

TOWARD SUSTAINABLE LIFESTYLES

THROUGH COLLABORATIVE CONSUMPTION

PLATFORMS: A CASE STUDY OF

A COMMUNITY FROM MONTEVIDEO CITY.

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Key words:

case study, collaborative consumption, community, design, lifestyle, governance, sharing economy, social innovation, sustainable consumption, platform, transitions, way of life.

ABSTRACT

In a world in which market-oriented economies steer human endeavours on a global scale, the urgency for moving towards more sustainable futures has become more than evident. The role design plays as co-producer of everyday life, both in its physical and social construction, demands today designers to lead collective action through visions of sustainable lifestyles (Manzini, 2015; Irwin, 2015).

Urban citizens, concerned with the unsustainability of dominant practices have been actively participating in such transitions, bringing changes into the lifestyles of their communities. Described as collaborative organizations, these bottom-up initiatives use social media and act as grassroots organizations (Manzini, 2015). Alternatively, these initiatives also fall under the umbrella notion of the collaborative or sharing economy. However, this notion is not representative of the diversity in those organizations as the phenomenon encompasses diverse endeavours wherein aims, motivations, organizational structures, and consequent societal and environmental impact vary widely from case to case.

This research aims to learn, from an empirical viewpoint, how and why citizens interact and engage in these practices, through a case study of a citizen-led initiative from Montevideo, Uruguay. This platform and community propose a solution to the problem of accumulation of disused goods, configuring alternative practices of consuming, using, and disposing of goods. The case is analyzed with literature from collaborative economy studies; relevant concepts from Design for Social Innovation; and several theories brought together by Transition Design, used as a conceptual framework for sustainable lifestyles.

The study suggests that on top of various motivations, engagement in community-oriented collaborative platforms can be explained by technological and cultural arrangements that foster a sense of belonging through giving active roles to participants in the community. Therefore, it is argued that these practices represent a step in transitions toward sustainable lifestyles as they engage citizens in self-organization and increase the possibilities of local and endogenous satisfaction of needs, at a global scale (in the sense of 'cosmopolitan localism'). However, challenges for these platforms are building governance that prevents centralization of power and supporting its technological infrastructure without compromising their non-profit character with financial arrangements. Moreover, an important shortcoming is the reliance on centralized mass production and consumption, as these systems do not propose a distributed alternative to production but only to consumption practices. For that reason, environmental benefits cannot be claimed without further research.

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(1) INTRODUCTION

Today, the thinking behind market-oriented economies can be seen as a guiding principle for human interactions, with each other and their surroundings, motivating decisions on a global scale. The urgency for moving towards more sustainable futures is becoming more than evident in various ways: from visible facts to mediatized warnings, from scientific studies to environmental and anti-consumerism movements, or from the implementation of new technologies and policies to the proliferation of new products and services. Despite these efforts, results seem not yet sufficient to address the so-called ‘wicked problems’¹. The systemic character of the ‘wicked problems’ has been identified by scientists, discussed by academics across fields, and understood by some political actors and civic organizations. However, visions for collective action towards sustainable lifestyles and possible futures are still under development.

Design new roles

The design field has seen new perspectives emerge, over the last decades, in response to the realization of its contribution to unsustainable production and consumption systems. Within the field of Design for Sustainability, as product innovation proved to be insufficient to tackle sustainability at a societal level, innovations moved towards a systemic approach (Ceschin & Gaziulusoy, 2016). Design for Social Innovation and the emergent area of Transition Design are two examples of design approaches that focus on changing everyday life practices towards more sustainable futures. Design for Social Innovation considers collaboration and communities as essential qualities for sustainable lifestyles (Cipolla & Peruccio, 2008; Manzini, 2009, Manzini 2015). For its part, Transition Design argues that lifestyles should be reconceived and designed for “needs satisfaction in place-based ways” beyond the current economic paradigm (Irwin, 2015). This shift implies new roles for designers as facilitators and supporters of bottom-up initiatives, and as developers of narratives and visions to amplify those efforts (Irwin, 2015).

Citizen-led initiatives powered-up by social media

Moving towards sustainable futures involves diverse actors and strategies in which citizens play an important role in transitioning towards more sustainable lifestyles. Today, half of the world population live in urban areas according to the United Nations (World Urbanization Prospects, 2018). As urbanization is a growing trend and most

¹ A term coined by design theorist Horst Rittel and urban designer Melvin Webber, in 1973, to refer to problems that do not have one right solution as ‘tame’ problems do. The term has been used in social planning.

goods are consumed and disposed within urban contexts, cities are considered relevant contexts for socio-technical transformations toward sustainable systems (Bulkeley et al., 2010, p. 2). In many cities worldwide, citizens concerned with the unsustainability of dominant practices have been actively participating in such transformations through diverse social experiments that are bringing changes into their lifestyles (Scoones et al., 2015, p. 15; Schlosberg & Coles, 2015, p. 160).

Those citizen-led social experiments are, in environmental politics, referred to as grassroots innovations. Grassroots organizations develop local innovative responses to global problems, engaging other members of their communities with similar concerns. The notion of grassroots innovations has been defined by experts Seyfang and Smith (2007), as “networks of activists and organisations generating novel bottom-up solutions for sustainable development, solutions that respond to the local situation and the interests and values of the communities involved” (p. 585). According to Seyfang and Smith, networks can take diverse forms, such as cooperatives, social enterprises, or community schemes. The solutions developed by these networks include diverse activities such as farming, recycling, building, and exchanging (Seyfang & Smith, 2007, p. 585); initiatives that are altering material flows and reshaping everyday practices for the provision of basic needs (Schlosberg & Coles, 2015, p. 177-178).

Furthermore, the internet, mobile phones, and social media, have transformed the way society interacts. This is not a new scenario; technological innovations have always changed practices in social life (Lindgren, 2017, p. 6). However, information and communication technologies expanded social structures organization toward networks enabling new connections, and more complex, dynamic, less vertical interactions (Castells, 2000, p. 469; Castells as cited in Lindgren, 2017 p. 98). Today, digital devices which form part of our everyday life are key to meet many of our daily needs: access food and goods, entertainment, socializing, working, etc.

Moreover, social media has further expanded the creation of social networks and online communities, which altered the way grassroots organizations currently emerge and work (Manzini, 2015, p. 79-83). Design academic Ezio Manzini, promoter of Design for Social Innovation, defined these new forms of grassroots as collaborative organizations, bottom-up initiatives powered-up by social networks.

The collaborative economy

The information and communication technologies also gave rise to the collaborative economy. This phenomenon, also referred to as ‘collaborative consumption’, ‘sharing economy’ or ‘peer economy’, engages citizens in alternative ways of obtaining products such as food, goods, and services. Collaborative consumption happens

through exchanges facilitated by online platforms, where participants obtain, give, or share the access to goods on a peer-to-peer modality (Hamari, Sjöklint & Ukkonen, 2015, p. 2047). The collaborative economy consist of diverse types of organizations. Some known for-profit examples are Airbnb and Uber, while non-profit examples include Freecycle and Olio. On one side, it has similar characteristics to the collaborative organizations previously mentioned, but these platforms can be started also by companies. Moreover, many cases of collaborative platforms are market-oriented and do not focus on empowering their communities nor offering more environmentally sustainable solutions, even when their characteristic of distributed systems offer an alternative to mainstream linear production and consumption models.

Research objectives

This research project looks into collaborative organizations, citizen-led initiatives powered-up by social media, that have been proposing solutions to the problem of accumulation of disused goods, using digital technologies and social resources to configure alternatives for everyday life practices that involve consuming and disposing. My primary objective is to understand, from an empirical viewpoint, how and why citizens are engaging in those practices. Secondly, I aim to inform present solutions and inspire future pathways for those initiatives, with regards to sustainable lifestyles.

In accordance with the research objectives, I used case study as a methodology to learn about and from the experience of a collaborative organization from Montevideo, Uruguay. The themes I focus on are the motivations for the emergence and engagement in the initiative, the design process and organizational arrangements within the space, and the key actors and challenges involved in its evolution. The chosen case emerged four years ago in a modern Westernized society from the Global South, which to a certain extent differs from the North American or European contexts in which most studied cases first emerged. The organization presents itself in their web application as “a collaborative economy community, a space to gift what we no longer use in a simple and safe way” (“Si lo venís a buscar, es tuyo!”, n.d.).

Coming from a design perspective, my key interests in exploring this case study are my familiarity as a Uruguayan with the given context and the public support, from the citizenship and the City Hall, the initiative has gained since its beginnings. The latter inspired me to explore the opportunities collaborative consumption platforms could offer for transitions towards sustainable lifestyles, acknowledging the place of urban contexts and digital technologies in everyday life practices worldwide. As mentioned above, Design for Sustainability has shifted its focus from product to system innovation. The role designers play as co-producers of

everyday life, both in its physical and social construction, demands designers to comprehend the functioning of biological and social systems more critically and, as some design academics argue, aim to support bottom-up initiatives and envision more sustainable futures. Therefore, I will review literature from the collaborative economy to understand the scene from which this initiative appears to emerge, and literature from Design for Social Innovation and Transition Design to expose the notions and theories currently informing design conceptualizations of visions of sustainable lifestyles.

Thesis structure

The structure of this thesis is as follows: *Chapter 2* will present the objectives and questions of this research project, and *Chapter 3* the methodology and methods utilized. In *Chapter 4* I introduce the mainstream economic system as unsustainable, the evolution of Design for Sustainability as the origin for new design thinking, and the Uruguayan geopolitical context in which emerged the case study. In *Chapter 5*, a literature review on the collaborative economy will present classifications and main critiques to better understand the phenomenon and similar cases from Western countries as empirical references that illustrate the scene and context of the case study. Moreover, a literature review on Design for Social Innovation and Transition Design will expose concepts and theories of transitions and sustainable lifestyles in the design field. In *Chapter 6*, the case study and findings will be presented. In *Chapter 7*, discussions and conclusions are presented, together with limitations and themes for further research. Finally, in the appendix in *Chapter 9*, more detailed information regarding the methods used for data collection and analysis will be included.

(2) RESEARCH OBJECTIVES

The overall aim of this research is to learn about and from citizen-led initiatives that have been proposing solutions to the problem of accumulation of disused goods, using information and communication technologies and social resources to configure alternatives for everyday life practices such as consuming, using, and disposing. My principal objective is to learn, from an empirical viewpoint, how and why citizens interact and engage in those practices through social networks. Moreover, I am interested in how design and theoretical frameworks informing the field can be used to analyze these citizen-led initiatives with regards to moving towards sustainable lifestyles, to inform and inspire future pathways.

The following research question and specific objectives are detailed below.

Research question

How and why do citizens interact in practices of collaborative consumption through online platforms?

Research objectives

To answer this question, the research project undertakes a case study of a collaborative organization from Montevideo, Uruguay, and describes the case with a focus on the motivations for its emergence and engagement in the space, the design process and rules in the community, and the key challenges and actors involved in its evolution.

Moreover, a literature review is pursued, (1) to understand the broader phenomenon of the collaborative economy to situate the case with regards to this context, (2) to understand and expose citizen-led initiatives as seen from the perspective of Design for Social Innovation, and (3) to understand and expose theories brought together by Transition Design to interpret the case with regards to design conceptualizations of visions of sustainable lifestyles.

(3) METHODOLOGY AND METHODS

In this chapter, the methodology and methods utilized for the previously mentioned research objectives are presented. A brief reflection on digital research ethics with regard to the methods is also included. More detailed information on the use of the methods can be found in the Appendix in *Chapter 9*.

3.1. Methodology: case study

A case study is a qualitative research framework that requires observing at a specific phenomenon in-depth for a certain period of time and in a particular context (Muratovski, 2016, p. 49). This research intends to learn from and about the experience of individuals in a given context. For that, qualitative research frameworks offer appropriate methods (Muratovski, 2016, p. 37). According to design researchers Breslin and Buchanan (2008), a case study “requires researchers to determine a problem, make initial hypotheses, conduct research in gathering information and making observations, revise hypotheses and theory, and tell a story” (p. 38).

The case study is useful for both generating and testing hypotheses but is not limited to these research activities alone. Case studies give you access to context-dependent knowledge and concrete experiences, and the fact that this knowledge cannot be formally generalized does not make it less valuable (Flyvbjerg, 2016). As argued by Bent Flyvbjerg (2016), renowned contributor to methodology in social sciences literature, this knowledge can and should “enter into the collective process of knowledge accumulation in a given field or in a society” as the production of exemplars is key for a more effective discipline (p. 227). As Breslin and Buchanan (2008) suggest, case studies can connect design students and practitioners to social phenomena and real life experiences which supports them in making well-informed decisions and develop acute thinking (p. 37). Moreover, single case studies offer singular qualities that can help in the understanding of a situation and inform practice in the given field (Leedy & Ormrod, 2010, p. 137).

3.2. Methods

3.2.1. Data collection

The methods utilized for collecting data are: participant observation, two semi-

structured interviews with one of the moderators, one questionnaire for the participants, and three semi-structured interviews with participants. Other documentary sources were used for data collection purposes.

Participant observation

Firstly, participant observation was done by participating virtually in the spaces studied, the web application and linked Facebook group. Participant observation is an ethnographic method that allows for an understanding of situations and behaviours through participating in an activity, context or culture for a given period of time, experiencing events in the same way as the people studied (Martin & Hanington, 2012, p. 124). In this case, my point of observation was one of a marginal participant, due to the geographical impossibility to participate in face-to-face interactions with members of the community. However, I had access to the same spaces and content any other participants have – with the exception of the content moderators of the space have access to.

Observation

During this period of observation, the following documentary sources were also consulted: informative pages on the web application, twelve media articles about the initiative, two media interviews with one of the moderators, and one media interview with one of the stakeholders (see list of accessed articles and interviews in *Subchapter 9.4. Documentary sources*).

Interviews and questionnaire

The moderators of the initiative were interviewed on two occasions. They were initially contacted through the online form in their platform. After coordinating via email, a first interview with one of the moderators was conducted remotely, through a recorded voice conversation using Google Hangouts service. A second interview was done to the same person, through the same channel, in order to deepen the understanding of key themes. Both interviews were held in Spanish and followed a semi-structured format (see guiding questions in *Subchapter 9.1. Interviews*).

Moreover, seventy-seven participants were inquired through a semi-structured questionnaire, shared in the Facebook group by the moderators, from which three were later interviewed. The questionnaire was done with the objective to gather a larger sample of self-reported information about the motivations to participate, experiences, and opinions on the values embedded in the studied space; as well as to serve as a bridge to connect with participants open to be interviewed.

In the questionnaire, the set of questions were mainly open-ended. That was done to avoid leading the participant (McMillan & Weyers, 2007, p.114). Two close-

ended questions, where participants were asked to rank their motivations and their experience in the space using a Likert scale type of question, were done to complement the results of the open-ended questions (see *Subchapter 9.2. Questionnaire*).

Furthermore, three interviews with participants that gave consent for being contacted were conducted to gain a more in-depth understanding of their experiences, opinions and perceptions of the space. The interviews were conducted in Spanish and remotely through recorded voice conversations or video conferences using Skype, WhatsApp and Google Hangouts services.

3.2.2. Data interpretation and analysis

The methods utilized are visual tools and affinity diagrams to interpret and visualize the data, and thematic analysis to analyze the data.

Visual tools

Visual tools such as a stakeholder map, a timeline, and a word cloud, were developed to visualize important facts, actors, and interactions, and to interpret the story of the case study. The stakeholder map and timeline were built using the data collected through observation of documentary evidence (see *Subchapter 9.4. Documentary sources*) and supported with the data from the interviews done to the moderators. For its part, the user journey map was built with data collected through participant observation in the studied spaces, in order to visualize the interactions between participants, the platform and the moderators.

Affinity diagrams

Moreover, affinity diagramming was done alongside the interviews and questionnaire. Affinity diagramming is an inductive method that allows the categories or themes to emerge from the data (Hanington & Martin, 2012, p.12; Muratovski, 2016 p. 23). The interviews were transcribed and insights were organized into clusters emerging from the conversations. Then, relevant sentences utilized to illustrate the case study were translated to English. It is worth clarifying that since the interviews were semi-structured, the emergent themes could be influenced by the research focus.

Thematic analysis

A thematic analysis with both inductive and deductive approaches was done to analyze the data in connection with the theoretical framework. Thematic analysis aim is to "identify patterns of meaning across a dataset that provide an answer to the research question being addressed" (Thematic Analysis, n.d.). A review of

relevant literature was pursued to understand the broader context of the case study in order to identify the most relevant themes for the analysis. The subjects addressed in this literature review are: the collaborative economy, Design for Social Innovation and Transition Design.

3.3. Digital research ethics

In digital research, ethical concerns can be addressed by using orthodox intentional data. When doing digital social research there are several types of data available. Certain types of data are more prone to present ethical challenges; those are self-published data, social media data, data traces, among others (Purdam & Elliot, as cited in Lindgren, 2017, p. 231-241). By contrast, orthodox intentional data is a type of data that is collected with the explicit agreement of the community or participants through methods such as surveys, interviews, and data collected via observation (ibid). Therefore, orthodox intentional data, such as interviews and surveys with informed consent from the participants, was the type of data selected for the research project (see *Subchapter 9.3. Consent forms*).

Moreover, the survey for participants was shared through a post on the Facebook group, allowing the participants to know that research (and observation) was being done on their experience within the space. Surveyed participants were allowed to ask for the survey results if interested, following the 'principle of care', with the intention to offer something in return for their participation (Boellstorff et al., as cited in Lindgren, 2017, p. 241). Consent from participants was requested for the use of pictures to illustrate the case. Finally, the identities of all the informants were kept in anonymity in this report to ensure that data cannot be traceable back to particular individuals, respecting their right to privacy (Leedy & Ormrod, 2010, p. 144).

(4) BACKGROUND

In this chapter, background information on the context of this research is presented. First, a brief discussion on the mainstream economic system will highlight the characteristics that allow many academics to consider this system as environmentally and socially unsustainable. Second, the design field is introduced from the perspective of the evolution of Design for Sustainability as the origin for a new kind of design thinking that will be further discussed in *Chapter 5*. Finally, background information is presented on the Uruguayan geopolitical context from which the case studied emerged.

4.1. An unsustainable economic system

“Our technologies, our economy, and our social aspirations are all misaligned with any meaningful expression of prosperity.”

Tim Jackson (2009, p. 2)

4.1.1. Market economic system

Most economic systems in the world today are considered mixed economies. A mixed economy is “a market [economic] system of resource allocation, commerce, and trade in which the government intervenes to disrupt the ‘invisible hand’ and ‘chaos’ of free market forces” (Young, 2018, p. 2884). In the modern global economy capitalism rules, as free trade largely limit the intervention of the governments to address social welfare, with the exception of some mechanisms (ibid). Therefore, the dynamics of the free market are the ones that define on a global scale the use of resources. Initially thought by Adam Smith, father of modern economics, as an efficient distribution of resources, it has been as well largely questioned (Orlitzky, 2018, p. 946).

In Western economies, after the Industrial Revolution and before the Great Depression (1929-1933) social prosperity was thought to be best achieved through free market economies (Young, 2018, p. 2285). Although the need for the

mixed economy became evident for recovering from the Great Depression, the conventional formula for prosperity still relies on the pursuit of economic growth (Jackson, 2009, p. 17). Adam Smith assumed that through competition, driven by self-interest of individuals, goods and services wanted by the society would be produced (Horvath, 2018, p. 644-646). As ecological economist Tim Jackson (2009) argues in *Prosperity without growth*, "consumerism has developed partly as a means of protecting consumption-driven economic growth" (p.180). However, the impact of mass production and consumption of goods in the natural environment and society have made evident that GDP growth does not guarantee a better quality of life (ibid).

Consumer demand, thought to be an engine for a healthy national economy, needs to be therefore stimulated to promote economic growth (Saiia, 2018, p. 427). In an industrial modern scheme, companies extract and harvest materials, use energy and labour for manufacturing the products, and sell them to end-consumers, who dispose of those products when they no longer need them. This linear model of production (and resource consumption) is at the base of the market economic system (Ellen MacArthur Foundation, p.14-15). Within companies, economic efficiency gains come largely from increasing production, which decreases cost per unit of output (economies of scale). This results in the use of more resources and reduced labour costs (ibid). Moreover, this linear production model creates resource losses all along the supply chain, in the manufacturing and particularly in the end-of-life (ibid).

4.1.2. Sustainable discourse

For many decades, scientific researchers from various fields have been warning about the environmental impacts of the mainstream economic system, highlighting the paradox of aiming for infinite material growth in a physically limited planet. In the 1960s, Rachel Carson exposed in *Silent Spring* evidence on the eco-toxicity of chemicals utilized in industrialized agriculture. Later, in the 1970s, computer modelling allowed scientists to theorize that the exponential growth of world population and industrialization, together with resource depletion, food production system and pollution, were pushing the finite Earth systems towards collapse, threatening its ability to sustain life as we know it (Meadows et al., 1972, p. 156-157; Scoones et al., 2015, p. 39-53). In fact, a more recent study claims that alarming rates of biodiversity loss, alterations of the biogeochemical cycles such as the nitrogen cycle, and the much discussed climate change caused by anthropogenic CO₂ emissions are some of the consequences of having surpassed some of the planetary-boundaries (Rockström et al., 2009, p. 20).

More recently, the maturing research field of sustainable consumption has started to shift its focus from a technical to a social concern. Naturally, the initial response for environmentally impactful production and consumption processes was to improve the system by optimizing the use of resources while minimizing waste and emissions along the supply chain. However, earlier research on consumerism from fields such as psychology, anthropology and sociology suggested that the mainstream economic system is not detrimental to the environment alone but also to societies (Thorpe, 2010, p. 3). In fact, it is said that the excessive resource consumption of the wealthiest 10 percent of the world's population is the most important cause of planetary-boundary stress (Raworth, 2012, p.5), which evidences the unequal distribution of resources at a global scale. Moreover, the most affected by the climate crisis are generally the inhabitants of the poorest regions of the world, not only because of their location being prone to be affected by droughts, floods, or sea level rise, but also because of the lack of infrastructure to deal with such catastrophes.

4.2. Design towards sustainability

“Frankly, one of the great strengths of design is that we have not settled on a single definition.”

Richard Buchanan (2001, p.8)

4.2.1. What is design?

Many would agree the design discipline is constantly exploring new horizons. As a result, definitions have been always changing regarding what design practice is and what design discipline should do. This brief subchapter aims to introduce design evolution toward its new roles with regards to its contribution in the co-production of everyday life.

Design, as a professionally recognized discipline (more specifically, Industrial Design), is said to have emerged with the process of industrialization in Western and Westernized societies (Maldonado, as cited in Margolin, 2005, p. 237; Manzini, 2015, p. 29; De Lisi, 2018, p.8). This confers the discipline of design with a historical background that explains its technocratic, market-centered, or neoliberal orientation, and its key role as a contributor to mass production and consumption (Papanek, 1971; Margolin, 2005, Julier, 2017, Escobar, 2018, p. 26).

On the other side, if design practice is conceived as the ability of humans to envision and create tools, as innovative solutions to perceived problems, it can be traced back to 2.5 million years ago (Friedman, as cited in Muratovski, 2015, p. 11). In this view, everyone could be considered a designer, or in the words of design academic Ezio Manzini, a *de facto* designer (2013, p. 58). Considering this broad definition of design, design practice can be conceived as a tool for making sense of the world and for solving problems of diverse origins.

Moreover, throughout its history, the discipline of design has evolved to become concerned with thought. The professor of design Richard Buchanan has proposed an interpretation to the meaning of product in design that explains this evolution (see *Table 01*) (Buchanan, 2001, p.11). According to Buchanan, Graphic Design (later called Communication Design) is involved with the creation of symbols, Industrial Design with things, Interaction Design with action and environmental design (meaning surroundings and not only natural environment) with thought (ibid). This does not imply that environmental design does not engage with things, symbols or interactions, on the contrary, it focuses on each of them indirectly by aiming to explore and understand human systems as a whole, with its interactions with the natural environment, human made environment and artifacts, and information (ibid).

	Symbols	Things	Action	Thoughts
Symbols	• Graphic design			
Things		• Industrial design		
Action			• Interaction design	
Thoughts				• Environmental design

Table 01. Four orders of Design

Adapted from Buchanan (2001).

Considering design's shift towards action and thought, what should design as a discipline, in the current times, aim for? In Buchanan's (2001) words, design should serve "human beings in the accomplishment of their individual and collective purposes" (p. 9). In this view, the design practice seems full of diversity, with as many aspirations or guiding principles as mindsets or visions exist. However, who and how to assist depends on designers' personal values, situated knowledge, and range of opportunities, those being highly influenced by the Western mainstream culture that shaped the discipline.

As design historian Victor Margolin (2005) argues, it is important for design scholars to understand the influence of economic and political forces in shaping material

production cultures as well as opening to the way other cultures have provided for their material needs (p. 235). This can serve as an explanation for the growing engagement of design, over the last decades, with other academic disciplines, challenges (e.g. design for sustainability, participatory design, social design), actors (e.g. communities, governments), and activities (e.g. research, facilitation, activism).

4.2.2. Design for Sustainability

In the field of Design for Sustainability, some academics have been developing new narratives for the practice and giving designers new opportunities for contributing to social and environmental welfare. Hereunder, I will present the field and its evolution that explains the change to new roles and mindsets for designers.

Design for Sustainability (DfS) is a broad concept. It can be defined as “a design practice, education and research that, in one way or another, contributes to sustainable development” (Vezzoli, Kohtala & Srinivasan, 2017, p. 1-2). In fact, the field of DfS has evolved in its scope over the last decades, switching its focus from products to systems, and from an environmental to a socio-ethical dimension (Ceschin & Gaziulusoy, 2016, p. 143).

The recognition of designer’s shared responsibility in shaping humans’ artificial surrounding to the vision of the market was key to the evolution of design, particularly to DfS. This is often associated with the design educator Victor Papanek’s *Design for the real world*, first published in 1971 (Escobar, 2018, p. 1; Thorpe, 2010, p.4; Margolin & Margolin, 2002, p. 24). In his book, Papanek exposed a critical view of design discipline, highlighting its contribution to mass production and consumption and its consequent socio-environmental impacts, and called designers to aim for a socially-oriented practice (Ceschin & Gaziulusoy, 2016, p. 120, Margolin & Margolin, 2002, p. 27).

Other contributions to this view started with textile designer and socialist activist William Morris and his concerns about the impacts of industrialization on both workers’ lives and the environment. In the DfS field, other contributions from contemporaries to Papanek were architect Richard Buckminster Fuller’s *Operating Manual for Spaceship Earth* (1969) and Sim Van der Ryn’s *Ecological Design* (1996) (Thorpe, 2010, p. 4).

In a study of the evolution of DfS, sustainable design academics Fabrizio Ceschin and Idil Gaziulusoy (2016) propose that the field comprises diverse approaches, each focusing on a different level for designers to intervene and innovate (p.188). As they suggest, and similarly to Buchanan’s four orders of design, those innovation

levels can be categorised as follows: product, product-service system, spatio-social, and socio-technical system (see *Table 02*) (ibid).

Innovation levels	Design approaches
• Product	<ul style="list-style-type: none"> • Green design • Ecodesign • Emotionally durable design • Design for sustainable behaviour • Cradle-to-Cradle design • Biomimicry design • Design for the Base of the Pyramid
• Product-service system	• Product-service system design
• Spatio-social	<ul style="list-style-type: none"> • Design for social innovation • Systemic design
• Socio-technical system	• Design for system innovations and transitions

Table 02. Design approaches and innovation levels

Adapted from Ceschin and Gaziulusoy (2016).

Sustainable design at the level of products: is it enough?

At initial stages, DfS tended to focus on innovation at the level of products. Some examples of these design approaches are Green design and Ecodesign. Their main goal is to reduce environmental impact by replacing materials, reducing the use of resources, and by other efficiency improvements along the life-cycle of products.

Critiques to these approaches have suggested these efforts not being enough to address socio-environmental impacts. Although 'green' or 'eco' products can be more efficient in terms of environmental performance, the social dimensions of its production are often disregarded (Ceschin & Gaziulusoy, 2016, p. 122). Moreover, these efforts seem to be insufficient in the face of an increasing consumption of products (Jackson, as cited in Thorpe, 2010, p. 5; Ryan, as cited in Ceschin & Gaziulusoy, 2016, p. 122).

Ecodesign is also subject to the critiques of the 'informed choice' view, as design academic Ann Thorpe has suggested (Thorpe, 2010, p. 5-7). 'Informed choice' sees consumers as rational decision makers that can exercise their 'sovereignty' by purchasing and 'voting' for 'green' products, resulting in supply being controlled by demand. However, this view does not consider the fact that, within this economic system, people with more 'voting power' are minorities (the wealthy), and does not recognize the influence of marketing and advertising on individual, or other pressures like habits, routines, and time constraints (Warde, 2015, p.126; Ingram, Shove & Watson, 2007, p. 13). Individualization of problems transfers the responsibility to consumers that have little space for decision and action other than engaging, as citizens, in social movements for a change or in alternative forms of organizing to

meet their needs (Thorpe, 2010, p. 5-7).

For its part, studies in Emotionally Durable Design have the goal of lengthening products lifetime. This approach allowed designers to learn more about our relationships with goods. Similarly, Design for Sustainable Behaviour stem from the observation of patterns of use of products. This approach required research in behaviour change theories from the social sciences to devise solutions to influence user behaviour. Although ethical implications are to be considered and further explored (Thorpe, 2010, p.8; Ceschin & Gaziulusoy, 2016, p. 125), these approaches were key for design to gain expertise for a human-centred practice (Ceschin & Gaziulusoy, 2016, p. 148).

Towards systemic approaches in DfS

In the last decades, Design for Sustainability started to shift towards a systemic approach. System innovation thinking in the DfS field was first discussed by Han Brezet, professor of Design for Sustainability at Delft University of Technology (Gaziulusoy & Erdogan, 2018, p. 1043). In *Dynamics in ecodesign practice* (1997), he identifies system innovation as one of four types of ecodesign innovations (ibid).

Product-service systems are targeted by one of these systemic approaches. Focusing on the function products fulfil switches design efforts to envisioning services, oriented to satisfy users' needs, moving from a type of consumption based on ownership to one based on access and sharing, where ownership of products stays in the hand of companies (Ceschin & Gaziulusoy, 2016, p. 131). It has been suggested that this approach can incentivize them to optimize resource intensity (ibid).

Design for Social Innovation stems from a focus on social systems for a change in a less techno-centric way. A reference in this direction was the 'Changing the Change' design conference held in Turin, Italy, in 2008. In this conference it was established that sustainability, understood as a systemic change to be promoted locally and globally, should be at the center of the design research agenda (Cipolla & Peruccio, 2008, p. 39-41; Manzini, 2009). This agenda, co-created during the conference, proposed as relevant emerging research themes: ways of living, producing, and designing.

As an emerging research theme, 'ways of living' aimed to focus on how to create radical change in everyday life towards a sustainable envisioned future. For that, the 'Changing the Change' agenda noted as essential to understand what was called "physical and social commons" to refer to the biological and social structures upon which we rely on to live, and how those work together and with new commons

such as the internet and open knowledge. Moreover, it was highlighted among the qualities of a sustainable wellbeing the role of collaborating, sharing different local knowledge, and having a sense of community (Cipolla & Peruccio, 2008, p. 39-41; Manzini, 2009). With regards to 'ways of producing', it was proposed as relevant concepts to understand the so-called 'distributed systems', system resilience, democracy, power shift, local development, among others. In this context, the peer-to-peer and open source movements were mentioned as references converging with the envisioned aims (Cipolla & Peruccio, 2008, p. 39-41, Manzini, 2009). Finally, regarding 'ways of designing', the new roles of design education and practice pointed to designers as facilitators and co-producers of envisioned sustainable futures (Cipolla & Peruccio, 2008, p. 39-41; Manzini, 2009).

Furthermore, a focus on socio-technical systems has been promoted for a design for transitions approach. Design for transitions implies for designers to generate visions towards sustainability at a societal level (Gaziulusoy, 2019, p. 74). This approach has been discussed by many design academics, academics from other fields, and implemented through experimental programmes funded by governmental entities mainly in the European context.

Contributions come from diverse authors with similar but diverse theoretical foundations, as argued by design scholars Idil Gaziulusoy and Elif Erdogan (2018, p. 1043). Discussions on transitions have started with many authors that also influenced the previously mentioned systemic approaches, such as Han Brezet, Ezio Manzini, Chris Ryan, and Fabrizio Ceschin.

Design academic Idil Gaziulusoy, currently professor of Design for Sustainability at Aalto University, draws on sustainability science, system innovations, transitions theories and design theory to develop theoretical and operational frameworks for this design approach. As Gaziulusoy (2019) suggests, production and consumption systems are aimed to be transformed at a societal level through strategic design. In this view, companies can act as intermediaries for design long-term visions to be put in practice (p. 70-71). This perhaps can be seen as an inversion of roles, from a 'market-oriented' design practice to a 'design-driven' business practice.

For its part, design academic and promoter of Transition Design Terry Irwin (2015) focuses on lifestyles and argues for its reconception through a satisfaction of needs in place-based ways and within the 'cosmopolitan localism' frame (p. 229-233). In this scenario, as in Design for Social Innovation, social and community contexts as well as individuals are at the center of a design approach that challenges existing paradigms (ibid). Moreover, change is understood in a different light, and design is called to embrace the idea that change within complex systems cannot be managed or controlled through top-down processes (Irwin, 2015, p.234).

4.3. The city of Montevideo

4.3.1. General background

Montevideo is the capital and largest city of Uruguay. It is located in the southern coast of the country, in the estuary of the Río de la Plata. Its population of more than 1.300.000 inhabitants corresponds to almost half of the country's population, which explains its high population density of 5.440 inhabitants per square kilometer in a sparsely populated country ('Censos 2011', n.d.). Nevertheless, in contrast to most populated South American cities, such as São Paulo, Buenos Aires, Lima, or Santiago, it is a rather small urban region, even considering its suburban area that includes other neighboring districts.

Since its foundation, Montevideo has been an important city in the region due to its port industry and strategic location, which attracted many immigrants. A historically disputed area mainly by the Spanish and Portuguese empires, Uruguay achieved its independence in 1828. Uruguayan population descent has its origins in several European immigration waves, from countries such as Spain, Italy, and to a lesser degree Britain, France, and Germany; but it also has its origins in African slavery. The extent to which Uruguayans owe their descent to indigenous people is until today hard to evaluate. Statistical studies on declared descent show that 86% declared having white descent, 10% afro, and 4% indigenous (INE, 2010, p. 79).

Regarding its culture, Uruguayan society is today midway between the values of a modern industrial society and post-industrial one (Inglehart, as cited in Arocena, 2017, p.10). In Uruguay, this culture leads to extraction of raw materials, large-scale monoculture plantations of exotic trees, water flow contamination with industrial, agricultural and household waste, animal breeding, among other activities with high environmental impact on which the country's economic growth depends (Elissalde, 2017, p. 74). Environmental awareness only started to take place in social and political discussions after the second half of the twentieth century and particularly after the civic-military dictatorship that ruled from 1973 until 1985 (Elissalde, p. 76). In this matter, one of the most important investments in the country is the one in renewable energies, which allowed the country to get today 98% of its electricity from non-nuclear clean energy ('Uruguay, A Clean Energy Leader', 2018).

Despite the 'dark' period in its recent history, Uruguay is recognized as one of the most democratic countries. Uruguayans have historically pushed the country to move forward on human rights issues, being the first country to introduce an eight-hour working day in 1915, and were one of the earliest to support women's suffrage, abolition of death penalty and legal divorce. Currently, the country is taking the lead in supporting same-sex marriage, legal abortion and cannabis regulation

(Arocena, 2017, p. 11). Today, Uruguay is the 15th most democratic state in the world according to The Economist Intelligence Unit (Unit, E. I., 2019).

4.3.2. Open government and smart city

Uruguayan investment in information and communications technology (ICT) over the last few decades can be observed in the creation of several institutions, projects, and infrastructure. Some of them are the development of an electronic government and national plans to improve access to ICT. In 2017, 68% of the country's population had access to the Internet (United Nations, 2019), a considerably high percentage even when compared with more economically and technologically developed countries.

In 2005, the Agency for the Development of Electronic Government (AGESIC), was created. The AGESIC works on the guidelines of the Digital Uruguay Agenda that established a digital politics for the transformation of the Uruguayan government, aiming to utilize innovation for social welfare, creating a digital economy and competitive innovation, offering trust and safety in the use of digital technologies, facilitating citizens' access to public data, among other objectives. The AGESIC objective is to ensure the improvement of the services for the citizens, using the possibilities offered by the ICT. As stated on the official website, its mission is to promote the development of the information society in Uruguay, stressing the inclusion of digital practice in its inhabitants and empowering society in its capabilities for technological use ('Creación y Evolución Histórica', n.d.). Since 2015, AGESIC (Agency for the Development of Electronic Government) has a social innovation lab, a state level innovation that deals with digital government matters.

Another well-known state investment in ICT is the Plan Ceibal. The Plan Ceibal is an initiative implemented in 2009, that aims to improve the access to ICT in primary public education. Partnering with One laptop per child, a North American non-profit initiative, the country delivered laptops to all students and teachers in the primary education system as well as free access to the Internet. In 2015, this plan was followed by the Plan Ibirapitá, which intends to promote the digital inclusion among the elderly with the aim of improving social inclusion, participation and equity (Plan Ibirapitá, n.d.). The project delivers tablets for free to retired citizens.

For its part, Montevideo City Hall has strengthen its services by aiming to be a smart city. Initiatives such as 'Montevideo Decide', 'Cercanía digital', 'Centro de Gestión de Movilidad' among others, enable citizen participation and improvement of services through monitoring and managing in real time ('Montevideo Finalista', 2019).

Since 2017, Montevideo has its own civic innovation laboratory called MVD Lab. The MVD Lab was developed during a residence proposed by a project called 'Civic innovation' from the international organization SEGIB (Secretaría General Iberoamericana) in partnership with Medialab Prado, the civic innovation laboratory from Madrid city. The MVD Lab is dedicated to facilitate exchange, interaction and the development of experimental and innovative projects between the citizens and the government ('MVDLAB', n.d.).

With regards to the collaborative economy, the city of Montevideo has a welcoming approach. The idea that a smart city cannot be reached if a collaborative economy is not built and functional for everybody was expressed by Pablo Valenti, an expert from the BID (Inter-American Development Bank) in a Science, Technology and Innovation talk organized by Montevideo City Hall ('Economía colaborativa', 2016). The collaborative economy is viewed, from the perspective of the BID, as a need for the city to be smart and sustainable, and to be inclusive in the promotion of technological development (ibid). In Valenti's view, Uruguay has the best conditions to initiate a change towards collaborative economies due to its high degree of technological and institutional development. Moreover, he suggests that governments should take part in the development of the collaborative economy by making it more accessible to citizenship in order to avoid increasing societal gaps that will be harder to control afterwards (ibid).

4.3.3. Waste management and practices

The waste in Uruguay has a high rate per capita and is rather poorly managed. According to the report "What a waste 2.0" from the World Bank Group, the amount of waste per capita per year in Uruguay is 1,01 kg; the global average is 0,74 and regional average 0,99 kg (Kaza, Yao, Bhada-Tata & Van Woerden, 2018, p. 210). With regards to waste management, the final disposal is divided into 61,7% to controlled landfill, 17,5% to open dump, 10,5% to sanitary landfill, and only 8% of the waste is recycled (Kaza et al., 2018, p. 256).

Montevideo City Hall is in charge of the waste management of the city. Every day, households produce 1200 tonnes of waste, 481.800 tonnes a year, of which 2600 tonnes reach the controlled landfill known as 'Usina Felipe Cardoso'. The city spends 64 million U.S. dollars a year in operations and human resources for urban waste collection and final disposition ('Más Transparencia de la Gestión', 2017). In Montevideo, there is a composting plant but household waste is not composted. Landfill gas collection and a lixiviated plant were implemented in 2013 (Delgado, 2017), while incineration fortunately has not been implemented. Recycling plants were launched in 2014, but the collection systems across the city are not efficient,

and contamination with organic waste compromises the recyclability of the recyclable materials (ibid).

It is common to see, in the city of Montevideo, that citizens leave objects next to the waste containers. Sometimes it is the case of food that can still be eaten or goods that can still be used by someone else, and in worst case scenarios, any kind of trash. Also, bulky items that do not fit in the waste containers are left on its side, despite the existence of a service offered by the city for the door-to-door collection of those items. The problem is mentioned by the city in their website, reminding citizens about the consequences of this behaviour and the importance of managing their waste in a more responsible way ('Nueva Campaña', 2019).



Images 03. Montevideo. A stove, mattress and other items left next to the waste containers

Sources: (1) (3) Twitter account from Montevideo Ambiente.

(2) Picture taken by a participant of 'Si lo venis a buscar, es tuyo!'. Shared with consent.

(5) CONCEPTUAL FRAMEWORKS

“Does normalization mean only one thing? Is it mandatory that normalization means to go back to a current of normal and mainstream economy, that in the case would be to go toward the kind of 21st century neoliberalism, or are there other possibilities? And how can we work on these other possibilities? (...)”

Ezio Manzini (Ouishare TV, 2016)

This chapter is a review of relevant literature for this research project. First, the collaborative economy phenomenon, classifications, and critical views will be presented, as well as three cases as examples that illustrate the scene. Second, a review of key notions in Design for Social Innovation and theories discussed in Transition Design will be exposed as fundamental elements in the understanding of how sustainable lifestyles and transitions can be envisioned in the design field. Finally, a summary of the chapter will detail the key themes for the analysis of the case study.

5.1. The collaborative economy¹

5.1.1. Definitions

The collaborative economy phenomenon engages citizens in alternative ways of obtaining products such as food, goods, and services through the use of information and communication technologies. This phenomenon is also known as the sharing economy (Heinrichs, 2013), collaborative consumption (Botsman & Rogers, 2010), connected consumption (Schor & Fitzmaurice, 2015, p. 411), access-based consumption (Bardhi & Eckhardt as cited in Hartl, Hofmann and Kirchler, 2015, p.2756), and even anti-consumption (Albinsson & Perera, as cited in Hartl, Hofmann & Kirchler, 2015, p.2756). Hamari, Sjöklint and Ukkonen (2016) argue that the collaborative consumption is a category of the sharing economy (p. 2048). They offer a clear definition: “the peer-to-peer-based activity of obtaining, giving, or

¹ In this thesis, the terms ‘collaborative economy’, ‘sharing economy’, and ‘collaborative consumption’ are used interchangeably. I understand and use these terms as referring to a new form of exchange in which digital technologies are used, even when such practices of sharing existed long before.

sharing the access to goods and services, coordinated through community-based online services” (Hamari, Sjöklint & Ukkonen, 2016, p. 2047). A defining feature, that distinguish this new forms of sharing from older ones, is that the collaborative economy facilitates interactions between strangers (Botsman & Rogers, 2010; Schor & Fitzmaurice, 2015).

Collaborative platforms benefit from the web 2.0 features, that enabled online sociality, engagement, and community-building. The web 2.0 is a version of the web that allowed more dynamic forms of interaction in which users share content and connect with each other in increased ways (Belk, 2014, p. 7). De Rivera et al. (2017) state that the collaborative economy phenomenon represents an alternative to mainstream consumption that emphasizes community values and empowers consumers as prosumers (p. 12). Similarly, sociologists Schor and Fitzmaurice (2015) suggest that this type of consumption relies on “peer-to-peer relationships rather than existing market actors to mediate exchange (...) an innovation that is capable of reallocating wealth across the ‘value chain’, specifically away from middleman and towards small producers and consumers” (p. 410).

This technology-driven phenomenon is said to have started with online marketplaces, such as eBay and Craigslist, in the United States. Schor and Fitzmaurice (2015) suggest that the fast-fashion production model sped up the process of acquiring and discarding goods, which allowed for the development of markets of used goods (p. 411). According to them, a second alternative of collaborative consumption emerged with models aiming for maximizing the idle capacity of durable goods or assets, such as car sharing practices; and a third alternative concerns the exchange of services, originated from the practice of time banking (ibid).

The phenomenon gained popularity in the Global North due to the economic recession of the last decade and an increased environmental awareness (Schor & Fitzmaurice, 2015, p. 412; Tussyadiah, as cited in Hartl, Hofmann & Kirchler, 2016, p. 2756). A qualitative case study research on motivations for participation in the collaborative economy included economic reasons, as it represents a source for income-earning and saving; reducing environmental impact, as by sharing space or recirculating assets the impacts of producing new ones could be avoided; increasing social connection; technophilia; and ideological reasons (Schor & Fitzmaurice, 2015, p. 414).

5.1.2. Typology of collaborative consumption platforms

The classification of collaborative consumption practices has been under debate. Botsman and Rogers (2010), who popularized the term collaborative consumption, argue that it can be organized into three systems: product-service systems,

redistribution markets, and collaborative lifestyles (p. 71). Schor and Fitzmaurice (2015) propose different categorizations, one based on sharing practices: “recirculation of goods, exchange of services, optimizing [the] use of assets, and building social connections” (p. 411); the other, based on market orientation and type of interaction: peer-to-peer non-profit, peer-to-peer for profit, business-to-peer non-profit, and business-to-peer for profit (p. 420). For its part, Hamari, Sjöklint and Ukkonen (2016) base their categorization on types of exchange: access over ownership and transfer of ownership. Access over ownership involves activities such as renting and lending, while transfer of ownership involves swapping, donating or purchasing goods that are frequently second-hand (p. 2049). However, sociology researchers De Rivera et al. (2016) argue that “the current classificatory schema or typologies of platforms have some weaknesses. Sectoral classifications, technological functionality, and discursive modes of understanding sharing and collaborative economies all provide valuable insights, but when taken individually important gaps are evident” (p. 11).

A more comprehensive classification is proposed by De Rivera et al. (2017) which analyses platforms’ architecture, interface, design, and informational content as well as their effect on the social interactions within the platform. To do so, these researchers conducted a netnographic² study with data from fifty-five platforms (most of them from Europe and others considered international), using a netnographic protocol designed by them to analyze four dimensions of the platforms’ technological structure and informational content: the functionality and usability, trust and virtual reputation, codes of conduct and community footprint. Their analysis allowed them to group types of collaborative platforms in three groups: network, transaction, and community-oriented (see *Table 04*). As they explain, “we identified three distinct types of platform that can be understood as permitting or promoting particular types of “doing”, when consumers/users engage in collaborative consumption” (p.11-27).

Network-oriented platforms

According to De Rivera et al.’(2017) study, most platforms are network oriented (p. 20.21). The network oriented type of platform emphasizes technological structure, “as a means to create efficient, stable networks where users can build social capital”, however they are not particularly focused on building communities “in the sense of collaboration”. Social connections are weak despite functionalities such as trust and virtual reputation being very advanced (ibid). They also mention that a percentage of non-profit platforms are also part of this group, but most cases are

² Netnography is a qualitative research method adapted from ethnography. Its name refers to the terms “Internet” and “ethnography”. It is used for the cultural analysis of social media and online community data (Kozinets, Dolbec & Earley, 2014).

for-profit. In this category enter known platforms such as Airbnb or Blablacar (ibid).

Orientation	Scores on netnographic protocol	Examples
Network		
<ul style="list-style-type: none"> • produces networks of interests • technologically efficient and sophisticated • build social capital through trust and virtual reputation systems • focused on networks of individuals rather than communities or social bonds 	<ul style="list-style-type: none"> • highest overall scores • high in technological functionalities (functionality, usability, trust and virtual reputation) • low scores in community footprint 	<ul style="list-style-type: none"> • Airbnb (International) • Blablacar (Int.) • Time republik (Int.) • Eatwith (Int.)
Transaction		
<ul style="list-style-type: none"> • pragmatic, utilitarian and simple exchange interactions • technologically efficient and transaction focused • no social capital development 	<p>low scores across all four dimensions*</p>	<ul style="list-style-type: none"> • Repair cafe (Belgium) • Segundamano (Spain) • Nolotiro (Spain) • Homeaway (Int.)
Community		
<ul style="list-style-type: none"> • non-profit focus • non-monetized • purpose is to build communities at local level • social and environmental missions 	<ul style="list-style-type: none"> • medium-high scores overall • low scores on functionality and usability and trust and virtual reputation • mid-high score on codes of conduct • highest scores on community footprint 	<ul style="list-style-type: none"> • Freecycle (Belgium) • Peerby (Belgium) • Huertos compartidos (Spain)

Table 04. Platform typologies

Adapted from De Rivera et al. (2017, p. 24).

* Functionality and usability, trust and virtual reputation, codes of conduct, and community footprint.

Transaction-oriented platforms

The second type is transaction oriented platforms which focus on facilitating exchanges through accessibility, speed and convenience; in other words, permitting connectivity (De Rivera et al., 2017, p. 21-22). Social interaction happen but are not promoted by the platforms' technological design. Many second hand platforms are part of this group, as well as platforms that centralize interactions instead of facilitating more complex peer-to-peer interactions (ibid).

Community-oriented-platforms

The third type is the community oriented platform (De Rivera et al., 2017, p. 23). These platforms are locally focused, with concern for social and environmental issues. Moreover, they tend to be not-for-profit or non-monetized platforms (ibid). In De Rivera et al.'s (2017), this type presented high scores for community footprint, advanced codes of conduct, and high technological functionality (p. 23). Regarding

the codes of conduct, they express that this could respond to “less investment in technology than trust and virtual reputation, making it a more viable option for non-profit platforms, but likewise it may be a particularity of the approach that community oriented platforms take to collaboration” (ibid). They mention that the distinction between technologically mediated trust and virtual reputation and codes of conduct is an interesting finding that needs further research (ibid). Building on political economist Elinor Ostrom, De Rivera et al. (2017) suggest that “community-oriented platforms could be considered closer to traditional notions of sharing in the sense of the Commons” (Ostrom, as cited in De Rivera et al., p. 26).

5.1.2. Types of governance and moderation practices

Exerting social control in online communities is a matter of governance, that is often referred to as community management or moderation. The concept of social control makes reference to “the mechanisms or processes that adjust individuals’ behaviors to adhere to certain rules in a social group” (Sibai et al., 2015, p. 3). The way organizations “govern, organize, and coordinate the actions of individuals to achieve collective outcomes” is settled in their governance system (O’Mahony & Ferraro, as cited in Sibai et al, 2015, p. 5).

Socialization and regulation arrangements need to be developed in order to ensure participants establish trust, engage in the community and, ultimately, for the group viability (Sibai et al, 2015, p. 3; Schor & Fitzmaurice, 2015, p. 417). In the literature, issues are often discussed as social dilemmas, “situations in which the personal interest of an individual is opposed to the interest of the community” (Dawes, as cited in Hartl. et al., 2016, p. 2758; Schor & Fitzmaurice, 2015, p. 417). In fact, in the case that all members of the community would intend to maximize their profits (free-riders) the whole community would be affected, a notion known as “the tragedy of the commons” (Hardin, as cited in Hartl. et al., 2016, p. 2758).

In an article published in Marketing and Psychology journal, Sibai, De Valck, Ferrell & Rudd (2015) suggest, integrating many studies on social control in online communities, that types of governance structures can be classified as market, hierarchy, and clan governance. Moreover, they identify two hybrid types of governance: gift governance, that combines market and clan governance types; and reputation governance, combining hierarchy and clan governance (ibid) (see *Table 05*).

In market governance, social control adopts the logic of exchange. Transactions happen when a participant gives another something in return for what he gets, either money, services or products (Sibai et al., 2015, p. 8-10). For its part, hierarchy governance has a logic of authority. In these cases, governance is ruled by

conventions, defined by the most powerful party, on what is good or bad behaviour (ibid). As Sibai et al. explain, “when legitimacy comes from members’ ‘natural’ access to technological resources (e.g. when they belong to the community’s founding team), it is despotic” and “when legitimacy comes from members’ talent and achievements, it is meritocratic” (2015, p. 9). Thirdly, clan governance refers to the logic of sharing. Social control rules through traditions and peer pressure, that rely on a collective identity and sense of belonging to the group. Traditions emerge from the group from repetitive behaviour, and respect is exerted through peer pressure (ibid).

Two other hybrid forms of governance were also described by Sibai et al (2015), gift and reputation governance (p. 12-16). Gift governance; a combination of market and clan governance, follows the logic of generosity. It involves the deliberate act of sharing, while creating an implicit obligation to reciprocate. In generalized reciprocity the receiver does not need to reciprocate the giver but someone in the community. In this exchange, the gift’ value is symbolic, the traditions in the community determine the adequate exchange rate which is self-enforced (ibid). Secondly, reputation governance combines hierarchy and clan governance. This type has a logic of popularity, participants try to become good at something valued in the community. Participants with high popularity have more influence than others, however the qualities are defined by the community. Peer pressure takes the form of coercion (ibid).

Logic	Type of interaction	Social control rule	Rule enforcement	Social control requirement
market				
• exchange	• transactional	• exchange rate (economic value)	• negotiation	• direct reciprocity
hierarchy				
• authority	• hierarchical	• authoritarian standards (conventions)	• coercion	• legitimate authority
clan				
• sharing	• communal	• traditions (emergent)	• peer pressure	• shared identity, sense of belonging
gift*				
• generosity	• transactional relationships	• communal exchange rate (symbolic value)	• self-enforced	• generalized reciprocity
reputation*				
• popularity (members strive to become the best at something)	• reputational	• rituals of deference and demeanor	• coercion, via peer pressure	• social hierarchy

Table 05. Governance structures

Adapted from Sibai et al. (2015, p. 32). *Hybrid types of governance.

For its part, moderation practices can correspond to different purposes: interaction initiation, maintenance, and termination (Sibai et al., 2015, p. 5), and vary according to the governance type. In the first place, moderation that aims at interaction initiation is concerned with the selection of individuals that could participate in desired ways. Secondly, interaction maintenance concerns activities that keep the space attractive to the participants, such as “explicating roles, formalizing rules, monitoring interactions, rewarding positive behaviors, and sanctioning negative behaviors” (Sibai et al., 2015, p. 19). Thirdly, interaction termination happens when the interaction needs to be stopped either for natural reasons or conflicts (ibid).

5.1.3. Critical perspectives

The collaborative economy promotes alternative practices of production and consumption claiming to be more environmentally and socially sustainable. Indeed, as design academic Ann Thorpe (2014) suggests, it appears to be an intuitively better alternative due to its qualities for improving use capacity through sharing or collective use. However, some authors point to several shortcomings in these claims. Moreover, the issues presented below, show the difficulties that appear when willing to differentiate collaborative efforts from new forms of market economy.

Environmental impacts

In the collaborative economy, environmental benefits are largely assumed. Using existing goods and spaces is thought to reduce the demand for new ones. However, studies on resource intensity and emissions are relatively few and do not allow for generalizations (Schor & Fitzmaurice, 2015). A study that focused on car sharing concluded that the practice reduces emissions significantly. As stated by the researchers, “carsharing facilitates a substantial reduction in household vehicle holdings, despite the fact that 60% of all households joining carsharing are carless” (Martin & Shaheen, 2010, p. 15). What this study shows is that car sharing enabled owners of old cars to access more efficient cars, reducing their emissions, however the majority of participants did not own a car before joining therefore their emissions increased. In the case of used goods, participants engaging in those practices may be saving money that can be spent elsewhere, and can in turn create more impact (Schor & Fitzmaurice, 2010, p. 414).

Sharing and pseudo-sharing

One of the issues in the collaborative or sharing economy is that ‘sharing’ is used as a synonym for ‘participating online’, regardless of the intentions behind attitudes. Business academic Russell W. Belk (2014) argues that there is a blurred line between real sharing and commercial exchanges (p. 7-23). According to Belk, real

sharing involves a sense of community and no expectations of reciprocity, while pseudo-sharing involves money exchanges and self-interested attitudes (ibid). In his paper, he distinguishes three types of sharing: 'sharing in', 'sharing out', and 'pseudo-sharing': "a business relationship masquerading as communal sharing" (ibid).

Following his categorization on collaborative consumption practices, pseudo-sharing includes: renting and leasing; sharing your data online on social networks, that give your data to third parties and online-facilitated bartering, because it involves a reciprocal exchange (Belk, 2014, p. 7-23). For its part, sharing digitally includes intentional online sharing, like posting on a blog for free without looking for any kind of compensation; online-facilitated offline sharing, such as giving away goods in platforms like Freecycle and similars; peer-to-peer online sharing of music and others divisible goods; and online facilitated hospitality (ibid). As Belk states, those forms of sharing can be understood as sharing in, as "we incorporate those with whom we share within our aggregate extended self", and sharing out, in which there is no sense of community; the latter is the case of divisible goods or sharing space like in distributed computing (ibid).

For its part, Eckhardt and Bardhi (2015) suggest that when sharing is mediated by the market it is not sharing but access, and that brand communities were not supported by participants. In this context of monetized exchanges, users see utilitarian rather than social value (ibid). Their research on users of Zipcar allowed them to conclude that "when consumers use the world's leading car sharing service they don't feel any of the reciprocal obligations that arise when sharing with one another. They don't view other Zipsters as co-sharers of the cars, but rather are mistrustful of them, and rely on the company to police the sharing system so it's equitable for everyone" (ibid).

Unfolding and divergent futures

Another recurring issue in the literature is the unfolding of the collaborative initiatives that tend to lead to market co-optation. Schor and Fitzmaurice (2015) pose that although participation is motivated for social and environmental concerns, platforms futures can be undermined (p. 442). In their research on the motivations for participation, Schor and Fitzmaurice (2015) find that people are looking to share because "they crave connection with others, are concerned about climate change and because they fervently believe in the need to humanize what has become a dysfunctional and anti-social market" (ibid). However, they pose, these efforts can have different futures: "on one side, they could create more equal economic relations and social cohesion; but on the other side, they can reproduce existing inequalities, foster consumer demand and are likely to converge to business-as-usual" (ibid). In this matter, they suggest that those platforms who create a new currency or trade

in used goods have a greater chance to foster new, alternative economic relations than the ones that use economic exchanges (ibid).

To illustrate this, Schor and Fitzmaurice (2015) give the example of Zipcar, eBay and Craigslist. Zipcar had a carbon footprint reduction purpose but after partnering with Ford Motor Company, it evolved into offering sport utility vehicles. For its part, eBay that started selling used items but ended up including new ones. Finally Craigslist, was a non-profit that converted into a for-profit (p. 422-423).

Similarly, Belk (2014) mentions the case of Couchsurfing.org. Couchsurfing.org started as a non-profit organization where people could offer free stays to others in their own homes, a hospitality type of exchange (p. 8-9). To sustain the platform, the organization earned money from verification fees. However, the owners decided later to convert it into a for-profit organization, receiving 7.6 million dollars in venture capital and causing a backlash from three thousand members who created a protest group to express their discontent (ibid). One of the participants expressed feeling “awkward [now] hosting people through CouchSurfing, knowing that that’s creating value for shareholders, who will want to see some return on investment” (Lapowsky, as cited in Belk, 2014, p. 9).

Concentration of power

With the growth of platforms such as Airbnb or Uber questions on concentration of power and ethical governance have arisen. Initially, collaborative platforms were thought as decentralized models of consumption. However, as companies are privately owned and subversive of regulatory systems, decision-making processes and data monopolies have become a major source of concern. In a proposal for research from computer science researcher Samer Hassan (2017), three structural challenges are identified for the collaborative economy (p.2). The first relates to a centralized surveillance. The second to communities disempowerment, as initiatives are being absorbed by industry monopolies that concentrate the decision-making power, “online communities of millions of users which have no say in the way they interact and relate to each other” (ibid). The third to concentration of capital in the hands of very few actors (ibid). These challenges are what is driving the development of blockchain technology to build decentralized infrastructure for the collaborative economy (Hassan, 2017, p. 3), as well as a reason for platform cooperativism as a way to optimize the digital economy for everyone (Scholz, 2014).

4.1.4. Examples of collaborative platforms for recirculation of goods/food

The Freecycle Network

Freecycle, a non-profit organization, facilitates the exchange of goods between people in a gifting modality. In the platform, participants can create an account, and join local groups in forum pages. Individuals and nonprofits can offer and also request items. It runs with the help of local volunteers that moderate local groups using tools offered by the platform. As it started before the rise of the web 2.0., it relies more on social capital than technological features to facilitate the exchanges.

Freecycle started in 2003 in Arizona, but today it involves millions of members and is present in more than a hundred countries according to their website ('freecycle.org', n.d.). Regardless of the amount of members and countries mentioned, it is hard to estimate today the amount of active participants in Freecycle groups. The initial project leader built the website/platform with economic support received from a waste management company.

What?	Where?	When?	How many registered users?	Financial support
<ul style="list-style-type: none"> • Web platform for offering and requesting items. 	<ul style="list-style-type: none"> • Launched in Arizona, now works in many countries 	<ul style="list-style-type: none"> • 2003 	<ul style="list-style-type: none"> • 9,243,225 worldwide 	<ul style="list-style-type: none"> • commercial partners

Table 06. Freecycle

Retrieved November, 2019 from freecycle.org

Peerby

Peerby, a neighbor-oriented sharing platform, facilitates access to goods in a local area. It enables people to share by lending goods that are not in use in their homes, such as a drill, and others to access them without the need to own them.

In an interview, his initiator said that "people feel attached to the places in which they live but not that much to people. More social cohesion is needed in an individualist society" ('Peerby', 2013). He started this project after a personal experience when he lost all his belongings and asking for help made him realize how happy and willing people were to help. As he tells, the fact that he felt uncomfortable asking for so much help made him think that something was wrong with our societies.

The platform was started with financial support from the national lottery from the Netherlands. Later, it received support from different organizations such as Stichting Doen, a foundation that supports culture and cohesion in the green and inclusive economy; Clinton global initiative, through winning a prize in sustainability;

and from the Finnish multi-channel Sanoma Media, as a partner supporting social entrepreneurship (Light & Miskelly, 2014, p. 52). Overall, it raised more than 5 million euros in financing but never made profit. The founder also rejected an offer to buy the platform for 16 million euros. Now, Peerby implemented a new business model, which asked participants that lend goods to charge for it. Moreover, Peerby wants to partner with companies to lend products. The founder, bases his proposal on principles of the circular economy, and says that this model will give an incentive to the companies to make products that last longer ('Peerby', 2019).

What?	Where?	When?	Modality
<ul style="list-style-type: none"> • Mobile and web app for lending goods. 	<ul style="list-style-type: none"> • Launched in Amsterdam, works in many cities in Europe. 	<ul style="list-style-type: none"> • 2012 	<ul style="list-style-type: none"> • Used to be non-monetary, now it changed.

Table 07. Peerby

Retrieved November, 2019 from 'Peerby' (2013) (2019), Light & Miskelly (2014).



Promotional banner from Peerby

Source: facebook.com/Peerby

Olio

Olio, a mobile app for sharing food for free, connects people and businesses locally. The platform facilitates sharing unwanted food, tackling food waste issues. As explained in their website, "(...) surplus food can be shared, not thrown away. This could be food nearing its sell-by date in local stores, spare home-grown vegetables, bread from your baker, or the groceries in your fridge when you go away." ('OLIO', n.d.).

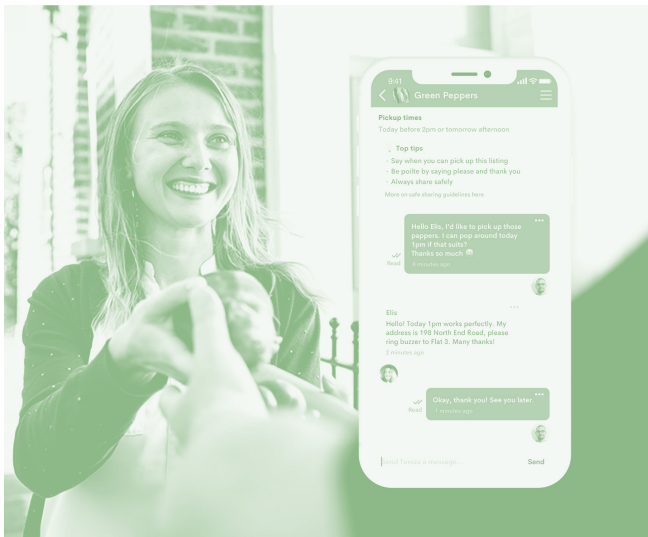
The platform was launched in the United Kingdom, in 2015, and developed into a mobile app that can work in any country. Participants can have different roles, they can receive food, give food, or act as volunteers by re-distributing surplus food from big donors such as supermarkets or bakery chains.

Currently, its revenue derives from commercial partnerships engaged in food waste reduction. Some of their partners are Sainsbury's, the largest supermarket chain in the United Kingdom; Cranswick, a large food producer; and 'This is rubbish', a food research and communication organisation. Nowadays, the founders are working on developing a 'freemium' version of the mobile application (Harvey et al., 2019).

What?	Where?	When?	How many registered users?	How many exchanges?
<ul style="list-style-type: none"> • Mobile app for sharing food. 	<ul style="list-style-type: none"> • Launched in London, UK, works in many countries (49). 	<ul style="list-style-type: none"> • 2015 	<ul style="list-style-type: none"> • 1,422,761 	<ul style="list-style-type: none"> • 2,482,702

Table 08. Olio

Retrieved November, 2019 from olioex.com



Promotional image from Olio's website

Source: olioex.com

5.2. Design for Social Innovation

“Design for social innovation is everything that expert design can do to activate, sustain, and orient processes of social change toward sustainability.”

Ezio Manzini (2015, p. 62)

Design for Social Innovation (towards sustainability) was popularized by design academic Ezio Manzini. The ideas inspiring this approach started to be developed in the 2000s with international activities that focused on finding sustainable solutions and lifestyles in a European context, such as the European research EMUDE, the UNEP Program CCSL, and the international conference ‘Changing the Change’ (see *Subchapter 4.2.2.*). This pursuit ended in the creation of the DESIS network (Design for Social Innovation and Sustainability), a network of design labs that promote social innovation toward sustainability. The DESIS labs are composed of teams of professors, researchers, and students who aim to start or facilitate social innovation processes (Manzini, 2013; ‘DESIS network’, n.d.).

Design for Social Innovation argues for a notion of design as sense making, a process that proposes alternative worldviews by framing key issues in a new way, giving them new meanings (Manzini, 2015, p. 29-31). In Herbert Simon’s definition of design, proposed in his book *The sciences of the artificial*, design “is concerned with how things ought to be (...) in order to attain goals and to function”. Manzini suggests that the common interpretation of this definition is one of design as a problem solver. However, a design concerned with how things ought to be also implies making sense of things. In this way, design is also a producer of sense, a contributor in the social construction of meaning (Margolin as cited in Manzini, 2015, p.35).

Design for Social Innovation is defined as the “expert design contribution to a co-design process aiming at social change” (Manzini, 2015, p. 63). The definition of social innovation used by Manzini is the following, given by Mulgan: “innovative activities and services that are motivated by the goal of meeting a social need and that are predominantly developed and diffused through organisations whose primary purposes are social” (Mulgan as cited in Manzini, 2015, p. 8). The design practice implies creativity, a vision, and applying all the design skills and capabilities to promote and support social innovation; this means using tools from service design, which is concerned with the quality of interactions involved, and strategic design, that focuses on the creation of partnerships between the actors involved

(Manzini, 2015, p. 59). It is worth mentioning that this approach aims for social change toward sustainability across all social classes, enabling the regeneration of common goods, social fabrics, and reduction of environmental impact (Manzini, 2015, p. 65).

This design approach is said to be evolving, as practitioners are identifying and creating replicable skills and methodologies (Drenttel and Mossoba, as cited in Irwin, 2015). In effect, scaling out or amplifying effects of social innovations can only be achieved by developing ways to replicate the experimental experiences without compromising their human characteristics of small and local (Schumacher, as cited in Manzini, 2015, p.9).

5.2.1. Diffuse design and collaborative organizations

Human beings innovate when dealing with problems; this is Manzini's perspective on humans' innate design capacity. However, design is not everybody's profession. Manzini (2015) suggests that, concerning Western or Westernized societies, two types of design can be identified: expert and diffuse design. To help visualize design actors and roles, Manzini proposes the following design mode map (see *Figure 09*). As shown in the image, expert and diffuse design can have an approach of problem solving or sense making, although the boundaries can blur as radical innovations always imply new meanings.

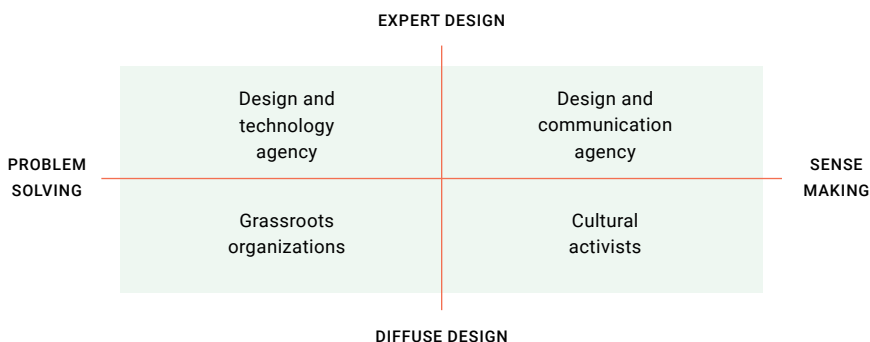


Figure 09. Design mode map

Adapted from Manzini (2015a, p. 40).

The diffuse design mode includes grassroots organizations, that aim to solve local problems often driven by political or ideological motivations, and cultural activists, that promote new ideas and spaces for debating them. In turn, the expert design mode includes design and communication agencies, that use their knowledge and tools to conceive new products, services, and communicational artifacts, and design and technology agencies that aim to solve complex problems by working in

interdisciplinary ways (Manzini, 2015, p.42-43).

Collaborative organizations refer to a new type of grassroots organization that uses social networks for connecting and collaborating in the resolution of real-life problems. Collaborative organizations are considered bottom-up initiatives because “the precondition for their existence is the active involvement of people directly concerned” (Manzini, 2015, p. 83). Nevertheless, their evolution depend on complex mechanisms such as receiving top-down support from institutions, civic organization or companies, or exchanges with other organizations alike in a peer-to-peer modality. The promoters of these organizations are also referred to as creative communities, “people who invent and enhance solutions to everyday life problems by recombining and reconfiguring factors that already exist, giving them new functions and meaning and achieving results without waiting for wider changes in the system” (Manzini & M’Rithaa, 2016; Meroni, 2007).

Within collaborative organizations, people are said to be exploring new ideas of quality of life, as new behaviour and values emerge. By engaging in these initiatives that put solutions into practice, they engage in a ‘search for quality’, that evolves in different ways along their development (Manzini, 2015, p. 90). Diverse types of encounters are enabled, in varying degrees, according to the organizing rules. Collaborative encounters can be characterized in four dimensions: active, collaborative involvement, social tie strength, and relational intensity. These can be used to map and understand the qualities of interactions a collaborative organization enables (Manzini, 2015, p. 107-108). Moreover, interactions qualities can also be analyzed in terms of ties (strong or weak) and relational intensity (relational or formalized) (ibid).

5.2.2. Distributed systems and cosmopolitan localism

New production and consumption networks have been increasing due to technological innovations, such as for instance the Internet, mobile phones, and social media. Those networks are referred to by Manzini as distributed systems (Manzini, 2015, p. 4-5). Drawing on professor of urban eco-innovation and expert on distributed systems Chris Ryan, Manzini explains that these systems disrupt the mainstream production models because they enable new connections between the small and large scale, and the local and global levels. Moreover, even when these models are based on technological innovations, its implementation rely on people engaging and adopting them, which means they disrupt and innovate on a social basis as well (Manzini, 2015, p. 17).

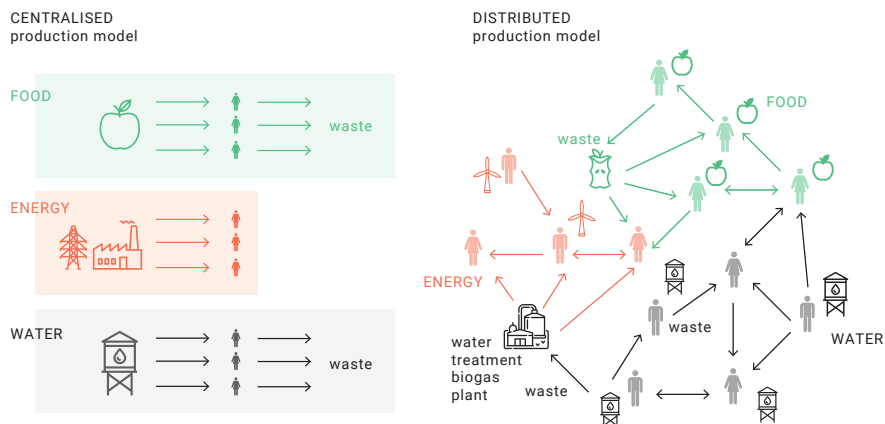


Figure 10. Contrasting centralised and distributed systems

Adapted from Biggs, Ryan & Wiseman (2010).

approaches that support local economies. According to Biggs, Ryan & Wiseman (2010), a distributed model is a network where infrastructure and service systems are located close to resources and points of demand. Services are delivered by small and connected systems and in accordance with the opportunities of the local given conditions. As opposed to the linear manner in which traditional production models provide resources (goods, food, water, transport, and energy), distributed systems “involve a decentralised division of physical components, ownership and responsibility, overseeing a more cyclic movement of resources” (see Figure 12) (Biggs, Ryan & Wiseman, 2010, p. 10-11).

Distributed systems, as in natural systems, are more resilient. They can be found in nature, infrastructure, food networks, fabrication, and economies (Manzini, 2015, p. 18-20). Some examples from the biological and built environment are: brains, fungal mycelium, food cooperatives, community gardens, and some local water and energy supply solutions. Peer-to-peer networks are also examples of distributed systems. One of its qualities is that they are resilient systems. Their diversity, redundancy and modularity are key characteristics that turn complex systems flexible and robust. Widespread failure, a “back-up” capacity and the ability to work collectively or independently, are all features that prevent the spread of failures in the system (Biggs, Ryan & Wiseman, 2010, p. 12-13).

‘Cosmopolitan localism’ builds on the network quality of distributed systems. The framework of cosmopolitan localism illustrates the idea of a new sense of place that is taking place according to Manzini (2015), in which the local and small scale is emphasized but benefits of global flows of ideas, goods or people, due to the openness of being connected to other ‘locals’. This notion calls for a balance between local and global, as opposed to globalization (Manzini & M’Rithaa, 2017).

5.3. Transition Design

“There is (...) a causal relationship between the loss of control of the satisfaction of needs and the unsustainability of everyday life”.

Gideon Kossoff (2015, p. 32)

The emergent area of Transition Design was proposed in 2015 by design academic and professor Terry Irwin, social ecologist Gideon Kossoff, professor Cameron Tonkinwise, and assistant professor Peter Scupelli, from the School of Design at Carnegie Mellon University. This design area has a systemic approach towards societal change that is inspired in many discourses and initiatives concerned with catalyzing transitions in complex systems (Irwin et al., 2015, p. 2). Some of these are the Transition Town Network, a community-based movement from the United Kingdom; the Great Transition Initiative, an international network of scholars and activists promoting a global citizens transition movement; and the notion of transitions in living systems theory (ibid).

The need for visions for societal transitions to more sustainable futures is recognized by Transition Design. Transition Design advocates for “the reconception of entire lifestyles, with the aim of making them more place-based, convivial and participatory and harmonizing them with the natural environment” (Irwin et al., 2015, p. 1). Aiming to transform everyday life through exploring ways of satisfying needs locally and within existing economies, they oppose “the dominant economic paradigm that is predicated upon unbridled growth and an imperative to maximize profit” (ibid). For that transition, the proponents argue, it is required new knowledge about the natural, social and ‘designed’ systems. As they suggest, designers should study and apply ideas, theories, and methodologies from many and varied fields to understand the dynamics of change, as well as develop a new posture, mindset (and even temperament) that will allow them to create better informed visions for transitions (Irwin, 2015, p. 229-232).

Transition Design is founded in theories and streams of thoughts from various fields such as physics, biology, sociology, and organizational development. Some of those are: living systems theory, everyday life discourse, social psychology research, social practice theory, theory of needs, and alternative economics. Other key ideas informing their perspective are: indigenous wisdom, cosmopolitan localism, new ways of ‘being’ in the world, and ‘wholeness’. All these concepts are key for understanding how change can be directed, for proposing future-based narratives to inform and inspire solutions in the present (Irwin et al., 2015, p.3.4).

For the purpose of this research, I will outline only two of these theories, that serve as references to illustrate some of the qualities of Transition Design' visions for sustainable lifestyles.

5.3.1. Reactivating the 'Domains of Everyday Life'

The principal context of focus in Transition Design is everyday life and lifestyles. Everyday life occurs when people strive to satisfy their needs. As Kossoff (2015) argues, everyday life is more likely to be sustainable when communities control the satisfaction of their needs at all levels of scale: household, neighbourhoods, villages, cities and regions, the 'Domains of Everyday Life' (see *Figure 13*) (p. 25). Moreover, he suggests that today we are experiencing the demise of community as "control of need satisfaction has largely been ceded to centralized institutions", which means that activities and decisions happen more global scales than smaller domains, such as the household or neighbourhoods (ibid). As a result, individuals today mostly satisfy their needs by engaging in the globalized marketplace (Kossoff, 2015, p. 35).

As mentioned above, needs (material and non-material) can be satisfied in an exogenous or endogenous way (Kossoff, 2015, p. 31-32). When it happens endogenously, individuals participate in the shaping of everyday life, collaborating,

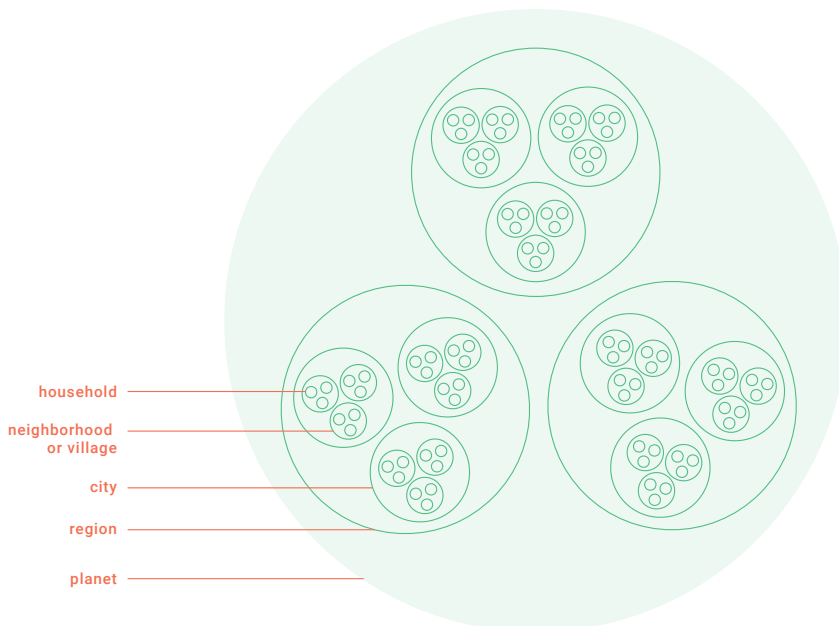


Figure 11. Diagram representing the 'Domains of Everyday Life'.

Archetypal, nested levels of community as webs of relationship. Adapted from Kossoff (2015, p. 33).

Original image from Terry Irwin.

and self-organizing within their communities. In this case, social life resembles living organisms, acting as an 'organic-like unity' (ibid). On the contrary, when it is exogenous, the satisfaction is externally controlled. To illustrate this, Kossoff proposes the example of a shareholder owned company that distributes and sells food, which agenda might differ drastically from the one the community has (e.g. fresh, nutritious, local vs. economically profitable). In Kossoff (2015) words,

The mutual participation that previously enabled people, artifacts, and nature – the parts of everyday life – to belong together is now diminished. As belonging together diminishes, so too does everyday life's vitality, reciprocity, and creativity. Therefore, there is a direct correlation between the extent that 'satisfiers' are taken out of a community's control and development of alienated relationships between people, their artifacts and nature, the fragmentation of everyday life. (p.32).

When the satisfaction of needs is addressed by communities, everyday life can take a nested structure (see *Figure 13*) (Kossoff, 2015, p. 33). The recognition of a social nested structure is a conclusion that comes from the need for a new framework, that can be realized by applying the insights of whole systems science and philosophical holism to human affairs (p. 26). Those domains, share characteristics with living, whole systems: emergent, self-organizing, participatory, networked, nested and semi-autonomous.

The transition towards a more sustainable future in societies, as it is proposed by Kossoff (2015) and Transition Design, implies the reconstitution of the domains of everyday life (p. 36-37) ensuring a symbiotic relationship between the local and global. This means that activities aiming to satisfy a need that are place-based, self-organized, and participatory, at any level of scale, represent a contribution to these transitions (ibid).

5.3.2. Meeting human needs through 'synergistic' satisfiers

Transition Design advocates for a vision of lifestyles that places the satisfaction of needs in the local and regional context. Drawing on Buchanan's 'Four Orders of Design', Irwin (2011) suggests that design can be conceived as an activity involved in the satisfaction of human needs, through "the physical embodiment of needs satisfaction". For that reason, she argues that understanding human needs is at the base of discussions on sustainable solutions (p. 6). For that, she adopts the ideas of the economist Manfred Max-Neef exposed in *Human Scale Development* (1991).

Analyzing the Latin American crisis, Max-Neef proposed a development theory and tools (matrix) for addressing it. He established that the best development process

is the one that allows for a qualitative growth of people rather than a quantitative growth of objects, as the mainstream paradigm proposes. Quality of life depends on the possibilities for humans to satisfy adequately their basic needs (Max-Neef, 1991). According to Max-Neef (1991), human needs are universal and finite, and that what changes is the way to satisfy them. The way or the means to satisfy those needs, the satisfiers, vary according to the culture, era, time period, belief system, among others. For its part, goods affect the efficiency of satisfiers, that can turn out sustainable or unsustainable (Irwin, 2011, p. 6). Lastly, satisfiers can be 'synergistic', when many needs are simultaneously satisfied; 'singular', when only one need is satisfied; 'pseudo'; 'inhibiting'; and 'destroyers" (Max-Neef, 1991, p. 31-37).

Needs (common to all people, everywhere)	Satisfiers (unique to one's geographic location, time period in history and culture)
Subsistence	• Food, shelter, work
Protection	• Insurance systems, savings, social security, health systems, rights, family, work
Affection	• Friendships, family, partnerships, relationships with nature
Understanding	• Literature, teachers, community, groups, family
Participation	• Settings of participative interaction, churches, parties, associations, communities, neighborhoods, family
Idleness	• Daydreaming, relaxing, playing, games, parties
Creation	• Workshops, cultural groups, spaces for expression, building, composing, inventing, designing, painting
Identity	• Customs, symbols, religion, habits, values, norms, work, sexuality
Freedom	• Rights, choice, differentiation, tolerance, assertiveness, self-esteem

Table 12. Matrix of needs and satisfiers

Adapted from Irwin (2011). Original from Max-Neef (1991).

5.3.3. The Commons and governance

Commons Transition is one of the many transition movements that inspire Transition Design. As Irwin et al. (2015) pose, change within complex and natural systems is emergent, dynamic, non-linear, self-organizing, and independent. It creates new orders and types of behaviours in response to external pressures or 'perturbations'. (p.2-3) As the anthropologist Arturo Escobar suggests, "shared by most transition discourses is the contention that we need to step out of existing institutional and epistemic boundaries if we truly want to envision the worlds and practices capable of bringing about the significant transformations seen as needed" (Escobar, as cited in Irwin et al., 2019, p. 2).

The focus on the commons for a design research agenda in sustainability was

already acknowledged in the 'Changing the Change' conference that inspired Design for Social Innovation. Governing the commons, as explained by the political economist Elinor Ostrom (1990), can be done by communities in an efficient and resilient way without the need of top-down regulation if certain requirements are met.

The term 'commons' was popularized by the ecologist Garrett Hardin in 1968. In his essay 'The tragedy of the commons', Hardin illustrated the notion with a scenario in which a farmer decides to add an extra cow to his herd, gaining an advantage over other farmers but leading to overgrazed pasture, compromising the carrying capacity of the land. The decision of one undermines the future for all farmers of the area (Hardin, 1968). However, Hardin was pessimistic about solutions for this problem being possible other than by top-down regulation (Sloan, 2016).

Later, Ostrom's field work challenged this assumption, proposing an eight core design principles (see *Table 13*) under which groups could use the commons in a balanced way without the need of top-down regulation. The following is the list of principles as shown in her publication *Governing the Commons: The Evolution of Institutions for Collective Action* (1990), for which she was awarded the Nobel Prize in economics in 2009.

1. Clearly defined boundaries	<ul style="list-style-type: none"> Individuals or households who have rights to withdraw resource units from the CPR must be clearly defined, as must the boundaries of the CPR itself.
2. Congruence between appropriation and provision rules and local conditions	<ul style="list-style-type: none"> Appropriation rules restricting time, place, technology, and/or quantity of resource units are related to local conditions and to provision rules requiring labor, material, and/or money.
3. Collective-choice arrangements	<ul style="list-style-type: none"> Most individuals affected by the operational rules can participate in modifying the operational rules.
4. Monitoring	<ul style="list-style-type: none"> Monitors, who actively audit CPR conditions and appropriator behavior, are accountable to the appropriators or are the appropriators.
5. Graduated sanctions	<ul style="list-style-type: none"> Appropriators who violate operational rules are likely to be assessed graduated sanctions (depending on the seriousness and context of the offense) by other appropriators, by officials accountable to these appropriators, or by both.
6. Conflict-resolution mechanisms	<ul style="list-style-type: none"> Appropriators and their officials have rapid access to low-cost local arenas to resolve conflicts among appropriators or between appropriators and officials.
7. Minimal recognition of rights to organize	<ul style="list-style-type: none"> The rights of appropriators to devise their own institutions are not challenged by external governmental authorities.
8. Nested enterprises*	<ul style="list-style-type: none"> Appropriation, provision, monitoring, enforcement, conflict resolution, and governance activities are organized in multiple layers of nested enterprises

Table 13. Design principles illustrated by long-enduring Common Pool Resources institutions

Adapted from Ostrom (1990, p. 90).

*For CPRs that are parts of larger systems.

5.4. Summary

The collaborative or sharing economy is a technology-driven phenomenon. Collaborative consumption platforms enable access or transfer of ownership to goods and services (Hamari et al., 2016). These platforms connect participants, usually strangers, through a web or mobile application that facilitates the coordination of monetary or non-monetary exchanges. Participants interact on a peer-to-peer modality, and can be individuals or companies.

Typologies of collaborative consumption can be grouped in different ways. De Rivera et al. (2007) propose a classification that follows ways of 'doing' promoted by platform architectures; platforms can therefore be network-, transaction-, and community-oriented. The latter, they suggest, appear to be closer to traditional notions of sharing in the sense of the commons as understood by Ostrom, political economist renowned for her design principles for governing the commons without the need for top-down regulation. According to Sibai et al. (2015), governance in collaborative platforms can be categorized into five types: market, hierarchy, clan, gift, and reputation governance.

Critical perspectives on the collaborative economy make visible discussions on whether it represents an alternative to the market economy or not. Promises of environmental benefits, based on optimization of idle-capacity, are not enough accounting for the complexity of social interactions around these practices. Martin and Shaheen (2010) study on car sharing is one illustration of this issue. Moreover, issues arise on the definition of sharing when cases are market mediated. In this subject, Belk (2014) suggests the term of pseudo-sharing while Eckhardt and Bardhi (2015) suggest it is mere access. Their study shows how communities interact differently (less collaborative) when platforms are market mediated (Eckhardt & Bardhi, 2015). Third, examples of platforms that have turned into for-profit are given, as an explanation to the likelihood of platforms to turn into business-as-usual despite participation being motivated by environmental concerns and increasing social interactions (Schor & Fitzmaurice, 2015). Lastly, questions of concentration of power arise with cases that have grown and monopolized markets, giving reasons for blockchain technologies or platform cooperativism to be developed as alternatives aiming to solve ethical governance matters (Hassan, 2017; Scholz, 2014).

Three examples of collaborative platforms for the exchange of goods (and food) illustrate the variety of cases in the Global North context. While Freecycle, a known platform for recirculation of goods, remains non-profit; Peerby, a neighbor-oriented platform that enables lending goods, has converted into a for profit organization after a long evolution involving big investments and resistance to become for-profit. For its part, Olio, the most recent of them, which facilitates sharing food for

free, is supported by commercial partnerships and recently seeking to develop a 'freemium' version.

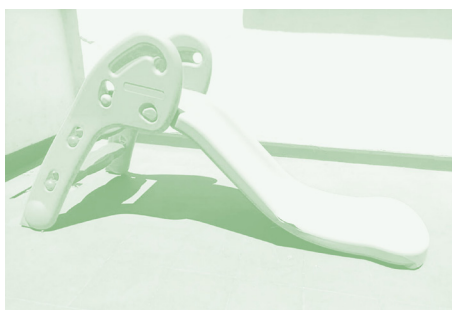
Design for Social Innovation has emerged as an approach for designers aiming to contribute with orienting social change towards sustainability. New frameworks, roles, and tools in this approach help designers support collaborative organizations, or creative communities, that are offering solutions for everyday life problems (Manzini, 2015).

Citizens using human's innate design capacity are seen as designers, in a diffuse design mode. Collaborative organizations, are seen as citizen-led bottom-up initiatives empowered by digital technologies, such as mobile phones and social media. Those initiatives need top-down support, but as grassroots organizations, engage local communities in collaborative encounters. Encounters can be helpful to understand the qualities of the interactions enabled by these organizations that are constantly evolving (Manzini, 2015).

Distributed systems, new production and consumption networks enabled by technological innovations, are a key characteristic of the peer-to-peer modality in which collaborative organizations emerge and function. These are opposed to the linear and centralised production and consumption systems, which makes them more resilient. 'Cosmopolitan localism' is a notion used by Manzini to illustrate the characteristics of a place, locally rooted but open, in which the local and global dimensions are in balance, as opposed to the notion of globalization (Manzini, 2015; Manzini & M'Rithaa, 2016).

For its part, Transition Design is an emergent area of design that argues for a reconception of lifestyles. Building on several theories from diverse sciences as well as in other discourses and initiatives, they propose a role for designers of envisioning sustainable futures transitions to inform and inspire present solutions. Those are visions of place-based satisfaction of needs through 'synergistic' satisfiers and a symbiotic relationship between the local and global, as in cosmopolitan 'localism' (Irwin, 2015; Kossoff, 2011).

Moreover, Transition Design acknowledges what theories of change in complex systems, such as the natural and socio-technical systems, suggest about change being emergent, non-linear, self-organizing, and independent, as opposed of being directed through control from top-down processes. For communities to be able to self-organize, Ostrom' design principles for governing the commons point to clearly defined boudaries, collective arrangements, graduated sanctions, among other key requirements.



Items shared through 'Si lo venís a buscar, es tuyo!'

Images shared with consent of the participants.

(6) CASE STUDY

6.1. The project 'Si lo venís a buscar, es tuyo!'

6.1.1. Brief chronological story of the project

In January 2016, in Montevideo city, a young local citizen decided to create a Facebook group with the intention to tell some friends, if they were interested, that he was giving away a small table that he did not need anymore. He did not want to sell it, but the table was in good condition, so he did not want to discard it either. He thought this could be a fast and easy channel to solve it. He called it 'Si lo venís a buscar, es tuyo!' – If you pick it up, it's yours; in English –, invited friends to the group, and left it open for anyone to join or invite others.

To his surprise, 24 hours later hundreds had joined the group and many items were offered. The growth was exponential in the first three months, reaching 35.000 participants (see *Figure 14*), but both more offers and inappropriate posts were being published. In fact, the space had no clear instructions for the participants to organize themselves and coordinate their exchanges.

A Facebook group with an increasing amount of people joining became a challenge for the initial administrator of the group. As a member and person responsible for creating the space, he sought help from two friends, and together they worked voluntarily as moderators of the space for almost a year before getting financial support for the development of an independent platform.

The first decision was to close the group and accept requests one by one. This measure allowed them to control who was joining as they wanted to avoid fake profiles, brands, or second hands that could resell the free given items, a practice that was happening and was not aligned with their initial motivations (see *Subchapter 6.2*). The second step was to elaborate and publish a set of rules (see *Subchapter 6.3*) to avoid misunderstandings among the participants. This allowed them to exclude posts, and warn or block people that would not behave according to the rules, in order to keep the space working in harmony. Moreover, they shared advice for the participants, frequently asked questions, and celebrated new members as reached goals, from time to time, in the form of posts on their Facebook group page.

During this period, the need for an independent platform and funding to support it became evident to them. Moderating tasks, such as approving new people one by

one and checking posts followed the rules was very time consuming. Moreover, communication difficulties revealed certain limitations from the Facebook group tool, highlighting the need for an independent platform. For its development specific capabilities and infrastructure were needed; these costs made financial challenges emerge (see *Subchapter 6.4.*).

Seeking funding was a process that encouraged the initiators to describe the project, and therefore rethink their motivations and positioning. Some similar peer-to-peer sharing experiences from the United States and Europe served as references, as well as other kind of local online platforms (see *Subchapter 6.2.*). Stakeholders also influenced their positioning in the process of getting the fundings. In this context, the project was described as a 'collaborative economy community' ('Si lo venís a buscar, es tuyo!', n.d.).

In June 2018, the Facebook group called 'Si lo venís a buscar, es tuyo!' became a web application, that currently runs under the domain 'tuyo uy'. According to their website, in four years, through both channels, it engaged 63.500 participants and facilitated the free exchange of 92.000 items (see timeline, *Figure 14*). During this time, it received help from a startup incubator, and financial support from the National Innovation and Research Agency (ANII) and Montevideo City Hall (IM) (see stakeholders map, *Figure 15*).

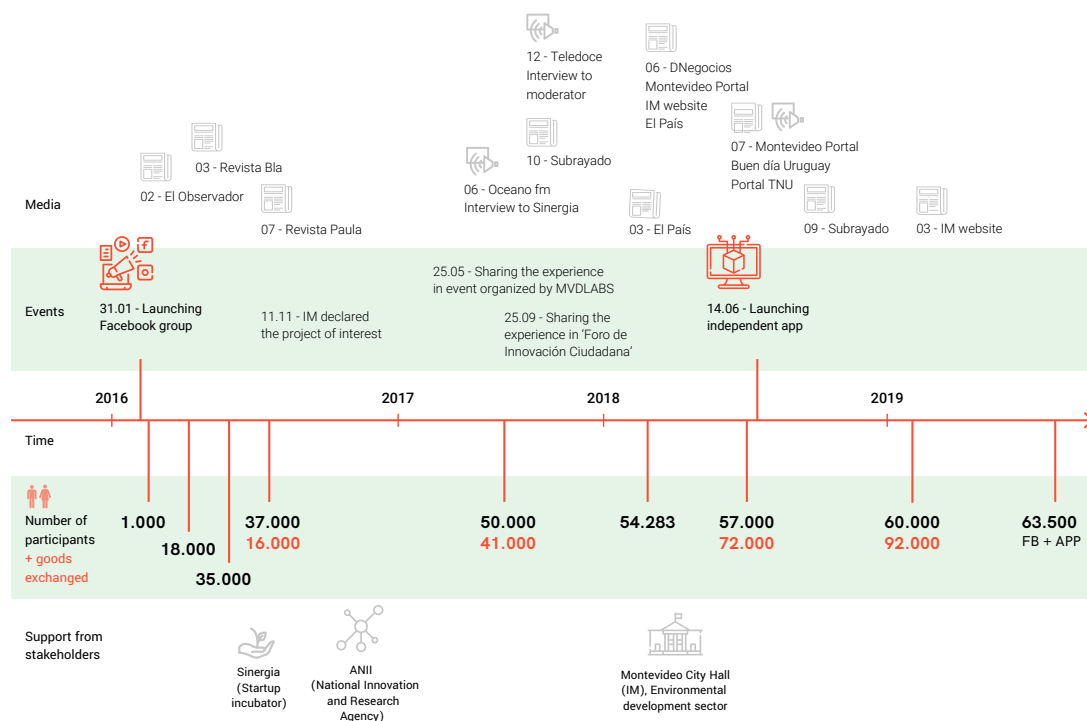


Figure 14. Timeline

Events, media coverage, participants and goods exchanged and financial stakeholders.

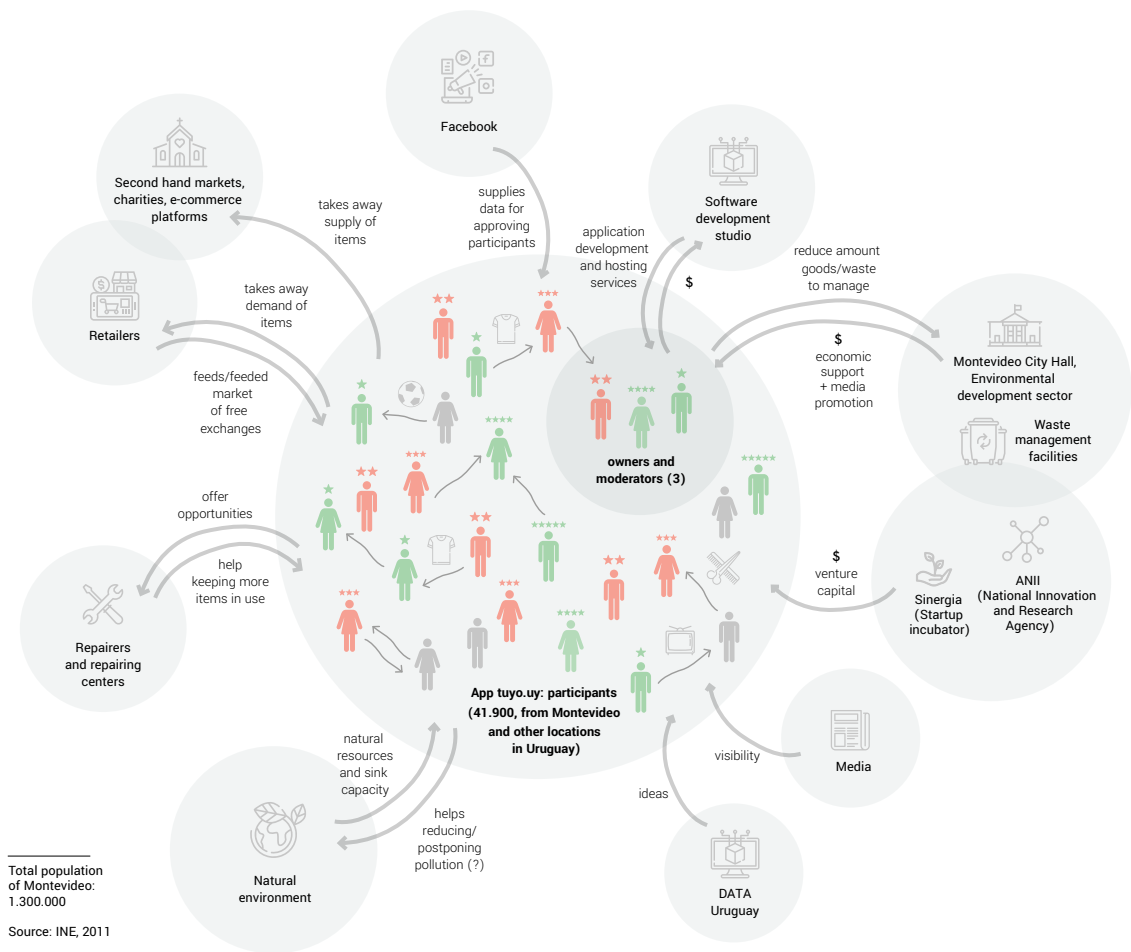


Figure 15. Stakeholders map
Actors and flows of interaction.

6.1.2. The space in the present

Today, citizens from all over Uruguay can participate in 'Si lo venís a buscar, es tuyo' through their web application. Participants of the initial Facebook group can continue to use that space as well. There are approximately 41.900 and 53.000 participants in the platform 'tuyo.uy' and Facebook group respectively. Since many participants have accounts in both spaces, they estimate the total number of participants in 63.500. The web application makes easier than the Facebook group for citizens from all over the country to participate and exchange items within their residential areas, but most participants today are still from Montevideo city.

Through the web application and Facebook group, participants have exchanged several items. Those include clothes and accessories for women, kids, and men; furniture, homeware and kitchenware; kitchen and household appliances;

electronic devices and accessories; toys and games; books; decoration for events; construction materials; cosmetic and health products; bikes and accessories; plants; recorded music and videos (CDs, LPs, VHS, DVDs), among others less frequent such as art pieces, recyclable materials, tickets and services like haircuts. Based on observations, in the last few months, an average of 10 to 15 items were delivered every day. Sometimes, participants offer items that are broken or in bad conditions and requesting members mention being able to repair them. In several cases, items received through the group were offered back in the space. In one case, a participant repaired a broken tablet given in the group, and offered it back in good conditions.

The web application allows participants to interact in a similar dynamic as the Facebook group. The space includes a feed, a user profile, a private chat, and other sections such as, rules, help, a search engine, filters, and a help mailbox. To sign in, participants must have a Facebook account (a feature the moderators would like to change in the future). Once members, participants can post offers in the feed and other members can comment on the post if they want to request the item. Then, the giving member (giver) chooses one of the requesters and contacts him privately. A notification is sent inside the application and via email to the chosen member (receiver). They can coordinate a time and place for the exchange through any means of communication. After the exchange, both members can evaluate each other in the web application according to whether the experience was bad, good or very good. They can also post a message and picture to express gratitude (see Subchapter 6.3.3.).



Promotional banner of the independent platform launching

Source: montevideo.com.uy

6.2. Motivations and values

6.2.1. The moderators

The team

The initiators of the project are a team of three friends, young university graduates and citizens of Montevideo city. Two of them studied Communication, one of whom works as a Graphic designer, the third member studied Computer Sciences. Thus, two members work on the management and communication of the project while the third works on the technological aspects, together with a software development agency where the platform is hosted. Their initiative could be associated with particular circles; however, they expressed in the interviews not feeling identified with Facebook, neither being part of the entrepreneurship or sustainability scenes.

Motivations

As mentioned before, this project started in a spontaneous way. However, the initiators decided to take an active role as moderators and build an independent platform. That decision was, as observed, supported by four types of motivations that can be categorized as personal or individual, political, social, and environmental.

First, they expressed wanting to do something that would be interesting and meaningful for them. Second, they expressed being very interested in the issue of planned obsolescence and enabling other forms of consumption. In their words, one of the pillars of the project is "(...) this thing about the redistribution of idle goods, about enabling other forms of consumption that have nothing to do with the 'to buy, to throw away, to buy' mechanism" (Interview 1). Third, they mentioned that one of their goals was to reduce the amount of waste and they believed their initiative offered a more responsible way of managing waste than others that happen in the city. Finally, they mentioned loving an aspect of this project which is that they see it as a space for socialization around positive values such as trust and respect.

With regards to socialization, they have taken key decisions along the process in order to safeguard face-to-face encounters. Because of that, they rejected the idea of partnering with or offering transport services for the exchanges. In their words, face-to-face encounters are a moment that "transcends the digital environment, and strengthen the project as a whole, because it creates trust, commitment and respect. It is not the same if I send someone to pick up a mattress than if I go myself, see your face, say thank you, and have to meet the [agreed] time schedule" (Interview 1). Moreover, they expressed thinking that there is a lack of social cohesion in the neighborhoods.

External influences

Experiences such as travelling and seeing what other platforms worldwide were doing is what they mentioned as main references in the development of this project. Firstly, they expressed knowing about Freecycle because of relatives living abroad, and to have travelled and see how in economically developed countries many people were able to furnish their houses with what others considered waste. During the process, they did research on similar cases and found very inspiring Peerby and Olio (see *Subchapter 5.1.5*). Moreover, they looked into another type of platform in order to define their role: MercadoLibre, a very popular e-commerce in Latin America. As they explained, “what we understand that we do is connecting offer and demand of free items, MercadoLibre connects offer and demand of items” (Interview 2). They also looked into Facebook terms of agreement to develop their own.

The particularities of the local context were also important for the moderators to engage with this project. One concern was the critical context of a sector of the population. As they expressed:

It's not the same to create a collaborative economy platform in Europe, where the lack of goods is not a thing and people don't have the need for getting them, than doing it in Uruguay with people... who live very humbly and don't have anything in their homes, this opens a door for getting a lot of things in many cases. (Interview 1)

Another concern was about the waste management situation in Montevideo city. As they reflected, “in Montevideo, there are plenty of mattresses next to the waste containers, household appliances that do not have any information so you do not know if they work, if they don't...” (Interview 1). In addition, they expressed that after doing some research they did not find any similar platform in Latin America, and that even if Freecycle is available, it does not have much traffic in the region.

6.2.2. The participants

Motivations

The participants surveyed expressed diverse motivations for joining the Facebook group or web application. Those motivations can be categorized as: solidarity, environmental, political, individual, and economical.

In the questionnaire, participants were first asked to answer why they decided to join the space. Solidarity as a motivation can be illustrated in answers such as: “Because I liked the solidarity dynamic”, “Because I consider these spaces of mutual help that are created are essential”, or “I loved the proposal of solidarity”. Another very frequently mentioned motivation was the environment. Answers such as “I thought it was an interesting initiative to foster the reutilization of goods, which favors the

environment”, “I think it is a sustainable way, to recycle or reuse things that we do not use anymore”, and “Because I think it is a good option, that goods circulate and we do not create new ones”. Participants also mentioned the space being useful for who gives and who receives, having stuff they were not using anymore and needed to give away, or being curious; which can be interpreted as individual motivations. Moreover, other answers had certain political or philosophical connotations. A participant replied: “In this social system there is a tendency to throw away, it’s great that if I’m not gonna use something that is still useful, another can use it.” Another mentioned: “(...) I am used to swapping things with friends and family, why not doing it in a group of strangers? (...) philosophically, I am not a consumerist”. Finally, others mentioned economic reasons: “to get free stuff”, “to help and receive help with necessary stuff”, “I am a mother of four kids and eight grandkids and this is a way I found to help them”.

In a second part of the questionnaire, participants were asked to first rate and then organize their motivations to participate in the space following a list of five motivations: social, environmental, individual, political and economic (See *Subchapter 9.2.*). Their answers suggest that the principal motivations are social, followed by environmental, and the least important are the economic and political ones.

In the interviews with participants, motivations for participating in the space were varied. A participant mentioned giving away things in two occasions in which he moved out. He gave a stationary bike, an old mattress and wood that he wanted to give specifically for being used in an animal shelter, and materials he collected to do handicrafts. He mentioned considering this space very valuable because “somehow it creates (...) a more responsible posture with regards to consuming” (Interview 3). Another participant mentioned getting a window cleaning tool that she did not want to buy because it was not essential, but since she saw it there she decided to request it. The third participant mentioned giving away items in order not to accumulate unused things at home, and that most of those things were given to her by her brother in occasions when he moved out. She also mentioned getting a very new kitchen by someone who had gotten a new and more sophisticated one. Lastly, she mentioned that by making things circulate, “energy flows and good flow, without the need for us to handle money” (Interview 5).

Values and experiences

The participants surveyed expressed that the space promotes solidarity, empathy, respect and commitment, as well as environmental consciousness.

In a second part of the questionnaire, participants were asked about which values

the space promotes, in their opinion (see appendix in *Subchapter 9.2*). Solidarity, empathy, respect, and commitment were by far the most mentioned words. The second most mentioned words were responsibility and gratitude. Other very frequently mentioned ideas were related to caring for the environment, sustainability or recycling. Those were expressed using different words and sentences such as: “environment”, “environmental care”, “sustainability”, “consumerism”, “consciousness”, “recycling”, or “reducing”.

When asked how those values were represented in their experiences, many participants mentioned having positive experiences, punctuality and respect in face-to-face encounters, feeling grateful and experiencing a nice environment in the community. Some answers that reflect those perceptions are: “Responsibility, not only by picking up the requested items but also by offering things in good condition and clarifying it if it wasn’t the case”, “It has been very grateful to help someone by gifting something”, “It is noticeable in the community, everytime I gave something I received a small present, that speaks for the good values in the community.”

Moreover, when participants were asked to rate the space quantitatively, they gave overall very good ratings. When asked about the reasons, participants reported having positive experiences, being satisfied with the overall level of commitment and responsibility of other members, and the values of the community. They also mentioned occasional conflicts with other participants, that were not sufficiently important for them to change their perception of the space.

Good experiences were expressed in answers such as: “I feel satisfied when I can give. I met valuable people”, “The times I interacted with other participants were always pleasant, good vibes and gratitude”, “Good management of the site and rewarding personal experiences”. The conflicts mentioned were in most cases referring to participants that do not commit to the time and place agreed for meeting, and do not notify the giving member.

6.3. Design process and community organization

The design process of this project has three important characteristics: having a pilot experience, developing a set of rules and requirements for the organization of interactions, and building a community. The project started as a Facebook group that the moderators now see as a pilot experience where they could observe, talk with, and listen to participants' experiences. A basic set of rules and requirements was enriched along the process, forming the basis for the development of the independent platform architecture. Meanwhile, a sense of community was being consolidated among the participants and fostered by the moderators.

6.3.1. Pilot experience

During that first year of the pilot experience in the Facebook group, the moderators learned from observing the participants interactions and conflicts, as well as from communications with them. As they expressed, a key element for the design of the rules and requirements was the many hours of observation and conversations spent with the participants through Facebook. In fact, many rules were modified and became more extended and specific as conflicts arose. Moreover, some 'good practices' of the community were suggested by the participants (see *Subchapter 6.3.3. Building community*). As the interviewed moderator explained,

“we learnt a lot from the community, we dedicated many hours, at the beginning we use to spend the whole day on it, and we listened... I think the credit can be given to listening a lot to what was happening” (Interview 1).

Today, they keep a register of comments for improvements, as they wait for funds for further developments.

The conversations with participants were started most times when the moderators contacted the ones that were not acting according to the initial rules. To ensure participants will see only the offers that followed the rules, the moderators decided to approve every publication before it was published. Therefore, if an offer was inappropriate they would not approve it but they would also send a message to its author encouraging him to learn the rules, taking their time to explain that the rules were veiling for the community.

Other starting points for conversations were situations in which participants contacted them because they had an issue. An example of this is that, in the Facebook group, participants offering items were receiving thousands private messages from people that were requesting those items. Therefore, the moderators established that requests were only allowed by commenting on the post, and that receivers should wait for the giver to contact them, if chosen. However, this problem was not completely solved in the Facebook group as the moderators cannot exert control

over private Facebook conversations among participants. In the web application, this conflict was solved by the implementation of a chat exclusive for the platform; even if participants have the freedom to use other communication channels.

6.3.2. Rules and requirements

The set of rules by which the web application, and Facebook group, currently operate can be grouped into clusters. The rules can be categorized according to aims (see *Table 16*) and can therefore be divided into: first order rules, for preventing the space from becoming something different than a space for collaborative consumption; second order rules, for offering certain guarantees to the participants and in compliance with public legislation; and third order rules, that look for ensuring positive experiences within the community. Moreover, there is a specific rule for the three moderators: they can offer but cannot request any offered items.

Based on those rules, a set of requirements allows the moderator to control inappropriate behaviour, by removing posts or accounts that do not meet the requirements and therefore infringe the rules. In addition, there is a set of requirements to verify that participants are real persons. The moderators can reserve the right of admission, based on whether the profiles of new participants meet those requirements or not.

First order rules: free exchanges, no requests.

The main rules maintain the space as a collaborative consumption community. These rules are aligned with the moderators' motivations of enabling other forms of consumption, facilitating the redistribution of idle goods with no monetary exchange. As they mention on the rules page, "this is a collaborative space and should not be used to feed a particular business" ("Si lo venís a buscar, es tuyo", n.d.).

The first and most important rule is that everything is offered for free, thus participants cannot propose or accept any monetary exchange. Another related rule is that you cannot sell or barter afterward what you received as a gift through the group. If the infringing participant is reported several times by other participants or proofs are provided (e.g.: screenshots from of products offered for sale in e-commerce platforms such as MercadoLibre or Olx) the account of the infringer is removed.

A third related rule is that you can only post offers of items or services, not requests. This is a particular aspect that differs from other collaborative platforms such as Freecycle. In the moderators' opinion, requesting, as well as bartering, are practices that are not in tune with the spirit of collaboration, and sharing, of the space.

In order to control the compliance of the main rules, the following requirements were listed: posts cannot request for items; posts cannot include advertising such as: brands, links, logos, posters, promotions, prices, contact details, or anything that can be considered business marketing; and posts cannot include links, videos, news or any business or event promotions.

Second order rules: safety

The secondary rules were created to offer guarantees to the participants and avoid infringing the current local legislation. One of those rules is that you cannot share your contact details publicly. In this sense, it is required that posts do not include phone numbers or address details. This rule protects the users' privacy and prevent them to be contacted massively. Contact details can only be shared through private message with the recipient to coordinate the handing over. Another rule is that it

Aim	Rules	Requirements
First order		
<ul style="list-style-type: none"> A space for collaborative consumption 	<ul style="list-style-type: none"> Everything is offered for free You cannot propose or accept any monetary exchange You cannot sell or barter afterwards You can only post offers (of items or services) 	<ul style="list-style-type: none"> Posts cannot request items Posts cannot include links, videos, news or any business or events promotions Posts cannot include advertising such as: brands, links, logos, posters, promotions, prices, contact details, or anything that can be considered business marketing
Second order		
<ul style="list-style-type: none"> To provide guarantees for participants (privacy, safety) as well as not to infringe public laws 	<ul style="list-style-type: none"> It is not allowed to share contact details publicly It is forbidden to offer animals, medicine, health related products, supplements, pirated material, etc. Citizens under 18 years old cannot participate 	<ul style="list-style-type: none"> Posts published cannot include phone numbers or address details
Third order		
<ul style="list-style-type: none"> To build commitment and respect for the benefit of the whole community To verify that the participant is a real person 	<ul style="list-style-type: none"> You cannot miss the hand over of an item You cannot use offensive or discriminatory language You cannot request too many items or using multiple and coordinated accounts 	<ul style="list-style-type: none"> Facebook profile accounts need to have a minimum of one year of being created Profiles cannot be brands or have fake names, and cannot have been inactive for too long

Table 16. Aims, rules, and requirements.

is forbidden to offer animals, medicines, health related products, supplements, vouchers, pirated material, among other products. In this case, the rule protects participants' safety. An example the moderators gave is that, even if the drugs are not expired, conditions in which they were kept cannot be guaranteed.

Third order rules: community-building

The third order of rules intends to foster positive interactions between the participants, helping to build commitment, respect, and a reputation, for the benefit of the whole community. Those rules are the following: not missing the hand over of an item, not using offensive or discriminatory language, not requesting too many items, and not using multiple and coordinated accounts.

In accordance with these rules, it is required for participants to notify in case they are unable to meet on the day and time agreed with the other participant for the exchange. The non-compliance of this rule can lead to the removal of the infringers' account. Moreover, the moderators highlight the importance of respecting one another, diversity in opinions, and tolerance by requesting for an appropriate use of language. Thirdly, they promote the use of the space in moderation, highlighting the importance to give space for others to get access. They advise participants to offer something before requesting and getting things several times. Lastly and consequently, it is required for a single participant not to have more than one account; therefore, if proof is provided, all the accounts of the infringer will be removed.

Finally, the moderators have a checklist of requirements for accepting a new participant. The requirements are as follows: Facebook profile accounts need to have a minimum of one year of being created, cannot be brands or have fake names, and cannot be inactive. Those requirements respond to the need of verifying that the participant is a real person. For the web application, those requirements were translated into automatic filters. In the case of the Facebook group, they did that task manually until they decided not to accept any more participants in an attempt to promote the use of the web application.

6.3.3. Building community

In many features, efforts from the part of the moderators to look after the community can be seen. Those are seen in the form of rules or requirements, inclusion and implementation of proposed practices and responsibilities for the participants. Moreover, the intention to build a community and recognition of the



Figure 17. Profile page of a participant

Rating; number of given, received items, and thank you messages; access to history of interactions; and personal information (free text box).

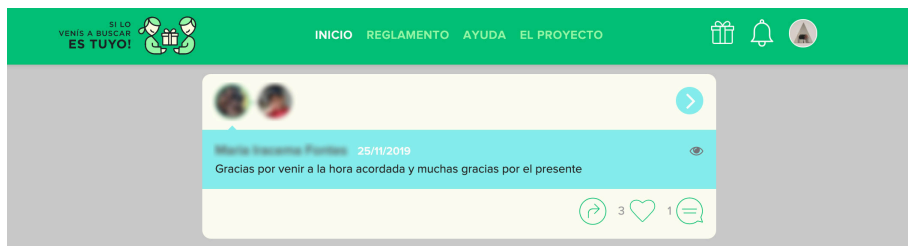


Figure 18. A message expressing gratitude in the web application

The name and profile pictures of the participants were blurred to ensure anonymity.

importance of social capital for the well functioning of the platform was explicit in the conversations with the interviewed moderator, and very present since the project' beginnings.

As aforementioned, there are requirements that respond to a quest for ensuring positive experiences among participants and facilitating equal opportunities for accessing the offered goods. Control is exerted through banning misbehaviour or disrespectful practices such as non-compliance of agreed time schedules, using offensive language, or abusing from the benefit of accessing items. Moreover, participants' reputation is affected not only by the evaluations from other participants but also as a balance between what was offered and what was received (see Figure 17).

Moreover, there are 'good practices' that emerged among the participants during the pilot experience, and were promoted and implemented by the moderators as they understood they were valued by the whole community. One of those practices is giving a small gift as a way to express gratitude in return for the good you are getting for free. Because recipients were doing it and posting a message on the group to share their positive experiences with others, features of the web application were designed for contemplating this practice, allowing both the offeror and recipient

to put a public picture and message in relation to the exchange and face-to-face encounters. An example of a message that can be read daily is: "Thank you for coming at the agreed time and for the gift" (see *Figure 18*).

Another practice that was incorporated into a rule was the possibility to gift your time and talent. This was seen as a positive trait by the moderators, that expressed themselves in favour of participants showing their gratitude in such ways. At first, moderators were worried that it could be a mechanism for advertising services. However, they understood that time banks were part of the collaborative movement and they accepted it. In an effort to regulate these offers, they broaden the requirements for preventing spamming and posts with advertising intentions.

Lastly, the chat function in the platform is another decision that was taken considering participants' requests. As mentioned before, communication between participants was something challenging in the pilot experience in the Facebook group due to the amount of private messages participants offering could receive. Moreover, participants were not willing to share their phone numbers. For those reasons, they decided to create a chat in the web application for coordination purposes. However, since WhatsApp became massively used, the exclusive chat they built became to some extent obsolete. Nevertheless, communication between participants is still something in the platform's usability that the moderators recognize needs to be further improved as participants sometimes fail to see on time the notifications, which affects the flow of the interaction.

Another observation is that participants are requested for help to maintain the harmony of the space. Participants are responsible for reporting inappropriate behaviour. As explained on the web application's page about the rules, moderators encourage participants to send a notice using the report button if they see an inappropriate comment or post. In this matter, the moderators expressed being grateful for the support of the community in reporting and regulating the behaviour.

On this subject, it is interesting to mention that the team received an interesting piece of advice at the beginning of the pilot experience. A member of DATA Uruguay¹ suggested them to first focus on building community. In the moderator's words,

when we started this project we received an advice that was very helpful, saying 'first build community', from someone who is very knowledgeable in this world of civic apps. The capital of this is the community, this is gonna work as long as there are people and traffic... We thought it was like that... so we worked on the community, in getting people to know the rules, and to feel part of the project. (Interview 1)

¹ DATA Uruguay is a civil society organization that works since 2012 in topics such as open government, open data, access to public information and participation through civic technology.

In this process of building community, the first decision, during the pilot experience, was to close the group and try to find a way to organize the already members while setting requirements for approving new members. They made an initial set of rules, and worked hard with the communication posting the rules little by little, seeing if someone had doubts, and explaining the rules via private message first to the ones that were not following them. They expressed putting emphasis on explaining the reasons for having such rules, mentioning that if one person does something against the rules nothing happens but if everyone does then the space is damaged and all the efforts are compromised.

6.3.4. Challenges and pitfalls of moderating the space

The moderators expressed finding limitations on the Facebook group tool for organizing the exchanges and moderating the space. One of them was not being able to get a notification from someone if they reported misbehaviour. Still, they acknowledged that regarding the filters for accepting new users, they would not be able to do it if it was not through Facebook, even if they do not have access to the database.

Another difficulty is related to conflict resolutions. As mentioned before, moderators base their decisions for blocking members in other participants' reports. However, sometimes is not possible to demonstrate the authenticity of what is reported. They rely on trust for making decisions. As they expressed, they block one person per day on average. In this matter, they recognized being unfair perhaps, and having to add people back after realizing it was an error to block them.

Regarding the usability in the web application, they recognize missing on issues because they are very familiar with its functioning, or not having the resources to improve the system (e.g. sending automatic notifications as reminders for participants to 'close' their publications once they are over).

6.4. Financial support

6.4.1. Financial stakeholders

The economic sustainability of the project is, according to the interviewed moderator, a complex issue, as their aim was always to run a platform that offers a free service to citizens, but for which time, capabilities and resources for hosting the service are required. Currently, they are financially supported by the Montevideo City Hall, but are seeking for more financial stakeholders.

During the first year, they applied for funds from the ANII (National Research and Innovation Agency). They obtained the funds, a sum of USD 21.528, to build a first prototype of the web application through a prize for young entrepreneurs that was granted to small businesses that were incubated in Sinergia, a local start-up incubator. Later, when applying for the funds for a second time, they were unsuccessful as they were not considered a profitable business.

In the meanwhile, they were in contact with a participant of the group that connected them to Montevideo City Hall as she was responsible for the civic laboratory MVDLab². They started discussing the possibility to create synergies with the area of Smart Cities, but ultimately, the area of Environmental Development was the most interested in establishing an agreement, granting financial support amounting to USD 29.547 for a period of 6 months. The agreement stated that it was forbidden to change the free character of the platform; besides that, no other conditions were established. The resources were allocated to the support and maintenance of servers, hours of moderation, and communication and design activities.

The Environmental Development area of the Montevideo City Hall is in charge of the city waste management. As the moderator expressed, “since the Felipe Cardoso³ plant is running out of landfill capacity, they need to promote other ways to manage the waste in the city (...)”. Moreover, the city offers a service of collection of domestic special waste products that is very expensive, and this represented a more efficient alternative for them, not just for environmental reasons but also for economic ones. Currently, the moderators signed a new agreement for a period of one year with the City Hall; however, the City Hall encourages them in seeking for new stakeholders, including private companies.

6.4.2. Future possibilities

Maintaining the space, scaling out at regional levels and improving usability through the development of a mobile application are goals that require future financial support. Some of the possibilities discussed by the moderators are involving other national municipalities or the ministry of development, getting international funds for social initiatives from Avina or a Latin American foundation, getting support from companies, or selling the platform.

With regard to getting support from companies, they expressed being shifting their

2 MVD Lab is a civic laboratory from Montevideo City Hall (see *Subchapter 4.3.2.* for more details).

3 The Usina Felipe Cardoso is the controlled landfill of Montevideo city (see *Subchapter 4.3.3.*).

minds about it. In their words, “we have been a bit protective of this so as not to lose the spirit that defines it (...) at the beginning we were like, we don’t want brands to put money in this that we have, but we started thinking that maybe is not so (...) maybe they can just have a small logo and we can keep putting the conditions”. Moreover, they reflected on the brands being the ones creating all this amount of useless goods and that they could take some responsibility for it. With regards to selling the platform, they mentioned that if getting funds was complicated, they would prefer to sell it instead of closing it.

Moreover, they recall having had messages from participants offering support, even economic support as a way to contribute. At the time, they decided not to accept because they did not know how things would evolve and it was a great commitment. However, they expressed to be more open about participants volunteering with their time and capabilities with regards to the development and functioning of the platform.

6.5. Analysis

6.5.1. Community-oriented platform for recirculation of goods

In order to locate the case study in the landscape and discussions of collaborative consumption platforms, this subchapter will discuss the project in relation to platforms typology, motivations for engagement, sharing quality, types of governance, environmental impact, and evolution and future of the platform ‘Si lo venís a buscar, es tuyo!’.

The space ‘Si lo venís a buscar, es tuyo!’ can be categorized in many ways according to the literature reviewed. First, it can be seen as a redistribution market, following Botsman and Rogers (2010). Following Schor and Fitzmaurice (2015), it can also be considered as a space for practices of recirculation of goods in which interactions are based on a peer-to-peer modality and which market orientation is non-profit. Furthermore, it can be said that it is a transfer of ownership type of platform, according to Hamari, Sjöklint and Ukkonen (2016). Following the more in-depth platform typology categorization developed by De Rivera et al. (2017), ‘Si lo venís a buscar, es tuyo!’ appears to have the features of a transaction-oriented platform, as it aims to connect the offer and demand of free goods. However, their secondary mission of fostering social interactions and ensuring good experiences in the community through their codes of conduct and rules, suggests it is more aligned with the description of a community-oriented platform. In fact, the code of conduct implemented is advanced, and aims for socialization based on values such

as commitment, trust, and respect. Moreover, the initiative is local and address an environmental issue in an explicit way, even if it does not offer much information about the roots of these issues in their website. Summarizing, it can be said that 'Si lo venís a buscar, es tuyo!' is a non-profit community-oriented platform for recirculation of goods.

Participants of 'Si lo venís a buscar, es tuyo!' show varied motivations for engagement in the space. Reasons are similar to the ones discussed in the literature of the collaborative consumption by Schor and Fitzmaurice (2015). The way the space is presented by the moderators as an alternative form of consumption and a space to socialize around positive values, which promotes environmental responsibility through extending the lifecycle of goods, shows ideological, environmental motivations as well as an interest in building social connections. On behalf of participants, there is an interest in the space and community for its altruistic practices as well as for reducing environmental impact, but also for economic and individualistic reasons such as convenience for getting rid of unused goods.

With regards to sharing, this case study suggests that real sharing do happen in this space. Following Belk's (2014) categorization, this space can be understood as 'online-facilitated offline sharing' as the initiative is non-profit, and there is no monetized mediating interactions. Moreover, many participants feel gratitude for the community and the results on the survey and interviews show that most recognized values are solidarity and empathy. For that reason, it can be said that the type of sharing is a 'sharing in', as a sense of community can be observed in participants interactions.

The governance in the space presents features of many types of governance described by Sibai et al. (2015) and exposed in the literature. While their discourse seems to center their values on a gift governance type, the platform presents features of a hierarchy and reputation governance types.

A gift governance type, that follows the logic of generosity, can be seen in various aspects. First, the description of the space emphasises this feature by presenting it as a space for socialization around positive values, such as solidarity, respect, and trust. Second, participants share items and there exists an implicit obligation to reciprocate. In that sense, participants do even reciprocate directly to the giver with material objects whose value is also symbolic, and are still expected to reciprocate to the community in future occasions. However, the extent to which an adequate exchange rate is self-enforced or influenced by peer pressure (reputation governance) is hard to determine. Moreover, in certain cases social control cannot be explained only by generalized reciprocity; moderators have a role of legitimate authority (hierarchy governance).

A hierarchy governance type can be explained by the fact that the moderators decided the rules without consented agreement on behalf of the participants, even if the rules emerged from observation and interaction with the participants. In this case, moderators are in a position of authority. Nevertheless, many of the functioning rules were inspired in participants' suggestions and moderators were very open to those proposals.

A reputation type of governance can be observed in the web application, not in the Facebook group (although you can type the name of a participant and access information on their interaction in the group). In the web application, after an exchange has taken place, participants (givers and receivers) are requested to rate each other according to their experience and leave a public message expressing gratitude. It is not compulsory to do it, which gives participants certain freedom; however participants seem to do it as a way to express their gratitude in a public way in the space. Another incentive is that the item gets marked as given. Later, the rating could be used by the giver to decide which requester would get the offered item. The reputation system for rating experiences is very simple, and the most important information offered relies on the times a participant has given, received, or thanked as a result from an exchange. As a conclusion, peer pressure makes participants aim for a balanced use of the space, as having gotten too many items and not given enough, or having exchanged but not thanked, might go against the values of the community and could be perceived in a bad way. Moreover, most active participants could be considered more popular and therefore more trustworthy. However, participants might be inclined to give an item to someone who has not received much yet.

With regards to environmental impact, the case study does not allow for an analysis on the resource intensity and greenhouse gas emissions of these practices. However, it is important to mention that, as stated in the literature, collaborative consumption platforms for recirculation of goods are being largely fed by the mainstream production and consumption models. For example, in the interviews a participant mentioned receiving a stove because the giver got a new one. Moreover, observations show that women's clothes seem to be a very frequent type of item showing the influence of fast fashion in these practices. However, the space offers real opportunities for those who are willing to consume less new products and for those willing to repair items. Finally, it is interesting to discuss the practice of giving a small present in return for the item received. This practice clearly creates more consumption, as participants feel the pressure to reciprocate and buy things (often packaged food), which goes against the mission of the initiative of reducing waste. For all the stated reasons, whether the space reduces or generates material environmental impact is not possible to be determined.

Finally, the evolution and future of tuyo.uy are ongoing processes, however 'Si lo venís a buscar, es tuyo' has managed to operate in a non-profit manner and expand accessibility in a local context for four years. This proves that, unlike other cases, this collaborative initiative has become accessible to more people while managing to remain outside a logic of money exchange or financial markets. This has been possible partly to the volunteering of the moderators and particularly thanks to the economic agreement with the local municipality, which covers the costs of running the independent platform. However, the interviews with a moderator reflect their worries on the financial challenges and future of the space, which has led them to consider ideas of accepting private funding or selling out the platform. This proves how pressures of the mainstream economy often influence the future of collaborative initiatives, since part of their operations are still largely embedded in those logics (i.e. the development and hosting of the technological affordances).

6.5.2. Collaborative, distributed and local

With regards to the literature in Design for Social Innovation, 'Si lo venís a buscar, es tuyo' can be seen as a collaborative organization, operating under a distributed system logic and has features of cosmopolitan localism.

Firstly, the initiative emerged rather spontaneously in a social network and was joined by a group of citizens from the local context with similar concerns. In its evolution, they needed top-down support from diverse entities, such as the local municipality. These are traits of what Manzini describes as collaborative organization. In this case, an active involvement is demanded from participants in which they play a role of providers (even if not producers) and a somehow active collaboration as well, as participants need to coordinate their encounters, managing part of the dynamics in the space. Regarding interaction qualities, those are high relational and weak ties, as it does not imply much commitment in the long-term but it relies on a horizontal peer-to-peer dynamic.

The moderators can be identified as citizens using their design capabilities in the diffuse design modality. The organizational arrangements and communication elements of the project were produced following a process of both problem solving and sense making, as shown in the way designing the rules happened. The process of design started with a pilot experience, in which the moderators listened to the community, building rules and practices based on values partly embedded in the space and according to the needs that were emerging.

The process resulted in the development of an independent platform that allowed the experience to be replicated in other areas of the country, and take the form of

a distributed system. Participants all over the country are connected through the platform but interact mainly on a local basis, as they need to meet for exchanging physical objects. Technological arrangements are used to enable solutions to local and everyday life problems, but also spreading new (old) ideas of reusing and sharing, and mindsets of responsibility towards disposal, consumption and commitment with others. These are global ideas, put in practice in local contexts, indicators of cosmopolitan localism.

6.5.3. Qualities of a commons type of governance

According to De Rivera et al. (2017) community-oriented platforms, such as tuyo.uy, are spaces in which the codes of conduct are aligned with the notion of sharing in the governance of the commons, as defined by Ostrom. The governance in tuyo.uy, explained before as a hybrid type that combined features of gift, hierarchical, and reputational governance, presents also some coincidences with the design principles of common-pool resources institutions identified by Ostrom.

First, both the Facebook group and the platform through the logic of social media and personal accounts clearly define the boundaries of who participates in the practice of recirculation of goods. Second, the rules emerged from the pilot experience on Facebook which permits to suggest that the rules are adapted to the local conditions. Third, monitoring is done in the space, largely by the moderators but also in a participatory manner, as the participants are requested to inform of bad behaviour when seen in the space. Fourth, the sanctions have been implemented in a graduated way, by first notifying the participants and inviting them to learn the rules, second notifying them that they can be excluded if they continue infringing the rules, and finally, if the behaviour continues, blocking those participants out. Finally, the space has autonomy to resolve conflicts and is not challenged by external governmental authorities.

However, certain key qualities of the commons governance are not met in this case. For instance, the third principle which argues for participation in decision-making processes. Individuals affected by the rules should be able to participate in modifying them. In addition, participation in conflict-resolution mechanisms could as well be more participatory.

(7) CONCLUSIONS AND DISCUSSION

7.1. Conclusions and discussion

The aim of this research project was to understand how and why citizens have been engaging in practices that propose solutions to the problem of accumulation of disused goods, through collaborative consumption online platforms. Moreover, I intended to analyze these practices with regards to theories of transitions and sustainable lifestyles discussed in the design field, with the aim to inform present solutions and inspire future pathways.

Hereunder, I will detail the themes for conclusions and discussion as follows. First, I suggest that on top of the personal motivations, engagement in community-oriented platforms can be explained by technological and cultural arrangements that foster the creation of a sense of belonging through giving active roles to participants in the community. Second, I discuss that these practices represent an opportunity for transitioning towards sustainable lifestyles as they engage citizens in more dynamic interactions and with arrangements that allow for self-organization. These distributed systems have the potential to move satisfaction of needs to lower domains of everyday life on a global scale (in the sense of 'cosmopolitan localism'), increasing the access for citizens to endogenous and 'synergistic satisfiers'. However, a frequent shortcoming, particularly for platforms for recirculation of goods, is the reliance on the products of mass production and consumption systems, as they do not propose an alternative to production but only to consumption practices. Lastly, other challenges for these practices are related to governance frameworks that create centralization of power, and access to infrastructure and services (demands of technology) which are traditionally solved through financial means.

Why citizens engage in these practices?

Collaborative consumption platforms, in a similar way as social media, are interactive web 2.0 applications in which social networks and online communities can emerge or be created. These spaces were created for participation, to connect people at a global scale. In the case of collaborative platforms such as 'Si lo venis a buscar, es tuyo!', Peerby, and Olio, individuals need to share the same location in order for them to meet face-to-face and exchange physical products, such as goods or food. Therefore, in the communities created through collaborative platforms, local and offline interactions also have place.

In this scenario of a distributed system, citizens can meet their needs and wants through peer-to-peer interactions mediated by these platforms. Through technological and cultural arrangements, platforms and their teams of moderators facilitate the recirculation of goods enabling citizens with diverse motivations to engage in 'sharing in' and gifting (non economic transactions) with unknown others. Individuals become providers (even if not producers) and have an active role within the space, which creates a sense of community.

As expected, motivations for engagement respond to diverse reasons. They can be motivated to reducing their environmental impact through sharing unneeded goods or food with others instead of discarding them, or through using and repairing used goods to satisfy their everyday life needs and wants. They are also motivated to being supportive of others that have economic constraints and less access to material resources. And finally they are also motivated to saving money, avoiding money, saving time, and socializing with others, a need in itself (participation, idleness).

However, the case study shows that, in the long term, they can also be motivated by the sense of belonging to the community, which can be explained by feelings (and attitudes) of gratitude towards the supportive participants and for the positive experiences.

How are interactions organized within the community?

Regardless of their motivations, engagement at different levels can be fostered by organizational arrangements that demand active participation from participants to function within the space. These arrangements enable relational encounters with others instead of impersonal ones or no encounters at all, as in traditional mainstream models of consumption (shopping centers and e-shops). In most cases, enabling trust is a key requirement for the interactions to have place, therefore enhancing values such as commitment, responsibility, and respect is essential.

In community-oriented platforms such interactions are organized through the codes of conduct, value-based rules and instructions for 'good habits' within the community. Attitudes and actions of individuals are self-enforced (cultural) and might be influenced by peer pressure through the reputation systems (technological). However, moderation is needed for conflict management. Social control in most cases requires a legitimate authority, but in the case study it is also explained by the collective participation in the monitoring and managing of conflicts which denotes social hierarchies driven by a sense of belonging to the community.

Collective participation in the monitoring and managing of conflicts are principles

for governance of the commons, as proposed by Ostrom. The case study suggests that when most of those principles are addressed in community-oriented platforms, participants tend to follow the norms for the benefit of the whole community, helping the community to self-regulate, and requiring top-down processes mainly when there is no other alternative for conflict resolution.

Toward sustainable lifestyles

Community-oriented platforms for collaborative consumption are distributed systems in which citizens can count for the satisfaction of everyday life needs. These spaces facilitate peer-to-peer interaction and offline sharing, which turn participants into providers. The practice allows for 'synergistic' satisfiers to emerge, as by aiming to fulfil a subsistence need (food, tools for cooking, etc.) they also fulfil other needs such as participation, identity (values, habits), freedom (choice to access things without economic constraints), understanding, among others. It also allows for an endogenous satisfaction of needs, in which people are participating more actively to shape their everyday life practices, learning to collaborate, and self-organize within the community.

In these cases, this represents an opportunity to mobilize environmental and altruistic values and mindsets of responsibility towards disposal, consumption, commitment with others, and collaboration, key elements for enhancing resilience through social cohesion in societies.

Moreover, it represents an opportunity for the mobilization of need satisfaction to lower domains of everyday life, that is the neighborhood, village or city, instead of the region or planet levels.

However, this type of second hand markets or gifting practices are largely being fed by industrial large-scale producers. Collaborative consumption is not enough when the goods exchanged are being produced through centralized processes of production. Therefore, I argue that this is a step towards more sustainable lifestyles, in which production should be addressed locally and sustainably as well.

Environmental impact

With regards to the environmental impact of collaborative consumption platforms, it can be said that it is not necessarily an alternative that generates less environmental impact. This is due to, as mentioned above, these practices of recirculation of goods are fed by mainstream centralized production and consumption models, offering alternatives to consumption practices but not production ones.

On one side, it is a space that enables citizens to consume less new products that

require new material with associated impacts in extraction, distribution, and disposal. However, it is also a space that only offers a solution for disposal of products that enables to extend the use of products for a certain period of time. Ultimately, it does not solve the problem of pollution but delays it, asking for an addition in the sustainable quality of production. Moreover, to which extent participants get new products as a result of getting rid of others or use money saved by acquiring free goods to acquire other new goods is hard to determine. Those are attitudes based on cultural values that these spaces cannot address but may offer an opportunity to rise discussions.

These practices can be improved in two ways. Firstly, by facilitating or promoting repairing practices, so that participants can make products last longer through maintenance and replacement of parts. Secondly, by using these platforms for engaging participants in production of goods that are locally and sustainably produced.

Regarding the case study, there is evidence that the participants engaged in the space share environmental values and concerns as well as repair items given on many occasions. In this context, it would be valuable for the community to have spaces, virtual or face-to-face, for participants to share and learn from their own experiences (local-context based) with reducing their environmental footprint through repairing, habit changing, etc. Specifically, the practice of giving material gifts to reciprocate, not aligned with the mission of reducing waste, could be a topic of discussion. This practice could be explained as a trade off in favour of social cohesion. However, collective discussions on this issue can help rethink more environmentally sustainable alternatives.

Centralization of power

Collaborative consumption platforms are spaces susceptible to centralization of power. In the case study, features of a hierarchy type of governance are present as participants do not have an active role in decision-making processes. For platforms to be more inclusive and democratic, rules, monitoring and conflict-resolution should be free of authoritarian impositions.

This conflict could be solved in two ways: technologically, with for example the use of blockchain technology, and culturally, making the space more participatory. However, as Ostrom argues technology can never be “a substitute for decision-making” (Ostrom, 1999). This means that blockchain technology cannot solve this for itself, as someone will be taking the decisions to inform its code. With regards to this topic, Hassan suggests, in a blog post by P2P Foundation (2018), that the values of blockchain are formed by techno-deterministic and market-driven

narratives which mimic the Silicon Valley ideas of success. However, he argues that blockchain codes can be designed following the principles of the commons.

With regards to infrastructure and development of the platform, financial challenges could be avoided in the future through decentralized computing or peer-to-peer web hosting, enabling participants to contribute with their assets and capabilities.

Possible futures

I envision three scenarios for this particular case study, with regards to sources of support, actors involved, participation and risks or benefits.

In the first one, financial support continues coming from public entities, such as other municipalities or ministries, enabling the space to continue having non-monetized transactions. Funds are used to solve infrastructure challenges. In order for the platform to allow for more participation from the community, it could benefit from civic innovation labs such as MVD Lab, to gather participants and other citizens and make collective decisions with regards to the space. Alternatively, these workshops could be organized independently. These would result in more opportunities for collaboration, which will in turn create more sense of belonging and care for the space, and perhaps enable a meritocratic hierarchy governance.

In the second scenario, financial support comes from companies, in a way to responsabilize them for the waste created. This could be part of corporate social responsibility strategies, involving businesses in philanthropic giving, or through a shareholders agreement. Even if the transactions can be kept as non-monetized, in this case, risks of the community dissolving into a mere social network are high which can be detrimental to the socialization opportunities enabled by the space today. Other case studies cited in the literature have shown how participants are less committed with the community when knowing the collaborative platform enables a market in which a third party is making profit.

In the third scenario, support comes from the community with assets and capabilities. More participation in the decision-making processes could be organized through independent workshops, enabling other participants to become more familiar with the rules and conflict-management activities and opening up the space for more collaboration. Blockchain technologies can be of use for conflict regulation, however they will not replace the need for participation in the making, or revision, of the rules. As mentioned before, infrastructure challenges could be solved through decentralized computing and development through engaging participants with specialized capabilities. Alternatively, participants could contribute financially ('freemium' modality) or solutions could come through partnering with

participants that could offer repairing services, amplifying repairing opportunities through making their services more visible. However, it is worth mentioning that in this scenario, the space as an alternative to market-driven exchanges could be compromised.

7.2. Limitations

The limitations for this project are detailed below. Those are geographic, methodological, time limitations, and bias.

With regards to the methods, geographic limitations did not allow for a more immersive experience. A role of full, rather than marginal, participant observation would have been an ideal research method for this project. It would have allowed me to have a first hand experience with the community in every stage of the exchange, particularly important in face-to-face encounters.

Moreover, with methods such as questionnaires and interviews a drawback is often that the people who answer might not be the most representative sample of the whole group of participants (Muratovski, 2016, p.117). The online questionnaire, created with Google forms, was shared only in the Facebook group. Moderators of the space are very careful with not publishing anything that is not allowed to the community (only offers can be published) in any of the two spaces, therefore after discussing the alternatives on my request, it was decided to post the questionnaire themselves and as an exception. The publications on a Facebook group tend to become less visible as time passes. The answers received are most likely from people from the community that were active during those days and that happened to see the publication during the week that it was shared.

Time constraints have shaped this research in various ways. In relation with sustainability performance, the case can be analyzed from multiple perspectives. An important aspect is the material footprint of the activity. However, addressing this through a quantitative research would require another timeframe. Moreover, it would have been valuable to analyze more than one case of collaborative platform but an in-depth work would have probably been compromised given the timeframe.

Lastly, I acknowledge that personal assumptions may shape the perception of the observed events and themes of discussion. Personally, I was inclined to find evidence of environmental values in the motivations for participation. Although it cannot be said to which extent they are present in the case study, data collection and interpretation might be influenced by those biases (Leedy and Ormrod, p. 154).

7.3. Further research

Within the context of collaborative platforms, I identify three themes that require further research.

First, with regards to the case study, the material environmental impact of these practices of recirculation of goods should be better understood. Second, with regards to the broader context, understanding whether the cultural context has an impact on the emergence of collaborative platforms with diverse typologies and how those technological or cultural solutions affect attitudes of collaboration and sustainable habits, and understanding the role of these spaces in the mobilization of environmental values.

Firstly, the environmental impact of 'Si lo venís a buscar, es tuyo!' should be better understood. Despite having received support from Montevideo City Hall for two consecutive years, the municipality do not count today with accurate information regarding the environmental impact of this platform. This would require calculating the amount of material that is redistributed instead of discarded, and estimating the carbon footprint of the transport systems utilized for this transaction, and on a second instance, the implementation of a tracking system for the items to see how long they are kept by the new owners. These should be as well compared with the environmental costs of the collection service offered by the municipal waste management services. If positive results are found, this research could help other municipalities to support the initiative.

Secondly, focusing on the experience of other cases from the region and from different context settings would be valuable for understanding to which extent cultural values have an impact on how these practices develop and materialize, particularly with regards to the types of governance developed and implemented in collaborative platforms. In this sense, it will be valuable to understand the influence more advanced technological features have on the organization within the community, and specifically with regards to participation and collaboration attitudes within the space. This research could add to discussions on whether technology-driven solutions enable or disable cultural solutions, and which ones are more likely to promote informed decisions for more sustainable habits and lifestyles.

Lastly, and in connection to the previous theme, I consider important to understand the role community-oriented platforms with environmental missions have in mobilizing environmental values, and which kind of values are those (e.g: strong or weak sustainability approaches).

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(9) APPENDIX

9.1. Interviews

9.1.1. Interviews to moderator

Interviewee	Date	Channel	Duration (hs)
A member of the moderators team	09.10.2019	Voice conversation	01:20:00

The first interview was conducted in a semi-structured format. The following questions served as a guideline for leading the conversation to the researched topics.

Drivers	What are their drivers?
	What are their referents, if any? Where do they take their ideas from?
	What were their aims? At the beginning and when expanding?
	What values do they want to promote?
Rules	What are the main rules?
	Why do they have such rules?
	How did they designed the rules? Were any strategies from design or other disciplines used to device the platform/rules?
	What are the values informing the rules?
Design process	Are they aware of what the users think? Do they gather data?
	Did they involve participants in the design process? How?
	If yes, did they use particular methods, tools or frameworks, from design or other fields?
	If not, would they be interested in co-designing with the participants?
Conflicts	Are there "social dilemmas" (people abusing from the platform/community)?
	Do participants report those conflicts? In which cases?
	How many conflicts have taken place? How many participants have been excluded?
	Are people leaving due to bad experiences?
Technical	What kind of products are exchanged? Do they know which ones are the most common?
	How do they measure the amount of products exchanged?
	How many people have the app now? Are the Fb group and web app working in parallel?
	How do people rate other people?
Financial	When did they started being incubated by Sinergia? Are they still there?
	When did they receive the money from ANII and the IM? Are they gonna receive more support from IM after the contract expiration?
	Do they know if similar platforms worldwide receive public funds?
	Who are they asking for further support now?
	How are the funds used?a

Impact	What do they think is the impact in its social context (social, material)?
	What is the opinion of participants or other citizens?
	What do they think about gifting, giving away? Is it an act of compassion/solidarity or is it driven by practical reasons?
	Can these practices perpetuate hierarchies in social classes?
Future goals	What are they planning in the short term?
	And, in the long term?

The following is an image of the affinity diagram used for the data analysis.

The emerging themes or categories were: who are the moderators, context particularities, motivations, how it started, design process, rules, financial and stakeholders, opportunities, challenges and organization, future goals, and reflections.



Image 9.1.A. Affinity diagram after first interview

Interviewee	Date	Channel	Duration (hs)
Same member of the moderators team	01.11.2019	Voice conversation	00:58:00

A second interview was conducted in relatively unstructured format.

The following list of topics, based on the themes emerged from the first interview and other topics that arose from the conversation, served as guidelines: design process, rules, moderation, participants collaboration and role, financial and stakeholders, future financing and future goals.

The image below is the same affinity diagram, used for the data analysis in the first interview, after including the data from the second interview.



Image 9.1.B. Affinity diagram after second interview

Interviewee 1	Date	Channel	Duration (hs)
A participant of the Facebook group	15.11.2019	Voice conversation	01:00:00
Interviewee 2	Date	Channel	Duration (hs)
A participant of the Facebook group	17.11.2019	Video conference	00:39:25
Interviewee 3	Date	Channel	Duration (hs)
A participant of the Facebook group	25.11.2019	Video conference	00:26:20

The interviews to participants were conducted in a semi-structured format. The following questions served as a guideline for leading the conversation to the researched topics.

Giving away	What kind of objects you gave through the group? For which reasons?
	What would you have done if this space did not exist?
	How did you choose the recipient? Which criteria did you use?
Receiving	What kind of objects you received?
	Why did you decided to get them?
	Did you get something that you would have bought?
Experience	How was meeting other participants with whom you exchanged items?
	Do you think this experience altered your perception or trust in others or not at all?
	Do you follow and comment the posts? Are you aware of what happens regularly?
Moderation	Do you help the community (reporting, suggesting, etc.)?
	Do you think it is necessary that someone moderates it?
	Are you satisfied in how it is done now?
Potential future activities	If there were opportunities to meet with others in events (meetings, workshops to discuss how to improve the space, workshops for repairing things) would you participate?
	Would you like to learn or receive help from other participants to repair objects?
Hypothesis about the future and finances	What would you do if the platform/group closes?
	Would it make a difference if there was a fee for the service?
	Do you think this platform should be private, public or none?

9.2. Questionnaire

The questionnaire for the participants was made with Google forms tool in Spanish, and shared in the Facebook group. It was posted by the moderators, that introduced this research project' author and purposes.

Surveyed	Date	Channel	Number of surveyees
Participants of the Facebook group	open from 01.11 to 12.11.2019	Shared in the Facebook group	77

The following table shows the questions asked in the questionnaire.

Personal data	Age, Province, Neighbourhood
First approach	How did you hear about this space?
	Since when do you participate? (options: 2016, 2017, 2018, 2019)
	Why did you join? (open question)
Usability	What do you use this space for? (options: giving, receiving, both)
	What version do you use? (options: Facebook group, web application, both)
	In which device? (options: mobile phone, computer, both)
Motivations (likert scale)	What are your motivations for participating in this space? Below, you will find a list of motivations. Rate them from 1 to 5, according to the degree of similarity with your personal motivations. - Social: solidarity, collaborating and sharing. - Environmental: avoid things being disposed prematurely. - Individual: a fast and practical way to get rid of what I no longer use. - Political: an alternative that gives me autonomy and allows me to scape from mechanisms such as planned obsolescence or excessive consumption of resources. - Economical: for necessity.
	How would you organize the same motivations? Organize the motivations in a 1 to 5 scale, according to the degree of similarity with your own personal motivations. Be aware that you should mark a different option for each category.
	(Here participants were given space for commenting freely on these questions)
Values (open questions)	In your opinion, what kind of values this space promotes? Think and list three or more values that this space invites to put in practice.
	With reference to your experience, how are those values reflected? Describe situations in which you have experimented in this space the values before mentioned.
Experience	How would you rate your experience in this space? Rate your overall experience in this space, in a scale from 1 to 5 where 1: Very negative; 2: Negative; 3: Neutral; 4: Positive; 5: Very positive
	Why did you give that rating? E.g.: experiences with other participants, technical problems, etc. (open question)
Participation	In your opinion, what can be improved in this space? How would you do it? (open question)
	Would you like to participate in the process of improving the space? (options: yes, no, maybe)

9.3. Consent forms

The following are the two consent forms shared to the moderators of the platform and to the participants, respectively.

**CONSENT TO PARTICIPATE
TO RESEARCH STUDY FOR MASTER'S THESIS**

Research participant of [Sustainable lifestyles: Exploring a non-profit collaborative consumption platform with a transition design approach] fills out

- I have understood that participation is voluntary and at any point in the research study, I am at liberty to notify that I no longer wish to participate in the study, but all the information gathered up until that point is can be used as described in the privacy notice of the research study.
- I understand that my name will not be published in the publications and in the research data.
- I have received sufficient information about the research study, I have had the possibility to have my questions answered, I have understood the information and I wish to participate in the research study.
- I agree to participate in this research by signing this consent.

Date ____ . ____ . ____

Signature and name of research participant
(choosing to participate can be also expressed for example electronically)

Contact details:
Tania Malréchauffé
tania.malrechauffecame@aalto.fi
+ 358 451185114

**CONSENT TO PARTICIPATE
TO RESEARCH STUDY FOR MASTER'S THESIS**

Research participant of [Sustainable lifestyles: Exploring a non-profit collaborative consumption platform with a transition design approach] fills out

- I have understood that participation is voluntary and at any point in the research study, I am at liberty to notify that I no longer wish to participate in the study, but all the information gathered up until that point is can be used as described in the privacy notice of the research study.
- I understand that the name of the platform may be published in the publications and in the research data. (The names of the administrators will not be published.)
- I have received sufficient information about the research study, I have had the possibility to have my questions answered, I have understood the information and I wish to participate in the research study.
- I agree to participate this research by signing this consent.

Date ____ . ____ . ____

Signature and name of research participant
(choosing to participate can be also expressed for example electronically)

Contact details:
Tania Malréchauffé
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+ 358 451185114

Interviews

Three interviews with the founder and member of the moderators' team

- July, 2018 - Portal TNU, Canal 4
<https://www.portaltnu.com.uy/video.php?vid=4684>

<http://www.canal4.com.uy/programas/buen-d%c3%ada-uruguay/videos/si-lo-ven%c3%ads-a-buscar-es-tuyo>
- December, 2018 - Teledoce
<https://www.teledoce.com/programas/tarde-o-temprano/si-lo-venis-a-buscar-es-tuyo-un-espacio-para-reutilizar>

An interview with a responsible of the start-up incubator Sinergia

- June, 2017 - Abrepalabra, Océano FM
<https://oceano.uy/abrepalabra/charlas-de-ascensor/6904-si-lo-venis-a-buscar-es-tuyo>

Media articles

- January, 2016 - El Observador
<https://www.elobservador.com.uy/nota/-si-lo-venis-a-buscar-es-tuyo-el-lugar-en-facebook-para-que-uruguayos-regalen-lo-que-no-quieren-20162116150>
- February, 2016 - El Observador
<https://www.elobservador.com.uy/nota/lo-quiero-y-me-lo-llevo-201623500>
- March, 2016 - Revista Bla
https://issuu.com/editorialbla/docs/bla_99_web
- July, 2016 - Revista Paula
https://issuu.com/revistapaula/docs/paula_julio_web
- October, 2017 - Subrayado
<https://www.subrayado.com.uy/app-si-lo-venis-buscar-es-tuyo-puede-ser-justo-lo-que-necesitas-n71866>
- March, 2018 - El País
<https://www.elpais.com.uy/informacion/sociedad/imm-aporta-millon-pagina-facebook.html>

- June, 2018 - DNegocios, IM website, El País, Montevideo Portal
<http://www.dnegocios.uy/articulo/1880/si-la-venis-a-buscar-es-tuya>

<http://montevideo.gub.uy/noticias/medio-ambiente-y-sostenibilidad/regalar-lo-que-no-usas-ahora-es-muy-facil>

<https://www.elpais.com.uy/informacion/sociedad/sitio-donaciones-transformo-portal-usuarios.html#>

<https://www.montevideo.com.uy/Noticias/Plataforma-Si-lo-venis-a-buscar-es-tuyo-permitio-mas-de-1-800-entregas-en-su-primer-mes-uc688544>
- September, 2018 - Subrayado
<https://www.subrayado.com.uy/mas-13000-solicitudes-recoleccion-residuos-gran-tamano-lo-que-va-del-ano-n514514>
- March, 2019 - IM website
<http://montevideo.gub.uy/noticias/medio-ambiente-y-sostenibilidad/lanzamos-nueva-campana-de-ambiente>

