into account to be selling, that in the end, no matter how sustainable the business is, it has to be economically so. In fact, the person who's going to walk in now, the first person who's going to walk in is sales. It may seem like it makes the least sense, but it is the greatest need we have and the greatest lack in our team. Also personalities. So I think yes, that we have to learn how with that totally different mentality that we have, because I think that if we enter here we already understand different things, but we need to learn basic things about selling, understanding the client, communicating, distribution or things like this. Not that because they teach us so much because it seems that it is not the objective of the circular economy.

Martha:

Now, you kind of miss what it is to basically develop a business.

Stakeholder 1:

Yes Yes.

Martha:

Theme of applying sustainability and such. You're leaving as best you can with that. But then the issue of how to run a business in the most normal way in the world is where you find a bit of difficulty.

Stakeholder 1:

Yes, I think that unfortunately it looks like people who wear a tie, but I think that's not it. Jolín, that we also have to sell. And I think that what I see a lot in the circular environment is that we live a lot on aid, on government subsidies, and it is that we cannot depend on that. Then they ask us a lot, have you applied the subsidies? Are you aware of such and it's like I don't want you to support me in that? I mean, of course yes, but. But it's as easy as sending me the link, that's it, I already know what date I have to send my report, but I don't know if it's in the business part.

Martha:

In part it's a bit ironic because it's a sustainable business model in terms of material and such, but then it's not sustainable because it can't support itself because it depends on public aid, right?

Stakeholder 1:

And for example, impact hub, I don't know if you know it's all over the world, it's a bit like the coworking network, because there is coworking and they do circular social projects, a bit all over the world. And of course, it is a huge network and probably, but it is a non-profit association, I think, and at an international level. But of course, all the projects live a long time, not subsidizing governments or large companies, such as Coca Cola among them, of course. I don't know, we're not in that model.

Martha:

And then something else comes to mind? I don't know, thinking a little about the difficulties you've had or are having now, leaving aside the whole issue of how a business model works and such. Can you think of anything else?

Stakeholder 1:

The suppliers, for instance imagine that I need Velcro, recycled or whatever, it would be great to be able to find it fast. The providers issue is the main one. And related to the communities that we talked before, to this groups and chats, sometimes it is difficult for us as people, so much whatsapp group, so much platform and such as too much. Well look, I get along with three and I talk to those three people, right? I mean, then I don't know, I don't know if it's just our thing that maybe we're not so much in the mood. It is that the group of associations of the Sustainable Fashion Association of Spain is really looking, for example, it is that from the plan it already looks like a group of friends, which is that there are 200 people and of course, it is that in Happy Friday that ten people do it sucks me, you know? Actually, since you already get lost in the messages and you stop reading them and you get tired and no, now it's a bit, you don't have to get to that loop of it being a pain in the ass, because as they say, then it's like the danger that I see in open chat, but at the same time it is where more information can be obtained and given.

It is true that we have been lucky because how we have appeared in the media and such, well, they have come to us and we have been lucky because otherwise I do not know how long it would have taken us to find these people, but it was more like searching on Google for types, providers or fairs or things like that. I remember seeing many documentary videos that in the end you go as if nobody was Spanish but well, I don't know, even documentaries on Netflix that in the end lead you to find a Spanish platform that is worth it. But it was all very Google search and asking people who were more relevant and older.

Martha:

I wanted to ask you, my plan is to prototype a concept. If I don't go crazy before then, would you be able to test the prototype of this concept that would help you?. Would you be interested in me sending you the link or having another session when I finish it so you can take a look at it and give me feedback, like a short test?

Stakeholder 1:

Yes Yes. You can contact me if you want. Well, you have my direct mail, so I'm going to say I'll give you my WhatsApp, but maybe this will work as an e-mail and I'm sure I'll answer.

Martha:

Ok, well, more or less it would be. Thank you very much. I enjoyed the interview very much.

Stakeholder 1:

Equally. And you too. Cheer up! Cheer up with the thesis, hahaha.

10.1.2 INTERVIEW 2

Martha:

How many are you in the company? If it's you.

Stakeholder 2:

We are three founders. I'm there, there's my older brother called Rodrigo and there's my father behind, who is more of a somewhat economical engine, especially now, to begin with.

Martha:

And I saw that you started in 2021.

Stakeholder 2:

That's it.

Martha:

And then I wanted to know a little about your background. If you already had experience in setting up businesses with circular economy and sustainability.

Stakeholder 2:

Any. I'm telling you zero experience. The issue is that I am an industrial engineer. Voucher? I used to dedicate myself before to racing cars as a competition technician, I was in engineering circuits and then I began to like the world of data, of big data, I did a master's degree here in Madrid, of Big Data and Consulting. I have three brothers, we are all consultants, all consultant and strategy. But it is true that there comes a point where, on the one hand, my older brother, with whom I have done it, always wanted to make some clothes from a very young age and say, well, it is true that he went a little crazy and said : I want to have a t-shirt store from a very young age. And it stays there for a bit. And it is true that dedicating myself to consulting many, many, many hours because I started thinking a long time ago, hey, I know that you spend 16 or 17 hours a day invoicing for other companies, why don't I invoice myself and set up something of my own? So I really like the world of fashion, even though I have no idea, I like it. I really like surfing, that fashion, surfing, because I surf, I Snow, I love all these worlds. I'm lovin 'it. And the clothes always said joe the clothes are very expensive and it really sucks. And putting everything together a little bit, I talked to my brother and said hey, why don't we set up a clothing brand, a little further, not a t-shirt store, but a clothing store with hey the premises that obviously has to be ecological, not from the marketing point of view, which I think also because if you want to have a clothing store today, even if you're not in favor of it or you take that out or you're dead, but if not from the point of view that to me I like it and I spend a lot of time in the field doing Snow, surfing, cycling... ... Then it annoys me, for example, surfing when I find garbage, I mean that seems disgusting to me, or when you go through the countryside with your dog you find broken bottles, and that motivated me to say hey, if I can really try to do my bit sand to make all this go better. Yes, no matter how small, little by little, step by step. Well, that's how the bases of hey began to be put together, I want to make a clothing brand, not a store, t-shirts, but clothes, if it's true that we started with t-shirts and sweatshirts, because it's much simpler. That patronage point of view. Take this out first and then evolve. This was combined with the truly internalized ecological part, hey, we have to be and try to be as purist as possible, knowing that obviously the process that you sell today is impossible, because for example with electric cars, in the end the battery is made in a certain way. But try within what we, of our life, to minimize the maximum possible impact. This was combined with the surfer atmosphere of that look, well, a little more casual, more oversize, of sporty people, people say hey, I still go to the countryside all day and I want a sweatshirt that lasts me, that doesn't slip all the time. wind, cold, everything I wanted, in the end is designing for me, what I want. I want this, this, this. And that's how it comes out. It is true that at the beginning we are lucky that we have the financial support of my father to start with, for example, we have the branding ourselves. It is true that all the designs are made by us, all colours, patterns, designs, we think of all this, but none of us know how to draw. We hire people who take my idea of what I have in my head, because they capture it.

So that economic boost behind us is what would allow us to hire a branding company. We work with a marketing company that is the one that does all the campaigns for us. Well, if we want to launch, now we have launched ad promos in France, in Germany, because we have opened a market there, that is, we can afford it, something that I think other small startups a priori cannot or it is more difficult.

Martha:

And how did you start when you were already clear that you wanted it to be ecological, sustainable with the largest, the smallest carbon footprint, where did you start looking for information on how to make a business model that is sustainable.

Stakeholder 2:

Well, let's see the sustainable business model. The first thing we started was looking for suppliers. That is to say, a supplier that does the whole process that advises me because it will do it for other brands, say hey, I put a little in your hands at the beginning because I don't know. And we started looking for suppliers, and it is true that we also wanted to do everything at the beginning on the peninsula, that is, everything would stay in Spain, Portugal. It is true that there are very good raw materials, very good workmanship and hey, we do not manufacture it in India or China, no matter how much I tell you, right? A factory with decent wages, I don't know that. I know that in Portugal or in Spain they are going to do it. We were hand in hand with a Portuguese, but in the end it was very, very, very, very chaotic, because he manufactured for (brand name), in the end other brands, so we were the last monkey. They ignored us, but in the end we found a fashion consultant named Olga. It's a pattern that suits us very well. I mean, what we do is. We give her information about this is the collection we want and she contacts the suppliers and we manufacture everything in Barcelona, for example, everything, everything, everything, everything is manufactured and everything is assembled in Barcelona. So that makes it easier for us to enter, because I think the biggest stumbling block we had when we started is: who makes us and at what prices. So, because at the beginning, everyone was telling you, at the beginning you are the last monkey. Nobody is going to pay attention to you. It's what happened. No one answered our emails, nor did they pick up the phone. But well, this one did answer us, she bet a little on us and through her, well, we did a business case and listen, these are the prices at which we have to sell, this is the money that we can invest at the beginning, these are the months that we have to amortize the number of pieces that we can manufacture at these costs, more or less marketing, and since we get larger amounts of clothing, it is true that the public that we go to is a public that really knows, values this, values that it is manufactured in Spain, manufactured in Spain at the moment because it is proximity. I'm not telling you that in the future if we sell in the United States it won't be manufactured there in some factory close to where we sell, that's what it's all about, value that and value that it's a good surf vibe of course, and that it's truly ecological and that really understand that organic products cost, fabrics cost much more and now organic cotton is the low cost of organic. Due to the fact that it is organic, it costs a lot more than the normal one, so our public, in that aspect, helps us a little. Now it is true that we have some, that is, every month, every time we put out a production, we review how it has gone, what delays we have to even start being productive, because it can no longer be sustained indefinitely, but it begins to give benefits , it is true that the first two years you have that there is investment. Of course, an investment and from the second year it is already assumed that the curve already has. I'm not saying that we generate profits, but they already have revenues that exceed expenses.

Martha:

And for example, if I hadn't gotten this consultant who helped you find suppliers and such. Do you think that there is aid from public administrations to encourage business models to be sustainable, both economic and training or as contacts? Or did you feel a bit lonely in that sense?

Stakeholder 2:

Well, I don't think so, I think I don't know if it's Spain's problem, which is always said that they don't really help SMEs. But if it hadn't been for Olga, we would have had to fight, in fact, with the Portuguese we did the pattern design study and assembled all the patterns and measurements, because no one helped us. The aid to give you an idea, we are now trying to find subsidies, to begin with, getting the documentation for a subsidy is hell, we have to hire a company that is dedicated to claiming subsidies, because if it is not it is hell, and then the subsidies are €2,500 for digitization, what do I do with €2,500 if production costs me €77,000? It's that 2,500 are useless. It's true that you hear drop by drop, drop, If there were many, the largest, for example, come from the European Union, yes, there are beginning to be from the European Union, from European funds to help to SMEs. And yes, funds are starting to be a little bigger, 15,000 euros and something like that is starting to be a little more attractive, but it helps. Above all, clear help, intuitively, clearly, hey, I go to the City Council or to the website of the community of Madrid or to the page of the Spanish government and there I can easily find a course, even if it's paying, but nothing, the truth is that we have eaten it ourselves, there is nothing.

Martha:

And then, for example, from the community. You usually have contact with other SMEs that have a similar business model or that are doing something similar to talk about. Well I don't know how it goes or how you started or lend a hand.

Stakeholder 2:

We have contact through companies that we have contracted. For example, there is a company called the circular project that we work with, because through them they do put you in contact with other SMEs that are more or less like you, but the community is nothing, everything that is zero public . But I also have acquaintances, because those of are known, because those of (brand name) are also known. Well more or less. Hey, you start to get close and some, some tip they give you, they won't give you many because we are direct competition.

Martha:

Yes Yes Yes. In the end, providers are like your little secrets.

Stakeholder 2:

Of course. So hey, you say, but you don't say everything, you say it because they're friends. But not everything is about making money to be able to survive and evolve. And I'm telling you from the public point of view, that is, nothing.

Martha:

Then I'm talking to an SME that I don't know if you know and well, I'm from Bilbao and it's a brand from the Basque Country and apart from sustainable clothing and such, it does a lot of activism and they told me that one of the big barriers they have is try to get out of the green bubble, which is a bit that in the end you create your brand in yours, for example, surfer, sporty and sustainable style. So, many times in the end you are only going to be approached by people who have a little environmental awareness, who care a little about what they consume, but they also, as a brand, in the end your goal is also to earn a living with this. And they had a hard time attracting people who just liked their brand, right? like look at this beautiful shirt, I'm going to buy it without caring if it's sustainable or not? You, for example, that in terms of sales and how you carry it, that is, do you think that it negatively affects you that it is sustainable?

Stakeholder 2:

I think it affects because it is true that people took a bit of mania. Mania yes, yes, yes, no to the ecological thing, because it is true that it is being exploited, it is already used for all veganism, the sustainable ecological thing and they put it in with a shoehorn and I think that when you put things with a shoehorn... they have to going out alone and it is about making people aware and saying hey, that it is sustainable does not mean that it is bad or that it belongs to a certain political sector that it is associated with or anything. Hey, I have all kinds of friends, all kinds of friends and they're from hey claims and hey see plastic and pick it up on the street. And it seems good to me, you can't be crazy about that, but hey, little by little. We, for example, what we want to try to do, we have little, we are working on it, is to focus it so that we do not sell a product, but we sell an experience, a typology that is to say, for example, and that is a simple example, that is to say For example, since I was little they told me that you belong to Adidas or Nike, you belonged to one of the two. They didn't tell you anymore. I bought some slippers. I know, I'm from Nike, but the adidas that have come out are much better. I'm from nike, you don't care because it was that feeling of belonging. So, trying what I think is that many are achieving it, the fact that hey, how cool are the people who lead (brand name) at least you get on their Instagram and it's very cool, you say I want that life. Well, sell a little, hey, say hey. I mean, let's go a little further. We are a sustainable brand and this is our lifestyle. It is a lifestyle that likes sports, travel, adventure that is not incompatible with it. I live in Madrid, I work in Madrid and I am a consultant, I work in a tower. I no longer live in a hermitage, in another Monte Grande you hear that everything is compatible, that I take the weekend and go to Santander to surf with some friends, some surfhouses, I'm great on the beach and it's selling them a that lifestyle a little so that they say hey ecological clothing, yes, but that they go a little further, that they don't think that it really is that they don't pay attention to anything, but that they say hey, and associate little by little of that lifestyle, that very ecological style.

Martha:

And for example, going a bit to the type of business model. Do you think it would have been easier for you if it had been linear, if you hadn't had to worry about the issue of sustainability and such? On the subject of sales, on the subject of the speed of having everything assembled?

Stakeholder 2:

A lot, because we would have gone to a dropshipping model, for example.

Martha:

And on the subject of aid, for example.

Stakeholder 2:

I think in the end it's basically the same. In other words, in fact I think there is more help, it is easier to find help now, from an ecological point of view than as a marketing strip like what governments have to do, it has to be if not bad. So they do it a little bit. I think that's why they have these miseries, because they have to do it. I have a program of... actually they are usually quite bad. Well, but from the point of view of sales, man, it would have affected us in the sense of dropshipping models or that instead of manufacturing, for example, a t-shirt, it is difficult for us to manufacture it. €12 more could be manufactured if it is not ecological, from 8 to 7. That is to say, our margin is multiplied by the units that we have to sell to equalize costs, they are much lower and that can be invested in advertising. Let's grow faster. Well of course. Everything that is not sustainable is very easy to do very easily are the differences. It is much easier than something sustainable and expensive. Of course.

Martha:

And today, for example, when you already have the brand set up, you already have the suppliers and such, do you still find some difficulty due to the fact that it is sustainable? Are you like still with the fight?

Stakeholder 2:

We are with the fight, we are making people aware of prices, because it is true that we are also on the subject of slow fashion. For example, levis jeans, they cost you a fortune, but the fact is that if you go to town, if you spend money, you will think that they are dirty. Whatever you want, but it doesn't break. A Primark model of jeans at €13 I buy ten and every year I buy three or four because they start to tear. You are continually spending, continually buying and well with what that implies to say a product of bad temper. In addition, since nothing is done about it, then we are trying to convince people that someone tells me 70 bucks, a sweatshirt, you are crazy, let's see, they are going to tell me you sit with me, one day I will show you my costs and I will show you my margin, and say and with this margin do you sell? and I do, because I understand that it is an effort at the beginning to then lengthen the margins in the future. But for now I'm interested in making people aware, that people know the brand and the movement. That is, hey, I don't care so much that you buy from me now, but that you know that hey, that organic products cost not because they are organic, but because all the costs behind them are much higher. It is not the same to have to wait ten years to bring a tree to produce in these cotton fields with pesticides that grow very quickly. Obviously the costs are much lower. So that's the main problem we have. It is the issue that people become aware, that good things are expensive.

Martha:

That is a bit speaking with the other SMEs. When I had other interviews they told me a little about that, that even at the beginning it is difficult for you, especially more in finding suppliers. Or for example, the guys from (brand name) told me that they also went to Portugal to talk to a supplier who had sold them gold and Moorish gold, and when they went, it was a disaster and that it was not sustainable, ecological or anything . So it was quite difficult for them to find suppliers and such, but the biggest problem they had was a bit of that, the issue of sales. Once you have set up the company, then make a niche for yourself in the market. I find it quite interesting, because in all the research that I have done, it was like that SMEs complained a lot about the lack of information, about how to set up a sustainable or circular business model, that there is no aid and such. And then I find that then really in the end you look for the chestnuts. And the problem later is when you already have it assembled, that you are a little...

Stakeholder 2:

Yes, yes, in fact the majority, since it could be done, is to make people aware of hey, the good thing is that it's expensive is that you don't go to a dealership and say hey, I want a Lexus at an Opel price.

Martha:

And then, for example, for the future, do you have any plans? Apart from adding, I imagine new products and such, I have to try to be like one more step towards sustainability or circularity.

Stakeholder 2:

Yes, of course. Let's see, in the future I'm going to talk about futures of very distant hypotheses. Yes, I would like to. That is, we are trying, especially trying. Get us the materials, he explained. If I In the future they start to work and I can do something to be the one who collects certain types of waste, certain types of organic products, whatever. And I produce it myself and convert it in such a way that I don't have to commission anyone to do that. And I'm closing my mouth. That is, try to close the circle myself. Or for example, on the subject of bad packaging there appears very little. It will be that now packages are being made or research is being done on mushrooms that are biodegradable, like in two months there will be no one. In other words, yes we can contribute, they have to add from granite to granite, yes. In other words, we always try to find more or less harmful material, try in the future to be able to produce it ourselves, or the idyllic thing would be to investigate it ourselves, say hey, but for plump girls a lot of help, that's unfeasible, but why not say hey? Because I don't research materials. Attempt to manufacture something really low setting. I say that it is 100% ecological, the whole process.

Above all because of the supplier issue, the supplier issue, I think it's the, it's the laziness that the supplier gives everyone. Yes, and the issue of pattern making, because most of us haven't studied pattern making because it's very complicated if you find someone. So hey, look, I know pattern making, hey look, I produce everything you tell me and these are my prices, well that makes things a lot easier now, because that's hell, but hey, it's been hell, thanks We have already jumped over God, but I think this is one of the hardest that can be in the textile world.

Martha:

Yes, the other SMEs, coincide. Everyone tells me that looking for a supplier that you can really trust and that is good and such is a pain in the ass.

Stakeholder 2:

It is very complex.

Martha:

And then, for example, you would be interested in finding training, finding talks or papers or methods.

Stakeholder 2:

Of course. In fact, we are looking for courses and, for example, if the other does not have my brother in the company that we have contracted for marketing, that is, are the results good? They tell me yes, I don't know, that's what they tell me. I don't have anything to compare it with, I'm not an expert in marketing, I'm looking at a course to do marketing, to do photography, to see if in the photo now I can tell the guy, do you need this now? In the end, no one is going to do it like the owner, and not the one who created his company is his baby, even if the other puts a lot of love, like the one who created it impossible. So the problem that it has created is that it is impossible for it to know all the fields. And many times, many times, most of the time, you seek training in those fields.

Martha:

And taking into account a little the problems you've had, removing the issue of suppliers that we don't have there, well, I don't know if you've had the same other problems when it comes to finding information, financing when it comes to. Well, on the subject of transport, for example, how to try to make it even more sustainable.

Stakeholder 2:

The main thing would be the issue of providers per position, but I think it is one of the legs that I would put. And another issue of social subsidies that is clanro. It is true that each autonomous community has its subsidy plan, the state has another side, the EU has others. I don't know if there will be more agencies that have grants or even private companies. It is that there is no site, a portal that is responsible for bringing together and saying hey, here they are there, a portal here seeks grants from the autonomous community of Madrid. Yes, but I don't know if there is a company like me that is Amazon, that says hey, I'm going to give subsidies to those who do this type of project. Or a competition from the company Imagine Repsol. The green company that launches whatever wins a prize of €80,000.

Martha:

A list where you find everything that you can apply to all the contests where you can participate as

Stakeholder 2:

Of course because one issue is financing for a lot of money that you have behind. If someone gives you €30,000, that's €30,000 coming to you. So if you manage to have that somewhere and say hey, where can I apply? Well hey, welcome.

Martha:

That because, for example, in the future that, my intention is to prototype a concept. At some point I am working with a Circular Economy consulting company called Sustain. I don't know if you know, They from Barcelona. I work a little with them who are also helping me a lot in finding all the information and such, because of course, I am a service designer, I have no idea about circular economy, but well, then my intention is to prototype a concept and then I wanted to know if in the future, when I have it, you would give me a hand in testing it.

Stakeholder 2:

Yes of course. Cool. what you see More, more logical. I delighted.

Martha:

Ok, great. Thank for your participation.

Stakeholder 2:

Anything, you write me, we do another session or whatever if you need.

Martha:

Okay, well, nothing, enjoy the weekend and good luck.

Stakeholder 2:

Also Marta, thank you very much.

10.1.3 INTERVIEW 3

Martha:

So, the interview will be a bit based on your experience with your SME of paper bags and wallets. How was the process? What were the impediments you found at the economic level, at the contact level, at the supplier level? So I've been checking a little what you do and I saw that you started in the Dominican Republic and then you moved to Spain. And I've also seen that you use all kinds of paper, you recycle like magazines, you're good, all kinds of paper.

Stakeholder 3:

Look, I was talking to you and I was plastic folding the paper first. This is cut and laminated, and then I fold it and go. I fold and the strips are intertwined and then they are sewn by hand. They are not glued or anything. Well, I'm also into crafts here in the Region of Murcia. I mean, that's all. All handmade.

Martha:

And when you started in the Dominican Republic, I imagine that there you say that you learned the braiding technique.

Stakeholder 3:

Yes, there is one. A friend taught her the technique and she taught it to me and well, it started like. As a hobby and I did it for myself and my daughter. But in the community that we moved, that we were all foreigners, well, people started there, make one for my daughter, make one for my mother, I'm going to such a country, just like that... And in the end it became a business. I was also living in Quito, from the Dominican Republic, I went to Quito for a year and a bit and, for example, everything I had done, because in the Dominican everything was very happy, since it is a country, it is the Caribbean and then it was done there with snack papers for chips, Cheetos, Doritos, cookies, all that is very colorful. So if you look on Facebook, which is the oldest thing, my bags, well, you have Coca-Cola, Santo Domingo coffee, it was all like that when I arrived, because they didn't like the weather at all and then I reinvented it and started making the phone book. Mafalda, magazines that are not so shiny, they are playful, they are more valuable and when I returned to Spain, let's say, they had everything or more gray and more colors and more neutral. And in Quito, at first it was a little difficult for me to start, from what I tell you, for showing my products with so much color, whether it is to carry inside the bag, but not to take it out. And nothing. But in a short time, in a short time it was much easier for me in the Dominican Republic and in Quito than in Spain. In Spain it cost me more. There, in a short time, the guys contacted me, one was Ecuadorian, the other Japanese who had a company that they have because I looked for it the other day on the internet and they still have it. They recycled and made bags out of truck wheels and tarpaulins and sold there in and in Japan and exported and then they had a kind of house, they had turned it into a store and all the products were made with recycled material. And then they contacted me and from then on more people contacted me and I started selling products in very good stores there, also on a website. I have been to many and almost all of them close and when I arrived in Spain I had the support. From what you have told me about the support I had, I got into the CIM (Municipal Initiatives Center), I live here in Murcia even though I am Valencian, and then I took a course there to do a business plan to see if it is viable the project that I had. They supported us a lot with parades, with a lot of acts and things and there is a little I started to get my head around, but it was slowly, because in Spain there is perhaps a lot of everything and mine, as it was made of paper, people at first did not give it much value, it was complex. People expected a leather bag.

Martha:

And for example, did they support you with, that is, in what way did they support you financially with aid? They gave you training, for example.

Stakeholder 3:

Training at the CIM, at the Center for Municipal Initiatives in Murcia, they supported us with training. I took several courses, everything that my time allowed. Then they organized in what is the Murcia casino, a parade for different designers, a cocktail party with the press, with everything. Then they organized another one for the whole area, which is not just fashion. All the entrepreneurs in a pavilion and with a parade of those of us who had fashion paraded. We were five of fashion and the truth is that he did support a lot, but of course, within two years. Then after two years I still spent one or two years without getting my craftsman's license because I had two small children who didn't allow me to move around much. And when I got his artisan card, also through the community, he is the one who carried crafts. There we do have grants. The pandemic has helped me a lot. They are helping us a lot. Subsidies, I also sell in the craft centers are the products. It has gone quite a bit to the craftsman. I mean, you have to search. But precisely I was speaking with colleagues from here, artisans, who make fashion here, that there is no artisan fashion association in Murcia.

Martha:

Okay, that's what I wanted to get to too, because you've told me a bit about a community. So I imagine that when you came here you found help in terms of contacts, information, training in that community, right? And how did you find the community?

Stakeholder 3:

About the Center for Municipal Initiatives, about the CIM, well, I don't know.

Martha:

It was there by chance.

Stakeholder 3:

I think I already know, because when I arrived, since I was new, although I had the experience of having been in two countries, well, you start looking for a place to move, in a city that I had lived in, but it's not mine either, I don't have contacts either. nor anything either. But hey, already accustomed to starting twice, then a third starts. And then I got into the Association of Women Entrepreneurs and there they contacted me with an advisor who is still my advisor and there, I think it was the advisor or something. He told me about the cim, about the courses and the help they gave. And that's where I think I got into it.

Martha:

An adviser in imagine in business.

Stakeholder 3:

Tax consultant in which I did all the accounting, the VAT and everything, all the stuff

Martha:

And then, for example, suppliers, where did you find the paper suppliers or where do you find the paper?

Stakeholder 3:

Well, look, my papers are recycled by removing some of the wrapping paper that is out there. Well, I'm in the office now. What people do is they give me, they give me magazines, newspapers, Ikea catalogues, I go for the catalogue. Now they haven't made catalogs for two years. When I go to the hairdresser they keep my magazines for me, I take them with me. They are direct contacts, there is no place where people go and leave those newspapers, magazines. Then I also use, although less and less, because I have fewer people who give me what are in my beginning the bags of chips and all that. What that is is laminated paper. That's what some friends give me and it's what I consume at home. So that is doing very little a year in SEA, maybe 12 purses, that is, I don't get much because I don't have enough paper. I do look for wrapping paper online and buy the 100-meter rolls of the one I like and nothing. And for example, telephone directories no longer exist. As much as I ask clients and everything, nobody has guides. I'm running out of papers and yael varemecum have stopped doing it too? And I have two varemecums left that medical clients gave me and there are papers that I have already had to withdraw because there is no longer one given to me by people I know.

Martha:

And you are the only worker in the company or you have more people making bags.

Stakeholder 3:

I have one. Girl that helps me in the strongest month, which is December, I hire her for that month and well, and if my children are like this in the summer, they are not studying, eh? Some hand, they kick me out too.

Martha:

And then for the rest of the materials, because I have also seen that the handles are made of leather and then also that you line the inside with fabric and put a zipper.

Stakeholder 3:

The zipper was bought by a Spanish company here, Well, I don't know, 200 meters of zipper. And it lasts me a long time, I also buy some pieces from that company that I put in Los Monederos so you can have the zipper and then I contacted a company in Alicante as well. For all that are the chains and all that. And I buy the straps I buy online in Madrid, from a girl who has a store in Madrid.

Martha:

In other words, they are local suppliers.

Stakeholder 3:

There are things, there are some. Now I'm doing a lot of costume jewelry and the pieces have a tremendous price. The chains too. The chains can cost you almost one euro less than the chain with the same quality and now I am putting some new chains. I don't know if you've seen that they have metal links and those around here, it's that I don't even see them and I look for them online, only on Aliexpress.

Martha:

And I have been talking to other SMEs and other freelancers who also work in sustainable fashion and they have told me that, for example, what is costing them the most now, once they have gone through the whole business of starting the company and such, is leaving a bit of the green bubble. Which is basically reaching more customers, taking into account that it is sustainable fashion, but I can simply buy something that is sustainable, but because I like it or not because it is sustainable, right? So there is a bit of that bubble where in the end you relate to all sustainable SMEs or your clients are like a very specific group of people who are very aware of the planet and such. You in that sense, for example, like how you see it.

Stakeholder 3:

My client is not sustainable. I have clients who value a lot that it is recycled and that it is sustainable. Look at all those bags that are plastic or laminated. The environment takes more than two years to biodegrade it, you can walk the street. And even if they get to the garbage centers where they organize it and such, even if they get to their centers, I don't know how they're going to biodegrade it. I'm telling you that it can cost the environment more than two years of biodegradable and I'm giving it life. A purse will last you from 7 to 10 years. In other words, we are giving it a use, right? What is upcycling, what is super recycling, which is not taking a piece of paper to make paper, but taking a product. I guess you know what it is. So, of course, I have people who buy it from me because they like it a lot, but not because this time I'm the one giving the explanation. When the only month that I am in contact with the public, which is the month of December, because at Christmas I put that contact on display, I do talk a lot about recycling and the value of the product, but people buy because it is original, beautiful or because you already have it. They know what lasts and then appreciate. I have clients for years here in Murcia who know that a bag lasts a lot of years, that everyone takes out the purse, but that is customer loyalty. Well, they are buying it because they like it. Green environment customers. I think some, but not much. Sometimes people have bought me who have said oops, this for my niece, who is vegan, who is super conscious that she is not wearing anything, skin and I don't know what, but that's how it is. It has been the person who is going to use the bag, but it has not been the one who has bought it for me. I suppose that later, well, they already know me. They can enter the web and buy, but it is not other cases, I suppose that people will look for them because they are sustainable.

Martha:

I am going to tell you a small list of problems that SMEs can face when they start a sustainable business model so that you can tell me if you feel identified or if you also went through that or something like that. The first would be, for example, difficulties in accessing financing that supports the sustainability of support from city councils and public associations, for example, so to speak. Lack of support from public administrations. There is, for example, lower taxes if you have a business, a sustainable business model or there is a lack of research and development within the community or things like that. Lack of information regarding the benefits of implementing a circular business model, lack of support from suppliers and consumers, lack of internal support. In other words, as the biggest problem you faced when you came to Spain and began to develop your model.

Stakeholder 3:

Of all that you have told me. I do not know anything. I mean, no one to me. I don't see any help anywhere. I tell you that there is nothing of everything you have said. The subsidies that I ask for every year are for crafts, they are for being an artisan. I got into a sustainable fashion association in Murcia and I got in because I think you have to stick your head in all the places and such. And let's say there was another one, another since it had been going on for more years and was newer and had a bad vibe. No, there was nothing. In other words, I got involved and on the contrary, you had to pay a fee. And we did like a presentation and such. We had to put all money to move it through the networks. I mean, there wasn't. The time I was there, I saw that it didn't take up time and didn't give me anything because I had to go to the meetings or I didn't see anything. There should be, there should be.

Martha:

So no, you didn't find anything, did you? They also didn't contact you like that to offer you anything or to show you forums or something like that, where you can find training or information on the subject or anything.

Stakeholder 3:

Any. Well, you have contacted me, but no, in terms of appearance, they contact me more for fashion than for sustainability. Notice that I am also pissed off because in Murcia I am already quite well known and I think that of what was there I was the most sustainable of all. And in Murcia they did a few days. I think it's a statewide session. I don't know what they did for a few days, three days with talks, I don't know what and then they did in the same place where we set out on a fairly important outing from here. Of Murcia. It's just that no one contacted me and when I saw it on Instagram I was a bit like saying Jolín, I think that from Murcia I'm one of the most sustainable of all, I say, and they haven't even called me to go to the talks.

Martha:

Do you think that, for example, there is a lack of support within the business community? Well, entrepreneurs call it sustainable X within the SMEs that have this type of business model, that is, you usually have the support of others, other colleagues who are also artisans or who also have a similar sustainable fashion project and such, or No, it's just having a lot of contact.

Stakeholder 3:

No. I'm telling you, when I joined the Sustainable Fashion Association here in Murcia, which is linked to the one in all of Spain and such, there weren't things that I didn't see as very sustainable either, but I did fulfill all the parameters and such. But I'm telling you that they went a lot on their own, there wasn't, I'm telling you that I was there for a while and I left because I saw that it was apart from putting money and time, no, I didn't contribute. The truth is that a lot, that if they wanted to go to a fair or something like me, then I couldn't have much mobility and I wasn't going to use that either, but there were no subsidies. You didn't have to pay for the fair either. Given what you tell me. I tell you that there will surely be, but not me and I have gotten into some things, like in the end I have left because I said this takes away my time and money.

Having help from others or more information would have helped a lot to me, because to start everything here I had to kick myself, and even more so because if I had started this in Valencia, well, whoever doesn't know one knows another one who talked about suppliers, which is what. What cost me the most because I bought the lining, I plastified it, then bought a roll from a Spanish company and bought it in the Dominican. Already when in Quito I found the rolls of Shady Pal, which are a Catalan company, because they are me, of course, if I am with paper that is recycled and such and such, then I take plastic, which is that it is not something from then, is a plastic that is sustainable, that is, it does not have phosphates, it is not toxic, eh? Well, it has its certificates and it doesn't have to be, it's the one I put because apart from that it's also the one I like the most and the one that looks best and everything. Hey, well here in Spain I couldn't find it, I called directly to. To the commercial that takes him telling me of course, they sell, they don't even sell stationery stores, they sell to marketers who then distribute. That is to say, I was not going to be able to buy that amount from them. The very kind girl told me places to go and I couldn't find it. Well, I don't have it anymore, it was 80 microns which is very thick and I don't have to be. That is to say, I said but how did you buy it in Ecuador and in Spain that is Spanish, right? And in the end for a friend who has an acquaintance who is the owner of several very large stationery stores here. He told me I'm asking you. And that's how I got it, I mean, but I was already desperate. In other words, if I had bought a place like that, it would have been better for me, because it wasn't easy, I tell you, giving kicks for everything.

Martha:

That's why we thought at the beginning to put these questions like this to find out a little about where the SME is or what the SME needs. The craftsman? The self-employed at that time. Because in the end each company is a totally different world. Each freelancer does totally different things, especially when it comes to circular economy and sustainability. You are working with paper, but I know a girl who is working, for example, with coffee bags. In the end, everyone needs something totally different.

Stakeholder 3:

What I would like is that that is why I told him that the project is there and I told them that we should get involved to make a sustainable fashion association here in Murcia, to support us, because normally if you have a workshop that has a lot of people are working alone. Then you could support us a little in ideas, in suppliers. Hey, there is such a fair, join us to be able to go to that fair, because no, there is not, there are subsidies to go to fairs, but first I have to know which fairs are the ones that interest me for my product or move, go to Madrid. Now they have not gone to Paris, but I did not see it feasible, the Paris thing and they did not say it either, they have only told three. In other words, it is that something does open up for us and also a sales channel.

Martha:

You consider that it is difficult to access the client, for example.

Stakeholder 3:

For example, to the client that you were telling me for me if I have not accessed it. And just the other day I was looking at sales platforms, but look, Etsy will work great for anyone who wants to. I got involved and they gave me online courses from people there. How's it going? I don't know that if you're not paying, it doesn't position you in the product. But it is what I would like and I see a lot of crafts, but what you say circular fashion fashion, that I have noted down the name, well because I say now look for THAT where to fit in another, because I go into many things in crafts, in fashion, only in upcycling, in circulation. Find a platform that whoever wants to buy something circular, well have that visibility there too.

Martha:

I wanted to ask you if in the future, when I make a prototype of a concept, if I can make something like this that you can interact with. If you would like to take a look at it and give me a bit of your opinion. Let's see if you miss something or if you would see it useful, etc.

Stakeholder 3:
Sure no problem.
Marta:
Thank you so much. We keep in touch.
Stakeholder 3:
Yes, bye.

10.2 APPENDIX 2-PLATFORM´S WALKTHROUGH

Link to the platform prototype: https://xd.adobe.com/view/527097b7-992d-4a32-991c-8733fd4d37c8-0723/?fullscreen&hints=off

1.   Main page. The user clicks on "Create an account" to create an account.

The Platform

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet...

Email

Password

Log in

Create an account

2.   The users choose if they are a provider or SMEs. The user clicks on "SME".

Are you a SME or a Provider?

SME   Provider

3.   The user fills in the information and clicks on "Create my account".

Your name

Email

Password

Create my account

4.   The home page for the user.

The Platform   **Home**   Funding   Articles&Training   Providers

Carmen Martin
View profile

My data

Your matches!

Messages

Calendar

5. The user clicks on "My data" and can fill in additional information or edit it.

The Platform **Home** Funding Articles&Training Providers

Get a match!

Carmen Martin
View profile

📋 **My data**

👤 **Your matches!**

💬 **Messages**

🕐 **Calendar**

Name

Surname

E-mail

SME Definition

Change Password

6.   By clicking on "Your matches!" the user's matches and liked information are shown. It is the place to find all the information and contacts you are interested in.

The Platform

Home   Funding   Articles&Training   Providers

Get a match!

Carmen Martin
View profile

📋 **My data**

👥 **Your matches!**

💬 **Messages**

🕐 **Calendar**

Your matches!

Providers   Funding   Articles & Training

❤️

❤️

❤️

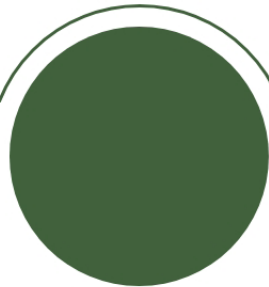**Tomas Aguirre**
!00% Organic cotton

Sonia Marin
Tejidos Paredes

Marta Jimenez
Kimex Tela

129

7.   BY clicking on one of the providers' options, the profile of the provider is shown with all the information about them and the possibility to contact them.

The Platform

Home   Funding   Articles&Training   Providers

Get a match!

◀

Tomas Aguirre
!00% Organic cotton

Overview

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo...

Expertice

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo...

Send message

8. Back in the "your matches!" page, by clicking on "Funding", the user's saved funding options are shown.

The Platform   Home   Funding   Articles&Training   Providers

Carmen Martin
View profile

My data

Your matches!

Messages

Calendar

Your matches!

Providers   **Funding**   Articles & Training

Funding 1

Funding 2

Funding 3

9. By clicking on "Articles & Training" the user's saved articles and training options are shown.

The Platform   Home   Funding   Articles&Training   Providers

Carmen Martin
View profile

My data

Your matches!

Messages

Calendar

Your matches!
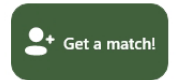
Providers   Funding   **Articles & Training**

Article 1

Article 2

Training 1

Course 1

Article 3

Training 2

10. By clicking on "Messages" the chats with the different providers are shown.

The Platform   Home   Funding   Articles&Training   Providers   💬 🔔[1] 👤 Get a match!

Messages   ⊕ 🔍 ⋮

Carmen Martin
View profile

📋 My data

👤 Your matches!

💬 **Messages**

🕐 Calendar

Carlos Jimenez

Maria Gutierrez

Send
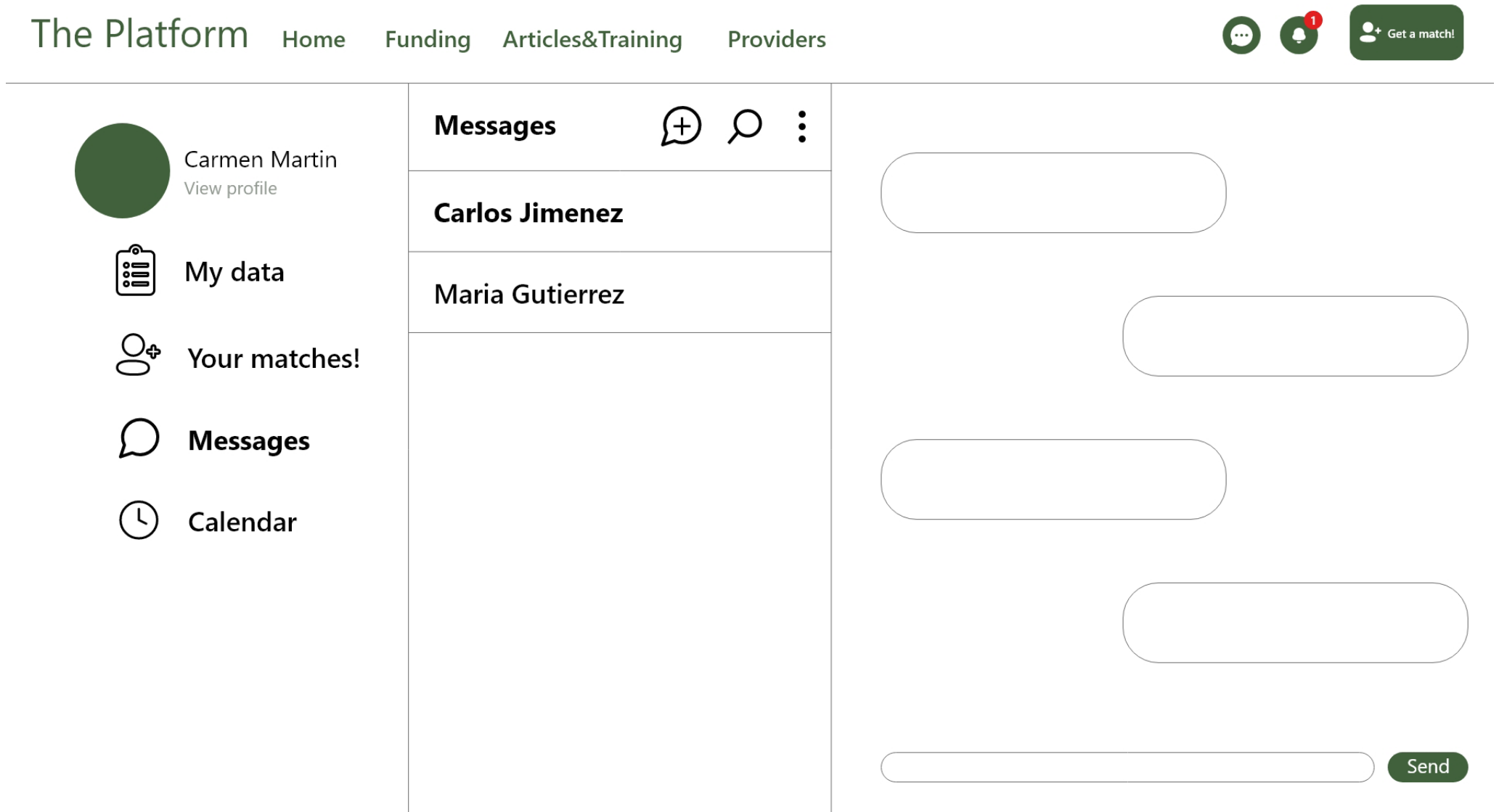
11.   By clicking on "Calendar", the calendar where the user can see the upcoming meetings with the providers is shown. By clicking on the meeting event they can start the meeting (Teams style)

The Platform   Home   Funding   Articles&Training   Providers

Carmen Martin
View profile

My data

Your matches!

Messages

Calendar

Bookings
The session timings are following your local timezone Europe/Madrid Update

Upcoming   **Pending**   **Past**

October 2022						
		12.30 Meeting				

12.   By clicking on "Funding" the user can apply several filters to find funding options depending on their needs. By clicking on any funding option, a general description and the link to the official webpage will be shown. By clicking on the heart icon, the funding option will be saved in the Funding section of "Your matches!".

The Platform

Home   **Funding**   Articles&Training   Providers   Get a match!

Search by name

Location:

Key words:

Public ⬤   Private ○   All ○

Apply

Funding 1

Funding 2

Funding 3

Funding 4

Funding 5

Funding 6

13.   By clicking on "Articles&Training" the user can apply the different filters to find articles and training options. By clicking on the heart icon, the article or training option will be saved in the Article&Training section of "Your matches!".

The Platform   Home   Funding   **Articles&Training**   Providers

Search by name

Author:

Date:

Key words:

Apply

Articles   Training

Article 1

Article 2

Article 3

Article 4

Article 5

The Platform

Home   Funding   **Articles&Training**   Providers

Articles   **Training**

Search by name

Location:

Date:

Key words:

Apply
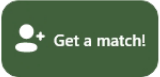
Training 1   ♥

Training 2   ♡

Training 3   ♡

Training 4   ♡

Training 5   ♡

14. By clicking on "providers" the user can apply the different filters to find providers that fulfill their requirements. By clicking on the heart icon, the article or training option will be saved in the PROVIDERS section of "Your matches!".

The Platform   Home   Funding   Articles&Training   **Providers**   💬 🔔¹ 👤⁺ Get a match!

🔍 Search by name

Location: [   ]

Key words: [   ]

Apply

Tomas Aguirre
!00% Organic cotton

Sonia Marin
Tejidos Paredes

Marta Jimenez
Kimex Tela

15.   By clicking on "Get a match!" the user answers some questions related with different aspects that will help the system filter the best matches considering the status of that SME. For instance, if the SME shows a lack of knowledge in topics related with marketing, articles and training related with marketing strategies will be shown. By clicking on "Submit" the user will be directed to "Your matches!" where all the suggestions will be shown.

The Platform   Home   Funding   Articles&Training   Providers   Get a match!

We need to know more about you to find the perfect match! :)

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet...

Strategy	⌄

Business model	⌄

Social awareness and Governance	⌄

Innovation	⌄

Marketing	⌄

Submit

The Platform

Home   **Funding**   **Articles&Training**   **Providers**

Get a match!

We need to know more about you to find the perfect match! :)

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet...
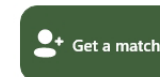
Strategy

Does the organization have a strategic plan?

Yes ⬤   No ◯   I don't know ◯

Does the strategic plan include any line of sustainability?

Yes ⬤   No ◯   I don't know ◯

Does the strategic plan include any line of Circular Economy?

Yes ⬤   No ◯   I don't know ◯

Cite the strategic lines oriented to Sustainability, Circular Economy and ODSs

[   ]

Business model

Submmit

10.3 APPENDIX 3-TESTING WITH SMES

10.3.1 TESTING 1

Martha:
Okay, so what I'm going to show you is a platform that aims to help you, SMEs, in your development and adoption of a circular business model. So what I'm going to do is share a link with you that takes you to the platform. When you have opened it, share the screen so that he can see what you do.

Stakeholder 1:
Okay, it's already.

Martha:
Ok then, I'm going to tell you where to click until we get to the home page, and then I want you to experiment and when we get to interesting parts I'll ask you to tell me what you think and I'll open discussion. Ok click on create an account, now in SME, now create an account again. Ok, we are at the beginning, interact and let's talk.

Stakeholder 1:
Ok, let's see. So, in funding, I see that I can apply some filters, right? Ok, I imagine that here they come out as options?

Martha:
Yes, in this section you could look for financing to which you could apply. I have put the filters of where and if it is public or private.

Stakeholder 1:
This would be super helpful. Basically being able to find all the information in one place. If I click on the heart is it saved?

Martha:
Yes, you it is saved in a place that you will see later.

Stakeholder 1:
And if I click on one what would I see?

Martha:
My idea was that there should be a description of the requirements or something like that, and the link to the official page, that is, to apply and you would leave the application.

Stakeholder 1:
OK OK. I would definitely use it, looking for this information is a pain in the ass, the process is usually super complicated and remembering the dates and such. Is it sorted by date? Like, the ones that the deadline is closer to go first, or the ones that give the most amount, first.

Martha:
Well, I hadn't really thought about it, what would you prefer?

Stakeholder 1:

Maybe a mix of the two, especially the date because if the deadline is in two days, then I'm not going to apply. But just as it appears as in the overview of each option. But in general I think it's a super good idea, it would make things a lot easier, we have contacts who tell us about these things, but in general we don't find out about anything, so having this information so close at hand is very cool. There could be a calendar where all the deadlines of the aids that meet the requirements of the filters that you have set or something come out. Well, I move to the next.

Martha:

The calendar thing is a good idea, like an overview of all the options or something like that. Ok tell me about the next one.

Stakeholder 1:

Ok this is like the same but with articles and training?

Martha:

That is, the same dynamic, I remember you said in the other interview that you had problems with getting out of the green bubble, and with basic things related to sales. Here you could find articles and especially courses that could help you learn these things.

Stakeholder 1:

It is definitely interesting, the only thing that there are thousands of articles and specific training, even though there are filters it is possible to end up receiving too much information at ones, which would be very overwhelming. The filters should be very clear and accurate on what you are looking for.

Martha:

Now, there may be so much that in the end you do not pay attention to anything because it is very overwhelming.

Stakeholder 1:

If that is the case, that is, if the filters work well, then I don't think there will be much of a problem. Above all, the topic of the courses is interesting, the articles can be a little less interesting since in the end we are not doing any research either, at least not us. But the training is very interesting. Also the issue of leaving those who have the deadline before or so, or putting an option of filtering the ones online or the ones that you have to attend the lectures.

Martha:

It's okay, for time.

Stakeholder 1:

That's it. And well more or less that comes to mind. Okay I move to the next Providers.

Martha:

Cool.

Stakeholder 1:

It is worth a bit the same principles right? With some filters can I find suppliers?

Martha:

That's right, remember you told me you'd like to be able to find providers just by typing zippers for example? Well, a bit of the style, you can search for suppliers based on what you need, organic cotton roll or something like that, and location as well.

Stakeholder 1:

it is awesome, if I need a specific fabric to find the providers that could help me would be amazing. And for example what would I see if I click on one?

Martha:

Okay click on home, now on your matches, okay if you click on the first one you get a little of what you would see.

142

Stakeholder 1:

Okay, so I could read a little more about the provider here, okay, and if I click on send messages, I'll send you a message.

Martha:

That's it, that is, the idea is that the platform facilitates that first contact, do you remember that at the beginning it put like what are you? SME or provider? Well, it is because the providers have another profile where they put this information to be contacted.

Stakeholder 1:

Ok wait, I'll go back and I imagine your matches is the place where all the things that I have given to like are. Okay, that is, here I have everything, okay, and in messages I have the chat with the providers that I have talked about. Okay and on schedule?

Martha:

Okay, so, as I was saying, the purpose of the platform is to serve as your first contact, obviously when you like a provider you can look for more information on the internet and such, but if you don't want to spend so much time because you're looking at many options, on the platform you can have a meeting with those providers to find out what they do and what you need.

Stakeholder 1:

Already as a first contact.

Martha:

That is, and then if you like it, then you will continue off the platform.

Stakeholder 1:

Okay, that is, I love the topic of the filter to find suppliers, that is, if there are really many suppliers on this platform and being able to apply precise filters, it would be great. The thing is that, that there are providers that use it and the platform is not full of SMEs and zero providers. The platform must be promoted in places where providers can be reached so we have a big community. I find the chat and video call topic useful, I don't know if I would use it because in the end we are used to contacting directly, but it's not a bad idea. But overall I would definitely use it, it would make things a lot easier.

Martha:

Okay great, I mean the idea in general is fine but obviously we have to get the providers to use it as well.

Stakeholder 1:

If that is, I don't see it as difficult either because in the end it is a way in which they find clients, so it all adds up.

Martha:

If so, that is the idea, which in the end also benefits them. Hey and where would you promote the platform? Because I remember that you told me that these types of platforms and forums always find out that they exist once you are ready.

Stakeholder 1:

Yes. Well, if they had taught it to us at the university, it would have obviously helped. And then, well, at fairs, events, I don't know even at the town hall or at the administrations where you ask for information and so on.

Martha:

Okay okay great. Hey and click on get a match above.

Stakeholder 1:

Ah okey I thought that this was simply an ornament or something, I had not noticed. Voucher. Okay, that is, is it like finding providers? Again?

Martha:

Ok let's see, imagine that you are starting, and you are totally lost, in this part of the platform, you answer a series of questions and with that the platform recommends funding, articles and training and providers, it is a bit like a starter pack.

Stakeholder 1:

Ok, this is a bit related to what I told you and I think that the problem with these platforms is that you get to know about them when you are almost done with everything. So if I know the Platform from the beginning, yes, it could be useful to me, but if, for example, I had found it now or 6 months after starting, I would not use this function. You also have to take into account that to see how much information it gives you at once, because it can be very overwhelming at first if you suddenly receive a lot of information considering that you know nothing and you are very lost.

Martha:

It's okay. If it makes sense. For example, prioritizing providers and funding, and you will have more time to read articles and training.

Stakeholder 1:

If something like this, especially suppliers, it is very difficult to find them at first, and funding always helps too.

Martha:

Ok great. And any general comments you have about the platform?

Stakeholder 1:

In general I like it, it is super convenient. I also think it has a lot of potential, but for the issue of suppliers to work well, they have to be part of it, basically we have to find out that it exists, that it be well promoted so we can use it from the beginning. It would also be great to be able to find more people of interest, not just imagine tax advisors, with a lot of experience in these things or something like that. as more experts. But in general I think it's a good idea, that is, I would use it.

Martha:

Since on the platform there is potential to include more people. Okay. Ok, perfect, we're done. Thank you very much.

Stakeholder 1:

To you. Goodbye.

Martha:

Bye yes.

10.3.2 TESTING 2

Martha:
Okay, so what I'm going to show you is a platform that aims to help you, SMEs, in your development and adoption of a circular business model. So what I'm going to do is share a link with you that takes you to the platform. When you have opened it, share the screen so that he can see what you do.
Stakeholder 2:
Okay, it's already.
Martha:
Ok then, I'm going to tell you where to click until we get to the home page, and then I want you to experiment and when we get to interesting parts I'll ask you to tell me what you think and I'll open discussion. Ok click on create an account, now in SME, now create an account again. Ok, we are at the beginning, interact and let's talk.
Stakeholder 2:
Ok to see. Okay in my data I imagine that it will be the classic thing that I can edit my data and such.
Martha:
That is, and add something if you want.
Stakeholder 2:
Yes typical. Okay about your matches, if my data is my data and not your data, shouldn't it be my matches?
Martha:
Oh, well, I hadn't realized it, but I really should.
Stakeholder 2:
Okay, so it's not important but well it jumped out at me. Okay, that is, this is like a bit where I find the information that I have given to like.
Martha:
That's right, I recommend you go to Funding and move through the top tabs first.
Stakeholder 2:
Okay cool. Ok that is here in funding I find as options. Ok so if I apply the filters I find different options. I would definitely use this, especially considering the investments we are making and how complicated these processes are. Finding all the information in one place would really speed things up a lot.
Martha:
If so, I have also put the private or public filter because of what you told me that there are private companies that do contests or something like that.
Stakeholder 2:
Yes, also this information is usually very scattered, so this would help a lot. I'm lovin 'it. Ok I'm moving. Ok this is similar but with courses and so on?
Martha:
That is the same.

Stakeholder 2:

Bua this would have been great, for instance our marketing company, the one we hired, says that everything is going good, and we cannot do anything but trust them because we don't know anything about the numbers, so having a bit of knowledge to control your whole business would be great. In the end, no one is going to understand your business like you do, so being able to learn a little about everything would help a lot. Especially the issue of training because you never stop learning.

Martha:

Of course I remember that you also told me about the pattern, that you had no idea and in the end you had to hire someone.

Stakeholder 2:

If Olga, we could have even saved money. LOL. But if it is a very good idea. It would help a lot. Ok, continue. Okay providers looks to be the same but with providers?

Martha:

Exactly, applying the filters you could find providers that meet your requirements.

Stakeholder 2:

This is just what I need, If I had had this in the beginning it would have saved me a lot of money and time. I don't know if you remember all the trouble we had at the beginning with the suppliers, that until we hired Olga everything was a disaster because we were the last monkey. This would have helped us tremendously.

Martha:

If I remember, I knew you were going to like this part a lot hahaha. If you go back to home, now you understand the part about your matches.

Stakeholder 2:

Ok, ok, here I find all my information ok.

Martha:

That is, something important that I wanted to ask you, with the issue of providers, the platform, apart from giving you the information and being able to click on the link of the official page, allows you to send a message and have a video call for example through the platform, as first contact. would you use it

Stakeholder 2:

I think I would use the traditional method more, to make sure they receive my messages.

Martha:

I already feared it, the email or the call, right?

Stakeholder 2:

Yes, that is, I wouldn't mind sending a message and having the first contact through the platform, but just in case I would still send an email. But if he answers me and we can have the call on the platform, I would have it.

Martha:

The intention is that the platform becomes your reference to obtain information and therefore use it mainly, instead of email.

Stakeholder 2:

Now, I see it a bit complicated, but the filter itself would use it of course. And I would contact them on both sides. The same to be able to see when he has been connected or something like that, to know if there is a chance that he will answer me.

Martha:

Yeah that's good. Ok great. Lastly, if you click on get a match.

Stakeholder 2:

Okay yes, okay this I do not understand very well what it is.

Martha:

Ok it is a bit complicated to understand without explanation, basically it is to get a starter pack of information. You answer the questions and then get suggestions for information that we think would be useful to you. That way you would have a bit of a base to start with.

Stakeholder 2:

Okay thing with this is that you have to find the platform at the very beginning. I mean at the beginning of your experience. If the platform is promoted in places where new SMEs can be reached, then it would be very useful, otherwise I don't think I would use it.

Martha:

Exactly, and this links to the next question, where would you promote the platform?

Stakeholder 2:

Well, on the internet for sure, on all platforms, possible forums. At fairs, events. I do not know in the same town hall when you are going to register your company and on the town hall page as well. I don't know, everywhere.

Martha:

Now, that would have to investigate which would be the best sites because I have no idea. Ok then more or less it would be. Do you have any other comment?

Stakeholder 2:

The truth is that I think I've said everything. If one day you take it out, let me know and I'll make an account right away hahaha.

Martha:

Don't worry, I'll do it, thank you very much for your help.

Stakeholder 2:

To you Martha. Good luck.

10.1.3 TESTING 3

Martha:
Okay, so what we are going to do is I open the link and share the screen, and I explain it to you and you give me your opinion.
Stakeholder 3:
OK, perfect.
Martha:
Ok, so first you would create an SME-type account, well in your case you are self-employed.
Stakeholder 3:
If I am autonomous, I am not an SME, it would be good if you put it or something.
Martha:
Good note. Okay, so we created the account and got to the beginning. Don't worry, I'll translate everything for you. It's okay at the beginning if we click on my data because you see your data and you can update.
Stakeholder 3:
Like on Facebook.
Martha:
That is without much mystery. Okay I'll show you the above first and then we'll come back here. Okay if you click on Funding, here you find a page with some filters and depending on, for example, where you are from, you can look for financial aid from your municipality, or for example from public institutions or private companies and so on.
Stakeholder 3:
Well this would be wonderful, I already told you that the aid I receive is for handicrafts, and I find out about it from the association of artisans in Murcia, but come on, otherwise I don't find out anything. If I can have all the information here that would be great.
Martha:
Great, the options that most interested you could be saved by clicking on the heart. And they are kept in a place that I will show you later. If you click on each option, it would appear as information and then the link to the official page, so that you could apply and get better information.
Stakeholder 3:
That would be great, I love it.
Martha:
Okay perfect, any comment on what you would change?
Stakeholder 3:
The truth is that I can't think of anything.
Martha:
Ok so we move on to the next one, if we click on articles and training, it's a bit the same but with information, you could find articles, I don't know, related to knitting techniques that you use, or courses that you could attend also applying filters in plan where or what dates are good for you.

Stakeholder 3:

I also love it, especially the topic of the courses, the articles and so if they are very technical they don't motivate me much either, but the courses could help me to make new patterns or even use other materials.

Martha:

Okay great, I mean the topic of the articles if it's very technical like he doesn't call you, right?

Stakeholder 3:

Nope.

Martha:

Ok so we move. If we click on Providers, we find a bit of the same style but with providers.

Stakeholder 3:

Okay this would be great, do you remember I told you that I went crazy looking for suppliers of the plastic I use to waterproof the paper strips. With this I'm sure I would have found it much faster. If I click on the heart, it also saves me, right?

Martha:

That's it, the same style as the rest, okay I'll show you how it would work with the suppliers. If you click on the profile, you see the information, and if you think it might interest you, you can send them a message to start the first contact, you can use the platform to have a video call with them or if you prefer you can contact them by email or what you want On the description page of the providers there would be a link to their official page.

Stakeholder 3:

I think I would call by phone, and then by email. In the end, we all use email a lot and if you are not used to using the platform a lot, my message may get lost. If I call them, then I can start contacting them. Or with the email I make sure better that they will read it.

Martha:

Okay so you wouldn't trust them to read the messages.

Stakeholder 3:

No, that is, if at some point the platform becomes the reference communication channel, then yes, but we always use email or call, or directly through its website.

Martha:

OK OK. Perfect. Okay, so finally we would have the get a match function. This is basically like a starter pack, that is, if at the very beginning, which is when you need the most help, you answer these questions and it suggests a little of everything. Providers, economic aid to which you could apply, and information about articles and training.

Stakeholder 3:

Ok I understand. I think it's a good idea, for example, I came from Latin America and didn't know anything or anyone, and I didn't know the system or any-thing. It would have helped me a lot, as to be able to start.

Martha:

If it's a bit of a suggestion, then you would use whatever works for you.

Stakeholder 3:

Yes it definitely would have helped me. The only thing you would have to know about the platform at the beginning.

Martha:

That's what I wanted to ask you, how would you promote it?

Stakeholder 3:

Well, on the internet, I mean, I look for everything there, and then in sustainable fashion associations, for example, those two come to mind.

Marta:

Okey we are almost done. Any further general comment?

Stakeholder 3:

Well seeing that is a platform that is not oriented to the costumer, I would like if it helps me organize events or something. I always want to go to fairs with other people or organize events but is complicated.

Martha:

Okay great, then everything would be, thank you very much for your participation. Bye.

Stakeholder 3:

My pleasure. Goodbye.