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Dhriti Dhaundiyal
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Book review: Design justice - Community-led practices to build the worlds we need

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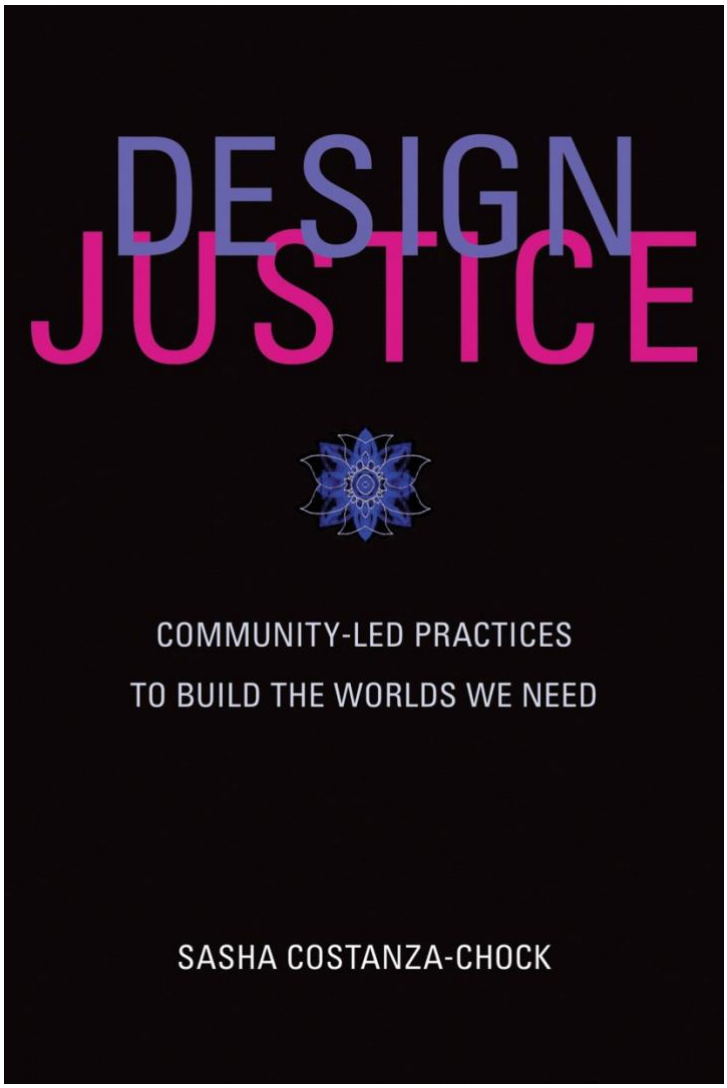

Design justice - Community-led practices to build the worlds we need, by Sasha Costanza-Chock. **ISBN: 9780262043458, 360 pp. | The MIT Press, 2020. https://doi.org/10.7551/mitpress/12255.001.0001 (Open access)**

'Design Justice - Community-led practices to build the worlds we need' is an essential read for those involved with social design and social justice. Defining design justice as "an exploration of how design might be led by marginalized communities, dismantle structural inequality, and advance collective liberation and ecological survival", Constanza-Chock position it as a function of power in design processes, hypothesising that design justice is a result of who has power while researching and while designing, the decisions they make and how these decisions affect marginalised groups.

Background

The author, Sasha Costanza-Chock, is a communications scholar, participatory designer and activist, using the pronouns she/her and they/theirs. Currently working as Associate Professor of Civic Media at Massachusetts Institute of Technology (MIT), USA, they have published many other defining works on the links between information and communication technologies and social movements, such as 'Out of the Shadows and Into the Streets! Transmedia Organizing and the Immigrant Rights Movement'. Their approach is to take the established paradigms of the design process and reassess the fundamental tenets with the lens of social justice. They use the storytelling approach of critical feminism to give examples of lived experiences that illustrate the norms, values and assumptions encoded in the socio-technical systems in our society. They write against the production and reproduction of systemic oppression, with the confessed idealistic aims of building a better, more inclusive world.

Constanza-Chock laud Langdon Winner's thesis 'Do artifacts have politics?' (1980) as a driving force for their work. They criticise the standardisation of products and services to the exclusion of the minority, which was first highlighted by Simone Browne in her book 'Dark Matters' (2015). They first gave the 'resisting reduction' manifesto in their essay in the Journal of Design & Science (2018), writing from their standpoint of knowledge from embodied experiences as a non-binary trans-feminine person. Their competency is based on lived experience and empirically grounded in participatory action research and co-design, specifically from their association with Research Action Design Lab, Tech for Social Justice and the Civic Media: Collaborative Design Studio course at MIT. The book presents a manifesto based on principles put first put forward by the Design Justice Network (2015) to transform design for good to design for liberation. The manifesto posits that people who are most harmed by generic design decisions usually have the least influence on those decisions, and proposes a rethink and reframe of design processes. In particular, the author questions the values, practices, narratives, sites and pedagogies embodied in design processes.

Book structure

Constanza-Chock begin by tracing the roots of design justice in value-sensitive design, universal design and inclusive design. These shifts in design theory have brought in threads of feminism and anti-racism from science and technology studies (STS), in particular the 'matrix of domination' (Collins, 2002). The author theorises that design justice stems from a core concept of design, 'affordances', originating in the 1970s in cognitive psychology. Chapter one relates stories of design affordances, products being used in ways that were not originally designed or intended, such as the use of Facebook as a site of mobilisation for social protests. The author constructs the implicit injustice perpetuated by disaffordances and dysaffordances (Wittkower, 2018): one constrains function while the other makes users misidentify their own identity to access functions. 'Dysaffordance' is driven by gender dysphoria where standardisation becomes discriminatory design. The average excludes those who don't meet the definition of 'average'.

The next chapter moves the argument from equity to accountability and community control, in the context of participatory processes, user-led innovation and feminist human-computer interaction. Constanza-Chock note that although all humans design, only some earn a living out of it: generally privileged professionals, high in the matrix of domination. These professional networks concentrate agency and power within groups of others like themselves, perpetuating discriminatory social structures in technologies. Chapter three gives examples of the design of design technologies with a case study of Twitter, where the counter-narratives of its origins have been forgotten. Constanza-Chock decry the popular and prominent narratives of innovation and design as 'well-resourced corporate mythologies' (p. 116) that concentrate and celebrate the individual genius inventors, discounting and ignoring other contributions like social movements.

Another example is the Microsoft 'Reinvent the Toilet Challenge', where designers and inventors around the world raced to innovate the ideal toilet. The definition of the project's aims and scope weas controlled by the novelty narrative, and the values of social good embedded into the designed objects were sadly ignored.

Chapter four covers the changing landscapes of design processes with the newly emerging subaltern sites like hacklabs, maker spaces, fab labs and hackathons, community gathering spaces that often reproduce social inequalities at the expense of marginalised communities. The author demands a reorganisation that challenges the tacit matrix of domination. The following chapter reflects on critical pedagogies and builds upon the theories of critical pedagogy, popular education and praxis, practical knowledge for action, constructionist design theories, community technology pedagogy and feminist pedagogies of data science. It lays a framework for democratising design education, not as a neutral process that maintains the status quo or challenges it, but about issues that people care about, teaching people to identify the correct problems, identifying root causes to generate correct solutions.

Critique

The book outlines a manifesto for enabling all citizens to be equal decision-makers in the design process. This thought has been around in the design discipline for some time, but this book creates a formal manifesto for both design education and design practice. The book builds on the feminist STS approach that the world around us is socio-technical, and the infrastructure of constraints and affordances that determines how we design and use designed products is led by the codes that have been socially ingrained in us. The book is an examination of current design values, practices, narratives, sites and pedagogies to incorporate the tenets of design and social justice at the individual, community and institutional levels. Figure 1 condenses the progress of the design process in participatory ventures across the spectrum from strong control to more consultative control. The aim is to help design for people who have been excluded due to omission.

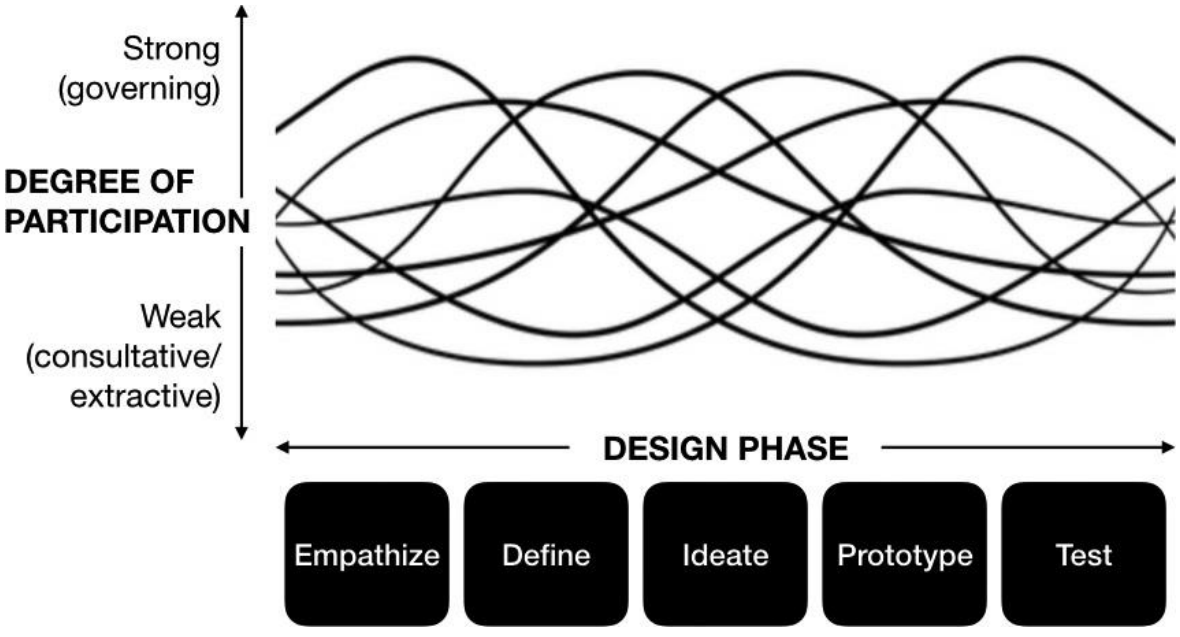

Figure 1: Analysis of community participation throughout the design process (Constanza-Chock, 2020, p. 91).

One of the book's main strengths is that it abounds in examples of where design has inadvertently disenfranchised marginalised groups due to disaffordances and dysaffordances. This myopia in design affects not just tangible objects, images and the built environment, but also intangible socio-technical systems. The author leads with the example of the inadvertent prejudice of millimetre wave scanners at security check zones of airports against non-binary citizens, which resonates with the theatre of security one experiences in airports. Costanza-Chock echo Foucault's approach to knowledge as a form of the perpetuation of social violence if a conscious balance of power is not actualised in participatory design and acts of co-creation that jeopardise design justice. The onus is on the designer to reflect and realise equilibrium in design methods and design politics.

Costanza-Chock criticise design for its 'Band-Aid' approach that ignores rather than examines root cause problem-solving. Commercial design processes have been berated as 'design by committee', ineffective, inelegant and neglecting core concerns. Design justice demands an intentional decision to frame the benefits as well as the harms of designed products and systems in a contextual manner. In recent literature, Escobar's 'Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds' (2018) and Holmes' 'Mismatch: How Inclusion Shapes Design' (2020) also expound on similar concerns of social injustice through omission.

Although the good intentions of design justice are undeniable, questions about its practicality have been raised by critics. Design justice activists exhort the higher moral goals of creating the world we want to live in, but challenges of limited resources and time in the real world lead to trade-offs. There is a legitimate fear that no just outcomes may ever come out of the process, a fear that processes of design justice may slow real-world design processes down beyond viability, but design justice activists say that is a small cost to pay for a more just world, where design is a tool for liberation.

Summation

Though written before the global Covid-19 pandemic, this book comes at an opportune time. The pandemic has exacerbated social disparities the world over, and the time is now ripe for community-led change that can help marginalised communities. Exigent times like these can be catalysts for creating the right environment for transformational change that can be sustained. Power structures are often bypassed, and change can be initiated from individuals across the socio-political spectrum. Designers, developers and technologists hold immense sway in the current political economy, and, unknowingly, the infrastructure they build perpetuates larger systemic inequalities. Positive action on their part can initiate change that has far-reaching consequences. The manifesto of design justice defined in this book can help designers reach that distant future in a fairer, more equitable way.

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Components of spirituality to safeguard life for the development of an integral design management approach

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Components of spirituality to safeguard life for the development of an integral design management approach

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Abstract

The present article is the initial result of fieldwork on design and spirituality in the scope of ongoing doctoral research in design. The research has been developed with Lusophone 'quilombolas', Afro-Brazilian and traditional family farming groups and communities from Brazil and Portugal, which present implicit spiritually driven design management approaches. The project proposes that a spiritual dimension should be a fundamental component of a design management strategy that is intended to be integral. The first learning case was carried out in ethnographic format with the Association of Women Farmers of Castelões (Associação das Mulheres Agricultoras de Castelões) in Portugal. The chosen methodology was the decomposition of the design and spirituality concept from the thoughts of Papanek (1971, 1995), Schumacher (1974), Walker (2011), Margolin (2014) and Escobar (2018). Components of spirituality were identified to guide field data collection. Subsequently, these components were identified from the participatory experience and participant observation with the artisans and analysed. In conclusion, it was possible to conceive 'components' of a reinvented spirituality for today, 'Spirituality to Safeguard Life'. These may support the development of a spiritually driven design management approach with a Lusophone reference, entitled 'Integral Design Management'. It is planned to apply this approach in academic, business, governmental, non-governmental and civil society environments. Through its practice, it is intended to promote the implementation of transformative systems with values and paradigm shifts for the recovery, flourishing and continuity of life.

Keywords: Design and spirituality, Linen ancestral tradition, Transformative social innovation, Components of spirituality

Introduction

This study addresses the theme of design and spirituality. It is based on different theoretical lenses, with a special focus on the thought of the anthropologist Arturo Escobar (2018). The aims of the study are: 1) to present the identification and translation of spirituality components from the thoughts of Papanek (1971, 1995), Schumacher (1974), Walker (2011), Margolin (2014) and Escobar (2018) to serve as indicators for fieldwork guidance, 2) to identify and analyse the components of spirituality through participative experience and participant observation with the artisans of the Association of Women Farmers of Castelões and 3) to present components of a spirituality recreated for today, called 'Spirituality to Safeguard Life', which can support the development of an 'Integral Design Management' approach.

The case study is on the Association of Women Farmers of Castelões, which was established 20 years ago by a group of women whom we call 'linen ladies'. They are now in their 80s and come together to keep alive the ancestral tradition of the linen cycle – from sowing to weaving – in the village of Castelões, Tondela in Portugal.

Since the beginning of the Association's project implementation, the artisans aimed to preserve local production with linen, as well as to produce new artefacts, keeping alive the ancestral traditional techniques and the ways of being, knowing and doing of this territory. The ladies are retired; they do not depend on linen production for their financial survival, i.e. they do not work according to a subsistence logic. Through manual and agricultural activities with linen, the artisans relate interdependently with presence, care, love and affection, among themselves and with the village, their ancestors, nature and the divine. They meet every Tuesday to spin, weave, embroider and crochet the linen and to produce the artefacts that guarantee the continuity of the ancestral knowledge embodied in their lives.

The present paper is the initial outcome of ongoing PhD research in design. The fieldwork with the linen ladies was and is being conducted in an ethnographic format through participatory experience and participant observation with the artisans (Angrosino, 2012; Martin & Hanington, 2019; Pink, 2009). The field study is also being conducted through an online ethnographic approach (Ardérvol & Goméz-Cruz, 2013; Pink, 2006) with three ‘quilombolas’ (the descendants and remainders of communities formed by runaway slaves) and Afro-Brazilian groups and communities in Brazil that present implicit spiritually driven design management approaches.

The focus of the PhD research is design management, an area that does not currently include dimensions of spirituality. The project proposes that a spiritual dimension should be a fundamental component of a design management strategy that is intended to be integral: that is, multidimensional, encompassing spirituality in collaborative, collective, social, design, management and empathy aspects in a design management approach. This is a research gap in that, to date, the present study has not identified the existence of an 'Integral Design Management' approach with a Lusophone reference.

It is believed that, due to humanitarian and civilisational crisis, it vital to develop and implement strategic actions of design for transitions through transformative social innovation principles (Escobar, 2018). Therefore, it is essential to think about design guided by spirituality, and as a means, a facilitator of transformative systems that make socioeconomic, environmental, cultural and human rights transformations for recovery, flourishing and continuity of life.

To promote such systems, the intention is to propose an ’Integral Design Management’ approach with a Lusophone reference, guided by the spiritualities of Political, Gaia, Self-Awareness and Divine/Sacred. It is intended to develop and implement the 'Integral Design Management' approach based on the ancestral traditional knowledge of ‘quilombolas’, Afro-Brazilian and family farming groups and communities from Brazil and Portugal that collaborate with the development of the PhD research in design.

Literature review: The dialogue between design and spirituality

The subject of design and spirituality was dissected from the thoughts of the authors Papanek (1971; 1995), Schumacher (1974), Walker (2011), Margolin (2014) and Escobar (2018). We give special focus to Escobar's thought that advises us on the importance of the 'ontological and spiritual look to the project' (Escobar, 2018). Components of spirituality were identified and translated from the thoughts of the referenced authors. Such components are common in their thoughts, as well as proven and interpreted from each’s thought (Table 1).

Author	Components of spirituality only from the author	Components of spirituality in common among all authors
Victor Papanek (1971, 1995)	Connection with the inner and spiritual self/being/light; Caring for the planet/Ecological consciousness; Social and ecological responsibility; Development of self-awareness; Creativity; Dignity; Confidence; Peace; Non-violence; Sense of social justice; Sense of immanence; Morals and ethics.	Connection with the inner and spiritual self/ being/light; Caring for the planet/ecological consciousness; Social and ecological responsibility; Development of self-awareness; Creativity; Dignity; Confidence; Peace; Non-violence; Sense of social justice; Sense of immanence; Morals and Ethics.
		Components of spirituality in common among authors except Papanek
Ernst Friedrich Schumacher (1974)	Economy; Fraternity; Solidarity; Dignified and necessary work; Encouragement to creation; Livelihood and right action; Respect for living things; Service to others; Determination; Full attention.	Presence (in the essence of the present and the sense/the feeling); Cosmos, whole, infinity, Sense of unity, Stardust; Connection with the divine/the sacred; Divinity with nature/sacred nature; Health; Well-being; Good living; Present (the here and now); Sense of belonging/identity/rooting; Sense of transcendence; The divine/the sacred; Collectivity/collective; Sense of immanence; Fluidity/the flow; Community life/communality; Contemplation; Responsibility; Collaboration; Participation; Celebration; Detachment; Autonomy; Donation; Affection; Intuition; Spirit(s); Care; Love; Faith.
Stuart Walker (2011)	Right thinking; Right being; Right doing; Right action; Living well according to divine law; Contemplative life and practices; Knowledge of spiritual wisdom; Virtue; Charity; Compassion; Devotion and the inner life; The esoteric spiritual path; Active and reflective life; Creativity as love; Selfless service.	
Victor Margolin (2014)	Connection with the divine as a force for personal/interior evolution; Struggle; Resistance; Defence; Affirmation; Opposition; Connection with ancestrality/ancestral wisdom; Gaia theory: The earth as a living system; Interdependence with all that exists; Ecological and communal feminism; Economy, fraternity and solidarity; Non-violation of nature; Engagement and freedom; Symbiosis; Synergy; Relationality.	
Arturo Escobar (2018)	Communal Feminism/Re-communalisation of social life from communal feminism, communality; Cosmovisions of indigenous and Afro-descendants from Latin America; Interdependence on all that exists/radical interdependence; Political participation, Social movements, Public policies; Struggle; Resistance; Defence; Affirmation; Opposition; Diversity/diverse worlds; Connection with ancestrality/ancestral wisdom; Life, Earth as living being/the living system; Right, equality, engagement; Freedom; Horizontal and collective leadership;	

	Economy, fraternity and solidarity; Relationality/relational ontology; De-patriarchisation of societies; De-rationalisation of societies; Territoriality, re-localisation; Decolonization of societies; Reiteration with the Earth; Spiritualities of the Earth; Weft work, Webwork; Symbiosis and synergy; Democracy.

Table 1: Components of spirituality identified and translated from the authors' thought, created by the researchers.

Victor Papanek (1923–1998)

Austrian designer who emigrated to the USA at the age of 15. He mentions the importance of spiritual values in design for sustainability, which can be decoded in the designer's intention when designing (Papanek, 1995). His ideas were based on the designer's moral and social responsibility, and his unique approach to design pedagogy dramatically inspired the design movements in the 60s and 70s. He also influenced the designer's look in front of a systemic design amplitude in favour of sustainability, in defence of design as a political tool and in favour of democracy (Papanek, 1971; 1995).

Ernst Friedrich Schumacher (1911–1977)

German economist and founder of the Intermediate Technology Group - Practical Action. Before the Second World War, he went to live in England. He was a precursor thinker about economic, environmental and cultural causes. His thinking became widespread in the 70s, and he relied on spirituality by promoting the debate on the practice of local production for better environmental and social outcomes through the 'Buddhist economy', in favour of simplicity and non-violence, the importance of community and dignified work (Schumacher, 1974). He was inspired by his life experience when he was an economic advisor to the Burmese government from 1955. This experience deeply inspired him, and in opposition to Western economies, he fostered the implementation of appropriate, decentralised, human and local technologies. He also encouraged preservation of the environment and care of life and people on the planet (https://www.schumacherinstitute.org.uk/).

Stuart Walker (1955–)

Stuart Walker is an English designer, currently Professor of Design for Sustainability and Co-director of the Imagination Research Centre at Lancaster University, UK. His research focuses on the aesthetics of sustainable product design and on 'sustainable aesthetics' of the product and their resignification from the presentation of his 'contemplative propositional designs' (Pantaleão & Pinheiro, 2018). The author holds the conviction that the environment has been and is being devastated by apathy, disdain and scarcity of meaning due to the materialist-naturalist process introduced in Western thought. Walker fosters conceptions and practices on the importance of spirituality and preservation of the environment as a current and future worldview. Through his thought, the author directs the design and the creative process grounded in cultural, spiritual and religious principles, both Eastern and Western, to influence ethical and moral foundations and consequently promote sustainability (Walker, 2013). Walker believes that the legitimate relationship between design projects and sustainability is inherent in the spiritual values of design and in the intrinsic properties of product design (Walker, 2011).

Victor Margolin (1941–2019)

Margolin is an American educator and filmmaker with a PhD in Design History and Professor Emeritus at the School of Art and Art History at the University of Illinois, Chicago, USA. His work has always been interdisciplinary across the fields of history, research and design studies. The author investigated and fostered responsible design, and with his wife Sylvia Margolin, experimented and proposed a social model of design practice in opposition to the dominant market model (Margolin & Margolin, 2002). Margolin emphasises that spirituality needs to be reintroduced into philosophical debates and positioned more centrally in contemporary thinking to support reflections on the artificial, design and technology. In this way, it can support the self-development of designers and ground them to support social welfare. The author mentions the importance of 'spirituality as a metanarrative for design and technology', from the practices of connecting with the divine through sacred nature and 'the divinity with the nature' with inspiration in the intellectuality and cooperative activities of ecofeminists and the Gaia hypothesis (Margolin, 2014).

Arturo Escobar (1952–)

Escobar is a Colombian American, an anthropologist and Kenan Professor of Anthropology at the University of North Carolina at Chapel Hill, USA. Spirituality is translated in his thought as the ability to redesign the world starting from the ways of being, knowing and doing that happen in collective, collaborative, participative, autonomous and local ways in tune with justice, with the reiteration with the Earth and the understanding of the planet as a living being. This redesign must be guided by the 'Earth Spiritualities', identified by the author as '[...] the work that requires a radical shift in our understanding of and in connection with the Earth, with non-humans and with each other' (Escobar, 2020, as cited in Carley, 2020). This work implies reconnection with the spiritual world based on the practices of traditional communities, such as indigenous peoples and Afro-descendant communities from Latin America and based on the practices and thoughts of communal feminism. It is guided primarily by political participation in the face of 'relationality', 'interdependence on all that exists', territoriality, autonomy, affection, love, care, fight, resistance, 'our work in a weave, in a web', to provide the 'flourishing of the plot of life' (Escobar, 2018).

Methodology and research

The chosen methodology was first the breakdown of the topic design and spirituality from the different theoretical lenses mentioned by the authors and researchers above. From this exercise, the components of spirituality identified and translated in the thoughts of the authors were identified (Table 1). These components of spirituality were defined as indicators to guide the data collection and the analysis of the participatory experience and participant observation with the linen ladies.

The field research started in September 2020, when the researchers met the four ladies from the Association of Women Farmers of Castelões. From this first contact with the group, it was agreed with the artisans that the researchers would return to the Association's head office to start to learn about the practices related to the linen cycle. Since then, we started working together. The field methodology was qualitative and based on an ethnographic approach through participant observation and open and non-systematic conversations and interviews with the artisans (Angrosino, 2012; Martin & Hanington, 2019; Pink, 2009). Between September 2020 and August 2021, 15 meetings were held with the artisans. It was possible to learn how to weave, spin, embroider, crochet, sew, grind and scutch the linen and observe the linen ladies with a focus on the approach of design management guided by spirituality.

Following the definition of the indicators to guide the fieldwork, spirituality components were identified from the participatory experience with the artisans (Table 2). It was then possible to analyse the components identified in the field, as will be presented in the case study. Finally, it was possible to conceive a preliminary proposal of the 'Components of Spirituality to Safeguard Life'.

Case study: The participatory experience and learning from the the linen cycle's ancestral knowledge and doings

From the participatory experience and learning with the linen ladies, it was possible to recognise an implicit spiritually driven design management process in the group. It was also identified that the agricultural and craft activities, as well as the social and political participation of these ladies, are recognised as principles of transformative social innovation. Therefore, that can facilitate the implementation of strategic actions of design for transitions.

Based on the components of spirituality identified and translated from the thoughts of the referenced authors, three main components were confirmed that act as an umbrella to the others recognised in the artisans' activities: presence (in the present and the essence of the sense/the feeling), relationality and interdependence on all that exists. These are anchored by three others: love, affection and care. And they are interdependent on other spiritual components, as can be verified in Table 2.

Presence	Relationality	Interdependence on all that exists
Love, affection and care		
Connection with: The divine/the sacred, the divine and spiritual light, intuition and ancestral wisdom; Collectivity; Collaboration; Participation; Engagement; Freedom; Autonomy; Creativity; Traditions; Dignity; Sense of transcendence; Faith; Spirit; Celebration; Communality/community life; Territoriality; Sense of social justice; Ecological awareness; Sense of belonging/identity/rooting; Horizontal and collective leadership; Reliability; Solidarity; No violence; The present/the here and now; Development of self-awareness; Donation; Detachment; Synergy; Well-being; Good living; Health; The divine/the sacred; Weave work/webwork; Fluidity/the flow; Struggle; Resistance.		

Table 2: Components of spirituality identified through the participative experience with the linen ladies, created by the researchers.

Conceptual interpretation

We will briefly interpret the components of the spirituality concepts that were identified through the participative experience with the linen ladies in the field (Table 2).

Relationality/relational ontology; Interdependence on all that exists/Radical interdependence; Synergy
Escobar presents the concept of relationality or relational ontology as follows:

> "[...] all of this dense web of interrelationships and materiality [...] A whole world that is updated minute by minute, day by day, through an infinity of practices that link a multiplicity of humans and non-humans. [...] That in which nothing (neither humans nor non-humans) pre-exists the relations that constitute us. We all exist because everything exists". (Escobar, 2016)

The author expounds on the concept of interdependence on all that exists or radical interdependence linked with relationality: 'inter-humans and beyond human relations' depend on each other and are

interconnected with everything. Faced with the principle of relational ontology they are interdependent on all that exists, that is, radically interdependent (Escobar, 2018).

Connection with: Ancestrality/Ancestral wisdom, the divine/the sacred, the divine and spiritual light, the intuition; Fluidity/the flow; Faith; Spirit; Sense of social justice; Ecological awareness; Non-violence; Development of self-awareness; The divine/The sacred; Sense of transcendence
It is argued that in mystical-religious significations, it is possible to connect with the invisible considered the ancestors (entities known as spirits and/or energies) and the divine/the sacred as God, gods, goddesses, saints, angels, archangels, cherubim, seraphim and orixás, which are related to religious traditions, beliefs and philosophies as well as to cosmovisions and spiritual sciences.

It is asserted that the religious practices, such as divinity as sacred nature and/or the simple act of worship, feeling the vital energy and witnessing life, promote faith and peace of mind. Through these practices, it is possible to connect with what is called the inner self, the self, the core and the heart as well as with the soul, the spiritual self and the spiritual, inner, divine light. It is stated that this connection usually promotes feelings related to morals and ethics, such as a sense of social justice, ecological awareness and non-violence. In addition, it provides reiteration with the Earth, connection with the Cosmos and perception of the sense of unity, of the whole, the assimilation of infinity and the understanding that humans are stardust (Sagan, 2003). It also provides intuition and self-development, i.e. the development of self-awareness of the human being (Chandra, 2009, 2014).

Within the scope of the spiritual science anthroposophy, in 1962, Steiner presented the spirit as the body energy I (ego) and the astral body of a human being. For the author, the astral body is the set of forces known as the soul. The astral body is the body of feelings, sensations and consciousness. The I body (ego) "is the individualized and simple spiritual element which constitutes the centre of the being". The human being has four bodies: the physical, the vital (etheric), the astral and the I (ego). When the human being dies, only the spiritual energy of the I (ego) and astral bodies remains (Lanz, 1983). In the psychology sphere, it is considered a person's personality. In the scope of some religions and spiritual cosmovisions, theories and sciences, it is considered the energy and/or the ancestor that manifests itself in various ways in materials and dimensions (Bispo dos Santos, 2015; Blavatsky, 1980; Cohn-Sherbok, 1999; Elias, 1999; Hawkins, 1999; Kopenawa & Albert, 2015; Krenak, 2019, 2020; Lanz, 1983; Lovelock, 2020; Moreira Costa, 2002; Sagan, 2003; Shattuck, 1999; Thompson, 2014; Wilson, 1999).

Through religious practices and esoteric experiences, it is argued that some can experience the sense of transcendence. In religions, philosophies, cosmovisions and spiritual sciences, transcendence as experienced is verified in physical and mental states that occur outside the material world, where the divine/the sacred is identified as being outside the mundane environment (Bispo dos Santos, 2015; Blavatsky, 1980; Cohn-Sherbok, 1999; Elias, 1999; Hawkins, 1999; Kopenawa & Albert, 2015; Krenak, 2019, 2020; Lanz, 1983; Moreira Costa, 2002; Shattuck, 1999; Wilson, 1999).

Communality/community life; Collectivity; Participation; Collaboration; Engagement; Solidarity; Traditions; Creativity; Sense of belonging/rooting/identity; Dignity; Struggle; Resistance; Participation; Donation; Detachment; Horizontal and collective leadership; Territoriality, Re-localisation; Freedom; Autonomy; Well-being; Good living; Health; Celebration; Webwork/weave work

It is asserted that feminine and matriarchal care for a community recovers and preserves life and life flourishes. This can be noticed by attitudes of engagement, detachment and respect for oneself, for the

other, for nature and for the planet as well as by actions that take responsibility, participation, collectivity, donation and communality in a solid matriarchal format. It is stated that this matriarchal care is genuine and has affection, love and robustness. It also strengthens and encourages fraternal economies, culture, art, traditions, creativity and equal rights. It promotes feelings of community and territory rooting, pride, dignity and identity and also identification with the communal way of life. It is argued that it takes place in defence of the territory, that it ensures that the local prevails and that it resists individualism. Moreover, this way of life is democratic, since it dialogues, understands, believes, encourages, cares for and protects social, environmental, human and non-human relationships as well as diversity. It also operates in the mode where leadership is horizontal and collective, i.e. the collective acts and dialogues horizontally. There are no hierarchies, and everyone has the knowledge that supports, builds with, complements and is interdependent on the other.

Escobar signals the importance of "re-localization as an active role of inhabiting, eating, education and health" (Escobar, 2018). This can be understood by the defence of local life, land and territory, known as territoriality, and the safeguarding of local freedom and autonomy that defend and promote health, housing, education, healthy food for living well and well-being.

Groups and communities that work according to the principles of communal feminism, territoriality, autonomy, freedom, creativity and celebration of life, are those that care for, love, witness and de-rationalise life. They experience relationality and radical interdependence, in opposition to the dualistic ontology of the globalised world. They “work in a web, in a weave” and provide the “flourishing of the plot of life” (Escobar, 2018). The weaving work, i.e. the web work, is exercised in a collective, matriarchal, communal life. Together, and interdependent on humans and non-humans, respect, care, love, affection, struggle and resistance occur for the recovery, flourishing and continuity of life.

Love; Care; Affection; Presence (in the essence of the present and the sense/the feeling); Present (the here and now)

In 1995, Comte-Sponville translated love into various feelings and meanings: joy, fulfilment, warmth, cosiness, passion, devotion, donation, desire, pleasure, energy, potency, enjoyment of presence and existence, happiness, hope, gratitude, generosity, kindness, friendship, benevolence, sadness, anguish, grief, failure, greed, selfishness, misery, absence and madness (Comte-Sponville, 2004).

It is attested that love and care coexist in the presence of one another, and that affection emerges from the existence of care. Ergo, love, care and affection are mutually interdependent and complementary. In addition, affection is tenderness and dedication which turns into friendship and love, completing a full circle. As Boff wrote:

> *“Caring is more than an act, it is an attitude. Therefore, it encompasses more than a moment and attention of zeal and diligence. It represents an attitude of occupation, concern, liability and affective engagement with the other”.* (Boff, 1999)

It is noticed that presence exists where there is a manifestation of love, care and affection. The authentic presence is understood as attendance and perceived through the existence of a life of being that is genuine and occurs in the present.

Analysis of the components of spirituality identified in the field

In this section, we briefly analyse the components of spirituality that were identified in the field.

The divine and its relationship with some spiritual components

The divine was identified by the researchers through the participant experience and observation in a common and collective ritual of a religious nature. The linen ladies always pray while they are working at their handicraft activities. It could be observed that the prayers and handicraft activities are performed through altruistic love, detachment, donation and synergy among the artisans, in tune with nature and the divine. These practices are interconnected with the sense of transcendence, social justice and ecological awareness through affection and care for themselves, for others, for nature, for the land, for the community and for the village. The researchers also identified that these practices are interdependent on the faith and the intuition that the ladies possess.

Connection with ancestors interdependent on other components of spirituality

Ancestry was observed from spontaneous conversations and unsystematic interviews of the artisans with the researchers. The linen ladies always mention with honour the value of their ancestors. It could be observed that their ancestors are their references and that ancestral wisdom is passed on by their presence through the lived life they had with them and through the invisible life they have with them. The experience with their ancestors provides pride of identity for the territory of ancestral tradition based on agriculture and the production of textiles and embroidery work made of linen. One perceives the rootedness, the identity and the feeling of belonging to the local as well as the feeling of dignity for the valuable and noble linen work that has soul, spirit and life. The researchers also observed that the relationship with their ancestors, between them and with the community, works as a web and promotes care, affection, love, communality (community life) as well as the feeling of harmony, well-being, good living, health and meaning of life.

Struggle, resistance and creativity: Relationality and interdependence for conservation and continuity of the linen life cycle

The researchers identified that the linen ladies struggle and resist to preserve and keep alive the ancestral tradition of the linen cycle in the village of Castelões. This happens with affection, love and care in synergy and non-violence with themselves, with each other, with their neighbours and relatives, with the land, with the planet, with the animals and with the village. The linen ladies' presence and creativity could be observed through the implementation and management of the Association as well as through the artisans' ideas for new projects. This commitment was also identified when the artisans call attention to the importance of work on the land and of the continuity of Portuguese agriculture, not only of linen but of the family agriculture of organic/biological vegetables, greenery and fruits; the significance of caring for the animals and the family production of food for subsistence; and the dignified and noble handicraft work that cares and beautifies. It was noticed that they practise everything they talk about, and through their actions it was possible to recognise their connection with the forces of life, with the energies of nature, the sacred and the cosmos, which are interconnected with the health and the well-being that they have. One could observe their autonomy, freedom, fluidity, ecological awareness, sense of social justice and communal conviviality in this territory.

Celebration, collaboration and solidarity interconnected with some spiritual components

Every Tuesday evening, the ladies joyfully celebrate the end of the working day. With coffee, tea, 'jeropiga' (traditional Portuguese alcoholic drink made from grapes), Portuguese chestnuts from the

village, cheeses, ‘rabanadas’ (traditional butter-fried Portuguese bread soaked in milk, eggs, cinnamon and sugar) and delicious cakes they made, they celebrate their life, friendship and love. In addition, it could be observed that the ladies’ work is carried out in a dignified, simple, collaborative and participative way, with commitment, presence, solidarity and mutual trust. Each lady has a function, and they all have their value. It was noticed that there is no hierarchy, since their leadership is horizontal and collective. One supports and complements the other, and they are interdependent. They always act intuitively, with affection and care for themselves, for each other and the community. They always think of each other, there is no selfishness and their heart is open.

Relational ontology and radical interdependence on the scene

The principle of relationality and the interdependence of all that exists were observed in a scene often witnessed by the researchers. A lady is spinning linen and working with the spinner in her hands while another lady weaves on the loom. At the same time, two other ladies embroider linen cloths spun and woven by the artisans.

When one looks at this scene with other eyes, that is, with the eyes of relational ontology and radical interdependence, it is possible to see a world, indeed several worlds, since the linen transformed into thread and cloth has passed through a process of visible and invisible interrelations before reaching the artisans’ hands, mouths and fingers.

First is the preparation of the land, and then there is the sowing, the watering, the weeding, the grubbing up, the ripping, the tanning in the river, the drying, the grinding, the scutching and the threshing of the linen. Afterwards comes the spinning, which then goes on to the ‘sarilhar’ (forming the skeins), then making the ‘barrela’ (a kind of broth made from the ashes from burning the linen plant), the boiling, the washing, the colouring, the drying of the skeins and the warping to ‘impeirar’ (placed on the loom). Once the thread has been ‘impeirado’ (placed on the loom), it is woven and finally embroidered (Veiga de Oliveira et al., 1991).

The preparation of the land, the sowing, the watering, the weeding and the grubbing up involves the compost, the humus, which is interrelated with minerals, microorganisms, fungi and animals such as insects, birds and those who produce manure (cows, for instance) to strengthen the soil. It could be noticed that this knowledge, added to that of the rest of the process as well as the use of tools to work with the linen, involves ways of being, doing and knowledge learned through the ancestors of these ladies and the community of this territory.

There is also the interrelation with other invisible worlds, such as the beings who protect and bless the plantation, the work, the animals, the neighbours and the community life. It could be observed that those invisible relations refer to these ladies' relationships with the divine, whom the artisans believe guide and bless them, as well as their connection with the cosmos, with the moon and the sun that guide planting and also protect the farming.

Conclusion

The components of spirituality identified in the field, analysed and described in the last part of this article, can be integrated into a more extensive inventory that is in progress and prospective and which will be finalised in the future. From the analysis of the participative experience with the linen ladies and the identification and translation of the components of spirituality through the thought of the referenced authors, it was possible to develop a preliminary proposal of this list, the ‘components’ of a spirituality

recreated for today, called 'Spirituality to Safeguard Life'. This reinvented spirituality has four sub-nominations of spiritualities: political spirituality, spirituality of self-awareness, gaia spirituality and divine/sacred spirituality.

The 'Components of Spirituality to Safeguard Life' are associated with peace of mind, joy, well-being, a sense of transcendence, the divine/the sacred, a sense of immanence, connection with the spiritual self and the intuition, a sense of unity and development of self-awareness. They are correlated to social justice, ecological awareness, human rights, political participation from communal feminism and matriarchy in defence of health, education, housing, land, diversity, autonomy, local, well-being, good living, relations and life. They are inspired by the cosmovisions of indigenous and Afro-descendant communities from Latin America and secular religiosity. They are related to care, affection, love and presence (in the essence of the present and the sense/the feeling). They are also linked to the relationality and radical interdependence between humans and non-humans as well as to the reiteration with the Earth.

The 'Components of Spirituality to Safeguard Life' are interconnected and occur as a web and a weave. They are interrelated with one another and are interdependent (Figure 1).

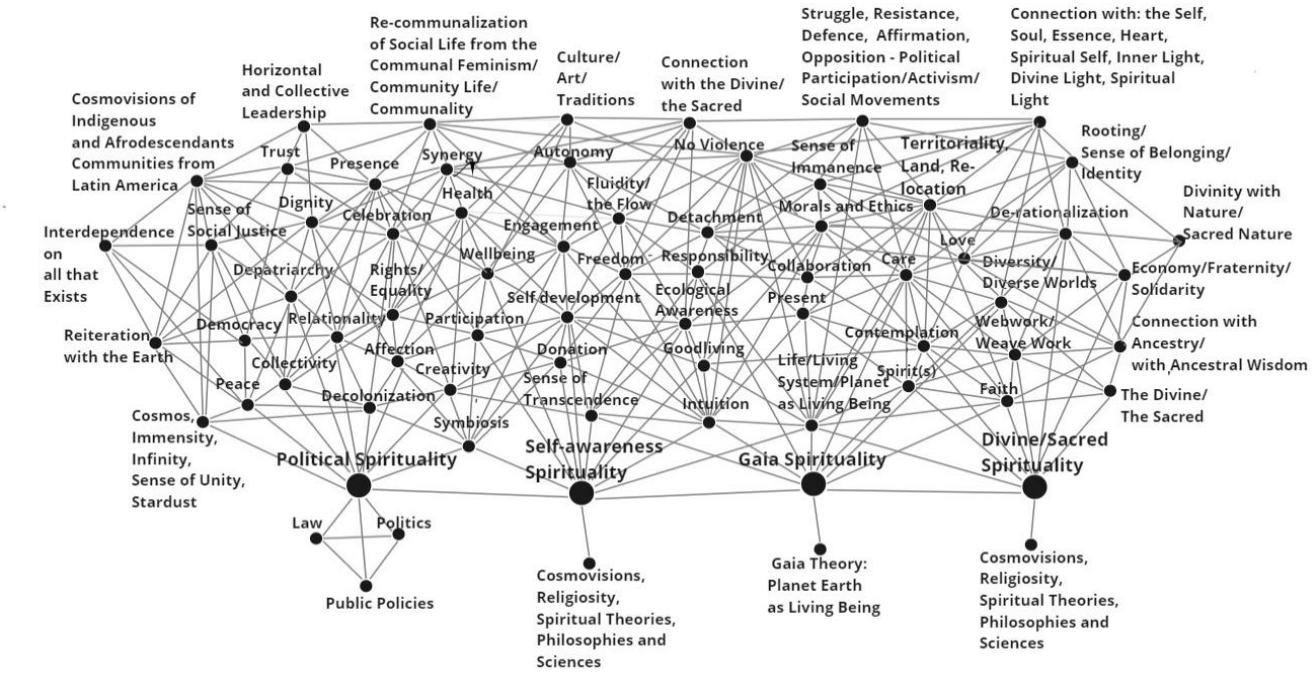

Figure 1: Web of the 'Components of Spirituality to Safeguard Life', created by the researchers.

It is intended to dissect and integrate the 'Components of Spirituality to Safeguard Life' in the fieldwork with the other ‘quilombolas’ and Afro-Brazilian case studies from Brazil that collaborate with the development of the PhD research in design and identify further components in this field and integrate them into the more extensive inventory that is under way.

We believe that it is essential to promote dialogue between design and spirituality, especially in contexts of humanitarian and civilisation crisis on a large scale, as in the current one with the Covid-19 pandemic. It is essential to think of spirituality-oriented design and as a means to facilitate transformative systems that bring about socio-economic, environmental, cultural and human rights transformations. The design for

transitions based on principles of transformative social innovation is vital so that one can recover, flourish and continue life.

The intention is to carry out the final design of the 'Components of Spirituality to Safeguard Life' based on the ancestral traditional knowledge of the ‘quilombolas’, Afro-Brazilian and family farming learning references from Brazil and Portugal. It is believed that these ‘components’ can support the development of a spiritually driven design management approach with Lusophone reference, entitled 'Integral Design Management'. It is planned to apply this approach in academic, business, governmental, non-governmental and civil society environments. Through its practice, it is intended to promote the implementation of transformative systems with values and paradigm shifts for the recovery, flourishing and continuity of life.

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The pedagogy of discomfort: Transformational experiential learning

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Abstract

Education is intended to be a transformative experience for the student. In the practice of transformative pedagogy, instructors provide students with the time and space to explore their own sets of beliefs, values and standards and how they incorporate those beliefs into their work, subconsciously and consciously. At times, transformative pedagogy can be uncomfortable. However, the value of discomfort in the pedagogical process of a design course is the ability to acknowledge a knowledge gap between one's social experiences and the experiences of other social identities. This paper focuses on the value of transformative pedagogy in working through discomfort when learning about limit situations, developing a foundation for transformative pedagogy in a course setting, the importance of critical thinking in transformative pedagogy and how transformative pedagogy is presented with a focus on ethics, disability and responsible design. By embedding ethics, critical consciousness and strategic thinking, the process translates into a transformative practice of design and innovation. Students learn new emerging ways of affecting change with a multiplicity of ideas when educators engage in transformative pedagogy. It is also to ascertain what kind of learning enables people to create solutions for communities involved in a continuously ongoing process of defining sustainable development.

Keywords: Design pedagogy, Empathy, Experience design, Transformational pedagogy, Transformational practice, Social impact

Introduction

It is human nature to resist and avoid pain, while we reluctantly accept that growth comes from discomfort (e.g. social, economical and political). Empathic understanding can develop through this growth and can lead to more impactful problem-solving, more relevant design outcomes, more intuitive forms of communication and the co-creation of knowledge that has transformative power. To develop thought leaders for our tomorrow, we need to reimagine how we teach them today. Education is intended to be transformative for students and provide them with the space to develop critical thinking and produce innovative work and research. Transformative pedagogy is a term that describes an educational experience or set of experiences that allow the student to gain a deeper understanding of social experiences and be transformed in their thinking to further understand the complexities of their social experiences. In the practice of transformative pedagogy, instructors provide students with the time and space to explore their own sets of beliefs, values and standards and how they incorporate those beliefs into their work, subconsciously and consciously.

When design educators create an intentional space, either physical or conceptual, for students to discuss social experiences, students are more equipped to objectively begin to analyse and create an understanding of their own lived social experiences. This ability allows them to identify a knowledge gap between their own lived social experiences and other individuals' experiences. While this process might be uncomfortable, it teaches them the epistemic practice of identifying their lived experiences and learning about another person's lived experience. In addition, it supplies them with the necessary tools, insights and awareness to create a transformative practice of developing innovative designs (Fricker, 2010).

The challenge is not only to identify transformative learning that assists people to respond and adapt to modern conundrums. It is also to ascertain what kind of learning enables people to create solutions for communities involved in a continuously ongoing process of defining sustainable development. The relevant question is not only what makes up transformative learning but also what stimulates individuals and communities to take part actively in collective growth processes leading to an as yet barely discernible sustainable future (Thoresen, 2017).

This paper focuses on the value of transformative pedagogy in working through discomfort when learning about limit situations (Freire, 1972), developing a foundation for transformative pedagogy in a course setting, the importance of critical thinking in transformative pedagogy and how transformative pedagogy is presented when the focus is on ethics, disability and responsible design. By embedding ethics, critical consciousness and strategic thinking, the process translates into a transformative practice of design and innovation. Students learn new ways of affecting change with a multiplicity of ideas when educators engage in transformative pedagogy.

Developing the roots for transformative pedagogy in design

The value of developing roots for transformative pedagogy in design is the development of space for students to focus on a specific social experience, also described as a limit situation. A limit situation is a social experience that prevents someone from living freely (Freire, 1972). An individual who gains a critical consciousness of their own lived experiences can understand how their social identities intersect with their culture and how those identities can determine their lived experiences (Freire, 1972; Pinto, 1960). Transformative pedagogy is intended to prevent the over-generalization of social experience through discussion and requires participants to develop a genuine and critical understanding of a social experience. One way of developing such an understanding is through the acknowledgement of social identities that are social constructs in our culture, i.e. race, gender and ability (Crenshaw, 1989) and the way these social constructs turn into prejudices and biases that become ingrained in our everyday lives (Ben-Ari & Strier, 2010; Nadan & Stark, 2017).

Designers can apply the iterative design research process to develop a design for a specific social experience and provide a transformative pedagogical experience. The steps include the following: 1) the development of the context of the social experience or limit experience being focused on, 2) the application of research—qualitative or quantitative, 3) the development of ideas based on learned factors, 4) the prototyping of those ideas and 5) the testing of those ideas. When implementing this process in a course where transformative pedagogy centres a social experience as the primary determinant of learning, students are prompted to engage in activities in which they must think through the perpetuation of limitations or oppression prevalent in design. Gale and Molla (2016) emphasize "[…] the importance of invoking pedagogic actions directed at creating an environment for learners to share cherished beliefs and assumptions without fear of ridicule or condemnation" (p. 253).

When engaging in pedagogical activities, students can critically assess their values, beliefs and assumptions in a way that does not simply lead them to the 'correct' answer. Instead, this form of learning highlights the diversity of design deliverables and innovation resulting from learning about social experiences different from our own and interacting with material that provides a safe learning environment. In addition, deeper understanding and empathy of others tends to reveal that many questions do not necessarily have 'right' or 'wrong' answers. Theorists focused on transformative pedagogy see immense value in developing activities that provide students with the opportunity to understand another individual's lived experience.

The experiences should not exist in isolation, but the process should involve prompts or interventions that generate critical thought in the student that requires an assessment of who they are, their values and their beliefs (Nolan & Molla, 2018).

Through the focus of transformative pedagogy, we provide emerging designers (design students) with the time and space to be innovative when designing for complex social issues. Learning about the person we are designing for is not a unique or new concept in design but is a foundation for many designers. As Koppen and Meinel (2012) wrote, "Understanding the perspective and social context of the user is one of the most important parts of design and design education" (p. 35). Transformative pedagogy can encourage a designer to consider human experiences we might not otherwise think of or even have the words to discuss. Our collective forms of understanding are rendered structurally prejudicial in respect of content and/or style: the social experiences of members of hermeneutically marginalized groups are left inadequately conceptualized and so ill-understood, perhaps even by the subjects themselves; and/or attempts at communication made by such groups, where they do have an adequate grip on the content of what they aim to convey, are not heard as rational owing to their expressive style being inadequately understood (Fricker, 2010, p. 6). By removing the 'distance' between ourselves and the experiences of others, we begin to understand knowledge from a more intimate and personal perspective. For the student, this educational experience tends to be memorable in comparison to more abstract constructs. For design students, the notion of designing for your future self (e.g. ageing and disability) or your wider community (e.g. gender and ethnicity) is critical to meaningful and impactful design solutions.

When we try to understand and contextualize a social experience outside of our own experience, we require tools that provide us with the means to be critically conscious of what is outside our known ways of understanding. McDonagh-Philp and Denton (2000, p. 111) used the term "empathic horizon" to describe "the boundaries to a designer's knowledge and understanding" (McDonagh & Thomas, 2010, p. 180). They added that understanding is itself progress toward the development of relevant outcomes. This way of understanding could occur through words that offer a person agency by supplying a term that matches a social experience or tools that physically and mentally contextualize a limit situation. While these terms or tools might lead to some discomfort for students, educators must create meaningful space for ethics and criticality to be discussed within a course—space allowing exploration or a period of discovery. Transformative pedagogy takes a critical approach to pedagogy from the perspective of both the educator and the student, and it requires both to leave their comfort zone and engage in "critical investigation of the self" (Zembylas & McGlynn, 2012, p. 1). The feelings of discomfort in these situations are important to acknowledge and are what ultimately allow a student to identify their knowledge gap and then encourage them to determine their individualized positions of accountability regarding different forms of '-isms', i.e. racism, ableism and sexism (Nadan & Stark, 2017).

Discomfort in the pedagogical process

At times, transformative pedagogy can be uncomfortable; however, when one or more social experiences are the primary learning objective in a classroom, educators can centre the activities to prompt critical reflection and self-actualization. This provides students with the opportunity to learn how their social identities differ from those around them. This type of pedagogical experience in a design course allows students to approach a design challenge from a more empathic and contextualized space of understanding.

> "*This critical analysis provides a space to create a context of understanding, a different way of knowing, to become change agents. This is evident in classes where students are presented with transformative pedagogy and transformative practices that prompt*

> *critical thought and interventions for disrupting the status quo* […] *to transform students' experiences of discomfort into generative learning tools, a process which requires time, energy and emotional investment*." (do Mar Pereira, 2012, p. 133)

Yale professor and social activist, bell hooks, shared a student's experience walking into her classroom: "We take your class. We learn to look at the world from a critical standpoint, one that considers race, sex, and class. And we can't enjoy life anymore" (hooks, 1998, p. 42). After she heard this, her students continued to talk with her about the pain or discomfort a person can have when learning their way of knowing. Other instructors have written of a similar experience of an "uncomfortable classroom" (do Mar Pereira, 2012), which describes didactic discomfort, i.e. intellectual and/or emotional discomfort felt by students, which is triggered directly or indirectly by the material covered and/or methods deployed in a course and is perceived by teachers (and often also by the students themselves) as an experience that can enable or generate learning.

This discomfort is an acknowledgement by an individual who is starting to develop a critical lens for the social experiences of people who have different social identities. It is the act of knowing that there is a limit to one's knowledge when it comes to other people's social experiences. The acknowledgement of not knowing is a form of epistemic injustice and can be unforgettable for people who have come to this realization. As educators, we need to help students question how they tell their own stories, how they engage with a community with those around them and whether they are willing to acknowledge what they do not know. Nadan and Stark (2017) added, "The development of critical reflectivity among students is also related to their exploration of their own identities and (largely privileged) social positions and how these shape their assumptions, attitudes and images about the 'other'" (p. 686).

The impact of criticality on transformative pedagogy

A person's ability to critically understand their own social identities allows them to reflect on their own social experiences more critically. Transformative pedagogy teaches students critical thinking and critical consciousness and provides them with a lens for seeing the diversity of opportunities and ways of doing rather than focusing on a social monoculture. Nadan and Stark (2017) emphasize the importance of this process by highlighting Schön's (1983) conceptualization of a 'reflective practitioner' as one who creates new meanings through observing and analysing case experiences, either during the experience (reflection in action) or in retrospect (reflection on action)" (Schön, as cited in Nadan and Stark, 2017, p. 686). Through the conceptualization of an experience, emerging designers can develop a process in which they begin to develop an understanding of a specific social experience through listening, critical thinking, analysing and intentionally breaking down barriers in their assumptions.

> "*Having the ability to reflect critically on one's practice brings to light contradictions and inconsistencies relating to beliefs, understandings, and practices, and enables teachers to be adaptive professionals.*" (Nolan & Molla, 2018, p. 722)

Transformative pedagogy allows students to develop a critical consciousness and an individualized design practice with a foundation of ethics that become embedded into their work. This style of teaching and learning ultimately translates into a transformative practice in which innovation can flourish. Siegel and Dray (2019) wrote, "When companies allow a deep emotional understanding of people's needs to inspire them—and transform their work, their teams, and even their organization at large—they unlock the creative capacity for innovation." In the following sections, we present two courses focused on how students learn new ways of affecting change about ethics and a responsible process for developing design

solutions and how their designs can affect change for people who have experiences outside of their own. The first course highlights ethics and responsible design, utilizing the framework of Racism Untaught (Racism Untaught, n.d.). The second course highlights disability and the role design can play in enhancing quality of life through more relevant products, environments and experiences, by employing empathic design research methodology.

Ethics and responsibility + design

The Racism Untaught course is a 16-week course focused on critically analysing artefacts, systems and experiences that perpetuate racism and the oppression of historically underinvested communities (Racism Untaught, n.d.). Since the development of the framework in 2018, this course has been taught four times at the University of Illinois. The students are guided through the design research process and prompted with design-led interventions that provide them with a way to analyse and reimagine racialized design challenges and critically assess anti-racist design approaches (Mercer & Moses, 2019). Students learn how "ever-escalating pressures toward simplification and speed have generated innovation in the types of deliverables that researchers produce in their effort to condense information and make it digestible to others" (Siegel & Dray, 2019, p. 82). This course aims to guide students through identifying forms of racialized design, a design that perpetuates elements of racism. The learning outcomes in this course include critically analysing artefacts, systems and experiences that perpetuate racism and the oppression of historically underinvested communities, prompting students to select qualitative and/or quantitative methods to assess individual and shared experiences of racism. The instructor works with the students to examine systemic forms of institutional racism that are essentially invisible and how we and our culture perpetuate them. This course uses the iterative design research process to cultivate learning environments for students to further explore issues of race and racism. Students utilize design research methods and processes to solve systemic problems and inspire further work in the public sector or a passion for public service.

Before the students start using the Racism Untaught toolkit, they go through an onboarding process in the first two weeks in which they unpack the concept of racism and the role racism plays in their lives. They begin the process by navigating their own story, background, cultural identity and upbringing to help shed light on their cultural biases and how they came to acquire them. The students then participate in the following activities: writing a poem critically assessing where cultural bias is present in their upbringing; creating a social identity profile in which they share five social groups they belong to and the roles they hold in each group; carrying out personality assessments; and developing a community agreement for the semester to use during more difficult conversations.

At the beginning of the course, it is verbally acknowledged that everyone is learning new concepts and language, and students are asked to be open to change and flexible when new knowledge is gained. Marta Elena Esquilin from Bryant University and Mike Funk from New York University wrote on the importance of community building and the value of engagement agreements. They provided over 20 guidelines for a meeting or classroom environment (Esquilin & Funk, 2019) to create an intentional space for conversations focused on diversity, equity and inclusion. Through a course, they work together on the development of a community agreement that includes prompts such as the following: 1) listen actively, 2) speak from your own lived experience using "I" statements, 3) seek to repair harm when you mess up and 4) step in, step back; that is, if one person is often speaking within a space, they should step back to allow others who are quieter to speak up.

Students are divided into groups based on what the instructor has learned from the onboarding activities in weeks two and three. The students are prompted with a racialized design and begin using the Racism Untaught framework, starting with the first step, context. This step has over 60 cards, which include definitions and terms that focus on elements of racism, sexism and ableism. Students use the terms in this deck to create the context for the racialized design they have been prompted with (Figure 1). The conversations often teach students unfamiliar words and prompt discussion on how forms of oppression are perpetuated and supported in the world around us. The terms also provide a specific understanding of the prompt, which prevents oversimplification and overgeneralization in conversations on race and racism. Participants often speak of the ownership of agency they earn when learning a new element of racism that applies to a racialized design they have interacted with themselves or have witnessed the interaction (Siegel & Dray, 2019). The students are asked to identify why each element of oppression (racism, sexism or ableism) are relevant to the identifier and which elements are not. This first step allows participants to understand how to break down one instance of racism into the various ways it is present. To exemplify different elements of racism in design, the course focuses on three identifiers: artefacts, systems and experiences. These three areas include comprehensive examples of racialized design, which designers can positively affect in our society.

Figure 1: The first phase in step one of the Racism Untaught framework.

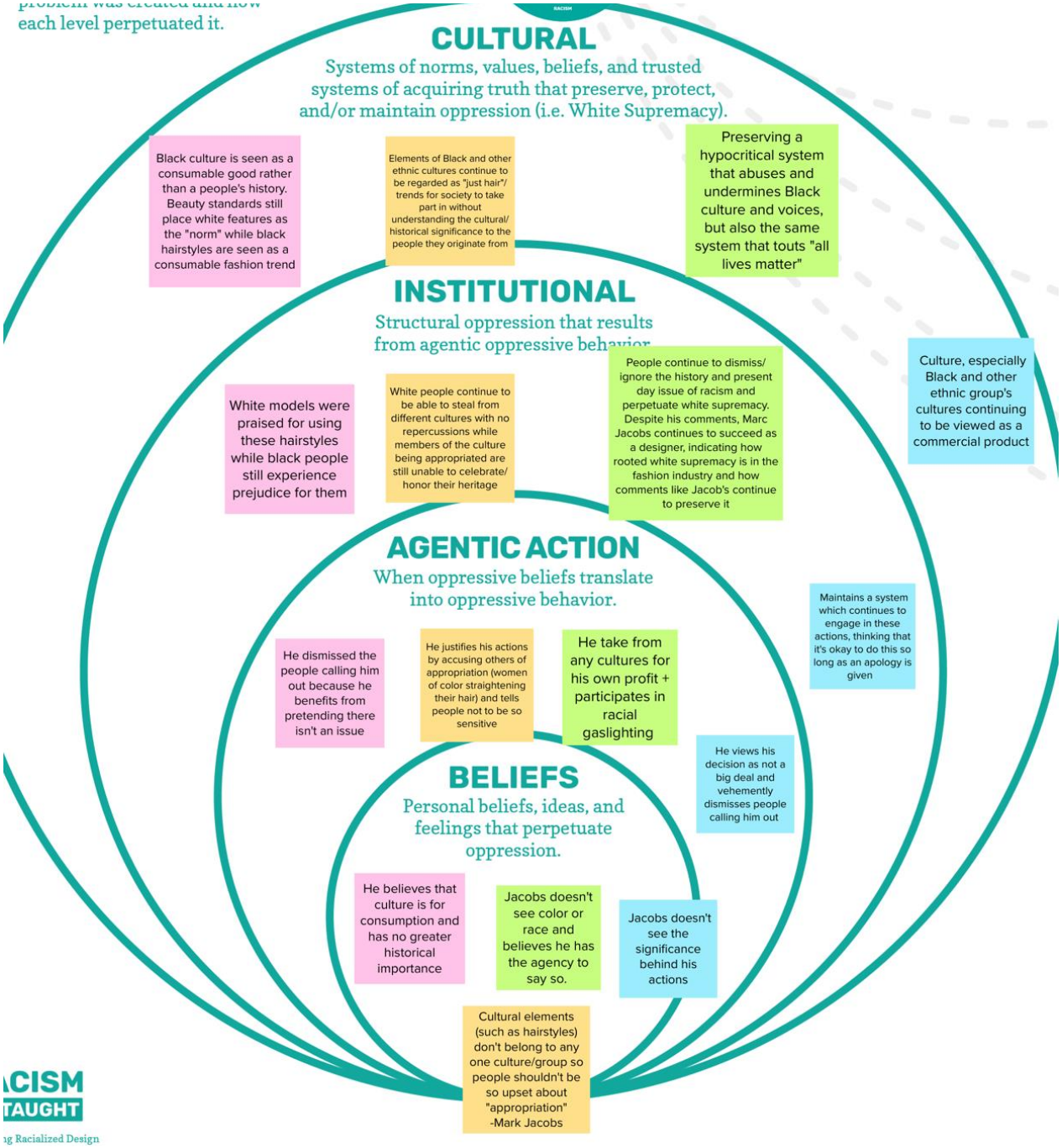

Figure 2: The second phase in step one of the Racism Untaught framework.

The first step also includes a diagram outlining what are called the levels of oppression. This allows further contextualization of the instance of oppression on four distinct levels: 1) beliefs—personal beliefs, ideas and feelings that perpetuate oppression, 2) agentic action—when oppressive beliefs translate into oppressive behaviour, 3) institutional—structural oppression that results from agentic oppressive behaviour and 4) cultural—norms, values, beliefs and trusted systems of acquiring truth that preserve, protect and maintain oppression (Figure 2).

> *"A vague, general sense of knowing the user is not empathy. As Gregory Bateson said, information is a difference that makes a difference. Because designers are trying to*

> *make a difference in users' experiences, we need to be able to explain nuances of difference across those experiences."* (Siegel & Dray, 2019, p. 83)

The next five weeks are focused on the second step, define. This step has about 50 cards, including qualitative and quantitative methods and theories to define how the participant might approach the design challenge. In this step, students must create a thesis question to help focus on their design challenge. The instructor provides students with this guiding question: "How might design be used to [action] in order to [create change] with [stakeholders]?" Students garner factors from their research to move forward to the next step, ideation.

The next step is called ideate and is completed in one week. This step includes over 100 cards. During this step, students begin to determine what they will create—an artefact(s), a system(s) and an experience(s)—and which will help dismantle the form of racialized design. Students determine how they can affect change and how they can be part of the solution. This step includes a quadrant map to help evaluate the value of each idea. On the x-axis, students consider the intent of the idea in comparison to the impact, and on the y-axis, students consider how far the idea might shift stakeholders from systemically oppressive thought(s) to anti-oppressive action(s). Students plot their most robust ideas and discuss whether their idea only has good intentions or if it will have an impact and focus on anti-oppressive actions against oppressive thought. This quadrant map is often revisited in the prototype stage to help students ensure they continue to work toward impact and an anti-oppressive final deliverable.

The fourth step, prototype, is worked on for five weeks. This step has approximately 30 cards and walks students through a low-, mid- and high-fidelity prototyping process. The low-fidelity prototype is non-functioning and is initially presented to communicate an idea. A mid-fidelity prototype is limited in functionality, and a high-fidelity prototype requires minimal modifications for the final deliverable. In this step, students work iteratively through the framework to further contextualize or apply research methods to help them understand how the idea they are creating impacts communities. The last step is called impact and is focused on for one week. This step has approximately 20 cards. This step helps students understand their impact on their work because of the iterative framework and design interventions. This process is iterative and the time frames are meant to support the students moving to different steps to ensure they are conducting research and learning from the people who would engage with their designs.

Disability + design

> "*If a designer chooses a scientific approach, the whole design process will have strong similarities to a research process. This will limit or eliminate not only what is considered to be the preconditions of the design, but also what is possible, what is needed, what is desired, and what the eventual outcome will be. It will no longer be a design process."* (Nelson & Stolterman, 2012, p. 33)

Traditional scientific research tends not to impact the researcher on such a personal level. Research outcomes are specifically based on unbiased researchers. When focusing your efforts on creating a bridge between lived experience and theory, researchers need to be more empathic and lean into the experiences of others. Seeking *whole* knowledge is a balance of what is *true* (scientifically provable) and what is *real* (a person's experience) and directs the designer to develop a deeper felt sense for and understanding of others (McDonagh, 2015, p. 422).

The Disability + Design course (established 2008) is based on empathic design research and aims to bring together design students, non-design students and students (from any discipline) with disabilities. It brings

the students together as equals by elevating the value of the diverse range of lived experiences beyond the typical person. The students are encouraged to embrace the development of the new norm, those living with a different lived experience. By expanding the students' empathic horizons through experiencing discomfort, vulnerability and frustration with activities of daily living (e.g. eating, walking and grooming) (Woodcock et al., 2017), they develop a deeper understanding of other people through their own experience. This bridges the gap between themselves and others. Challenges become more relatable (Hansen & Philo, 2007). Another person's experience becomes relevant to them. Two student activities are shared that highlight 1) the levelling of the classroom and 2) the physical and almost immediate impact of analogue empathic tools in simulating physical challenges.

Levelling of the classroom

For many courses, the student cohort's profile and ability level tend to be similar. For this course, a diverse range of abilities and design awareness constitute the student group. Therefore, a need arises beyond the typical ice-breaking activities. One of the initial activities that resonates with students regardless of their abilities is the self-portrait. Students are required to draw themselves (maximum 5 minutes per task) using (i) their feet, (ii) their less dominant hand and finally (iii) their dominant hand. For those students with limited physical mobility, they can also hold the mark maker (e.g. pen, pencil) in alternative ways (e.g. in their mouth). After overcoming the initial shock of the task, which takes away all the perceived drawing ability of the design students and leaves all the students reimagining how they utilize their bodies for this task, students begin to 'let go' of realistic two-dimensional outcomes. The outcomes are truly remarkable. Non-design students who were told that they did not have drawing skills can draw. Design students who have progressed their academic careers based on their drawing skills have to reassess their notion of the portrait, particularly with the non-perfect portraits they have created. Overall, the activity brings the cohort together more as equals struggling individually with this task. Ultimately, students tend to delight in their unexpected 'foot' and 'less dominant hand' portraits, which often capture the essence of the person more organically than their more typical 'dominant hand' portrait (Figure 3).

Figure 3: Range of foot portraits (from design and non-design students).

Empathic tools

We acknowledge that the only way to experience it is to experience it. However, empathic tools and approaches offer the able-bodied, young and healthy student the opportunity to physically experience challenges with activities of daily living. These tools range from low technology (e.g. tape up an elbow or knee joint with tape to restrict mobility) that is low cost and utilizes commonly found materials within the home and/or classroom to high technology (e.g. Oculus End-of-Life experience software). Low-technology

tools can be made by individual students at home and do not require significant cost beyond materials and time to construct them. Higher technology, such as the Gerontology (GERT) suit, provides a holistic system that can be applied to an individual so that they are experiencing several physical augmentations simultaneously but represents a greater expense (US$4500). The body can accommodate and efficiently adjust to one augmentation (e.g. reduced hearing or reduced vision), but when multiple ones are combined a more immersive experience is achieved (Figure 4). Experiencing the familiar material landscape through the perspective of limited vision, hearing, mobility and strength can result in an almost instant emotional response within the student.

Activities such as the foot portrait and tools such as the GERT suit challenge the student's mindset as they relate to others. Reducing this psychological gap between themselves and the 'other' (e.g. elders or people with disabilities) supports more empathic design outcomes. Through personal challenges (discomfort), understanding and humility develop within and beyond the classroom. Introducing this way of knowing the range of experiences develops a more empathic mindset. Designing for others becomes more aligned with designing for our future selves. It becomes personal and more relevant.

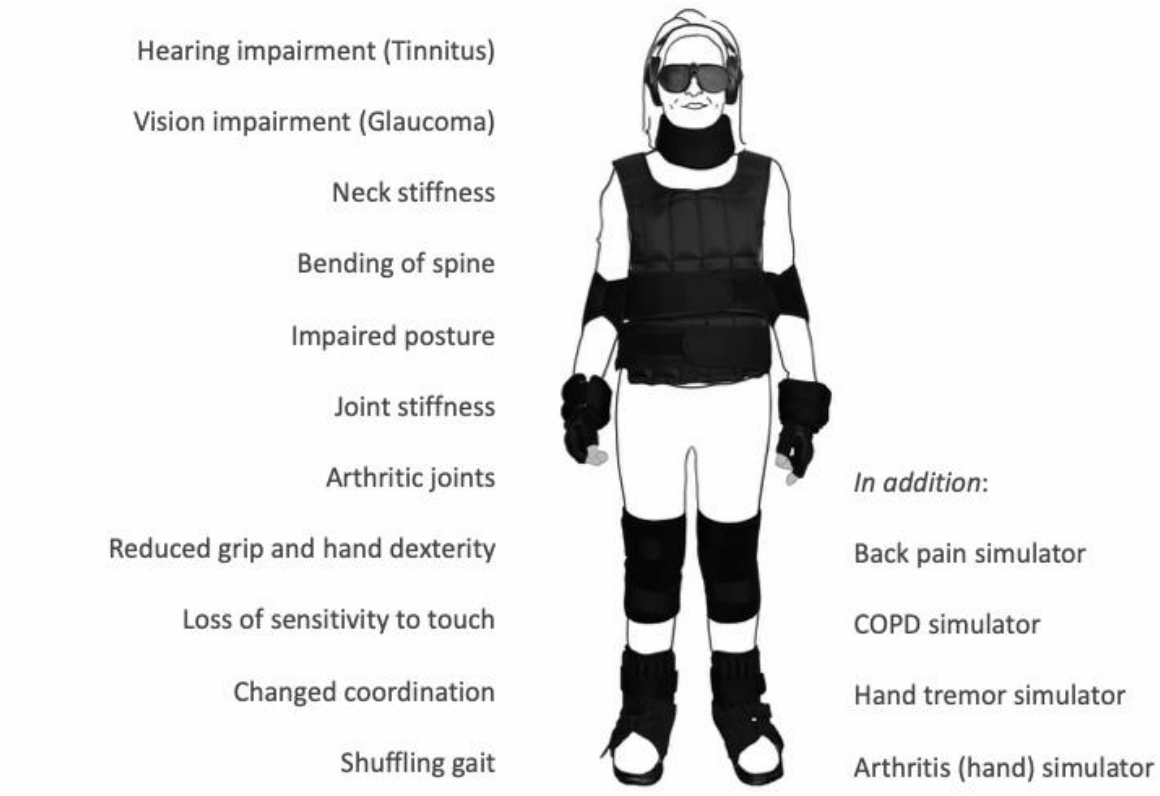

Figure 4: Empathic tools (GERT gerontology suit) simulating range of physical impairments.
COPD: chronic obstructive pulmonary disease.

The value of such experiential learning activities is in the opportunities for learners to go beyond assumptions (felt sense) to more tangible ways of understanding (felt experience). Care needs to be taken, as many students have not experienced physical vulnerability (diminished vision, hearing or mobility), and conducting these activities within a safe environment (e.g. a classroom) and avoiding potentially harmful (activities of daily living) activities (e.g. making hot beverages) needs to be thought out. These activities are time-consuming and require planning and resources. However, overall, the benefits are significant to the individual, especially if they reflect upon their experience. When communicating through speaking out loud to others, they will generate and acknowledge the meaning they create and why it is of value to them personally and ultimately professionally as designers going forward.

Conclusion

The development of activities for students that prompt critical thought and potential discomfort capture a person's understanding of a limit situation. Other ways of doing this are through a visual map, such as an empathy map or journey map, that students use to gauge what they have learned through the learning process. It enables them to reflect on the points of discomfort and acknowledge what they have learned. These activities allow students to reflect on the work they conducted over the semester, reflection being "the process of critically assessing the content, process or premise(s) of our efforts to interpret and give meaning to an experience" (Mezirow, 1991, p. 104). Reflection is vital because, as Siegel and Dray observe, "The pressure to develop design sprints for students to work through does not allow them to develop thoughtful final deliverables where they can conduct secondary and primary research to developing innovative solutions" (p. 82). Learning is a social interaction that takes place through a combination of different processes in the body (genetic, physical and biological) and mind (knowledge, skills, attitudes, values, emotions, beliefs and senses). An experience is therefore interpreted cognitively, emotively, or practices and integrated into a person's biography, resulting in greater self-awareness (Jarvis, 2009).

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BeChange: Exploring constitutions of a transformative design practice

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Abstract

The world is in the middle of a climate crisis. The way we humans live – our lifestyle – is a major contributor, and some individuals and companies feel obliged to take actions to reduce their environmental footprint. In focus in this paper is a design-for-change initiative named 'BeChange', aiming for long-term positive behavioural change and a sustainable lifestyle. The original project vision was transformative design, to crack the code between mental models, human behaviour and sustainability. The project approach consisted of a number of co-design sprints with different participants and orientations to ensure that a variety of mental models of sustainability and change and preferences for actions and interactions were explored. This resulted in a digital service that helps users cut their carbon emissions while gaining higher levels of hope and lower levels of climate anxiety, resulting in more motivated users and more durable sustainability lifestyle changes. The conclusion of the paper is that important constitutions of a sustainable design-for-change practice are as follows: to not prescribe user behaviour in the design, but to co-create action possibilities; to involve a lot of different stakeholders and explore both mental models and action possibilities co-creatively; to continuously ask how the design could be valuable to both prospective users and to the planet; and to deal with authentic sustainability that addresses social, economic and ecological change simultaneously.

Keywords: Transformative design, Co-design, Sustainability, Behavioural design, Design for change

Introduction

The current calls for action aimed at the climate crisis have probably escaped few people. All around the globe, devotees are striving to transform the way humans live – our lifestyles – into more sustainable choices and behaviours. Designs and designers may for some not be the first resource that comes to mind for such transformations, as design has generally been associated with developing an idea or solution to be more visually pleasing or with filling the world with more inept things (Papanek, 1971). In contrast to such views, this paper focuses on BeChange, a one-and-a-half-year mission of co-creating a digital service for companies and organisations that want to inspire customers, employees and future recruits to act more consciously to reduce their environmental footprints. The overall objective of this paper is of furthering knowledge within design for change and the constitutions of the "hows" and the "whos" of a transformative design practice through exploring the motivations, actions and insights of the BeChange project.

Design used to be a subject of visual and material form but has gradually over the years expanded into different practices also tackling previously non-design-related areas and issues. Some more recent design approaches are, for example, aimed at a profound purpose, i.e. that "pulls 'design' out of the studio and unleashes its disruptive, game-changing potential" (Brown & Katz, 2011, p. 381). Design thinking (e.g. Brown, 2008; Brown & Katz, 2011), service design (e.g. Stickdorn et al., 2018) and transformation design (e.g. Bruns et al., 2006) are said to address a wider range of issues and areas than previously recognised as falling within the area of design. In these approaches, there seems to be general agreement that creativity and collaboration are good things. However, there is also critique, for example, the notion of tokenism, i.e. that some actors participate in the process simply to justify a human-centred process via

minor roles or activities (Lee, 2007). There is also a risk of ontological drifts of users' insights in the process, as the search for feasible technical solutions or financial gains takes the upper hand (Robinson & Bannon, 1991). As designers in more traditional design approaches "own" the user representation, such user insight drifts may include flip-overs that turn the result into something nobody values. Additionally, there has been criticism for new design approaches being employed based on design consultancies' drive for selling work rather than for driving transformation (Kolko, 2017).

A challenge for prospective transformative design practices is also the notion of the user, as there are no existing users before the potentially disruptive game-changing solution has been launched. Hence, there is a need for transformative design practices to explore how they could cultivate prospective user insights. The designers' role in a co-creative approach becomes as a process guide or facilitator, who through different means enables participating actors to explore a design situation (Ehn, 2008; Sanders & Stappers, 2008). In such explorations, there is a need to address both prospective user values as such and the user's mental models to identify important triggers for behaviour change (Thaler & Sunstein, 2009). To do this, there is also a need to explore with many different prospective users. In striving to foresee future solutions, designers have the responsibility of not occluding, i.e. blocking, hindering or excluding (Redström, 2017). Hence, it is essential to also address situated design norms (Wikberg Nilsson, 2021; Wikberg Nilsson & Jahnke, 2018), i.e. not to occlude prospective users by presupposing who they might be or what they might value in the specific design situation.

Even though some of the aforementioned approaches are somewhat new as concepts, they have a design tradition to build upon. Transformative design, for example, has links to action research (Lewin, 1947), is a forbear of both participatory and co-design (e.g. Schuler & Namioka, 1993; Ehn, 2008; Sanders, 2002) and embraces egalitarian notions of change, innovation and emancipation. Bruns et al. (2006) state that transformation design goes beyond problem-solving, as it involves creating solutions for current pressing challenges, such as health issues, impacts of climate change or an ageing population. In this respect, it deals with everyday life choices and organisations aspiring to transform how they connect to individuals. Service design, on the other hand, has the prevalent focus centring on value creation, via redesign and the co-creation of resources by customers and other actors (Wetter Edman et al., 2014; Vargo et al., 2015). Online services are, on the one hand, seen as a way of cutting costs and adding customer value and on the other hand as a way of making customers co-creators of the services they use (Bettencourt et al., 2002).

With all this in mind, relevant questions to address are the "hows" and "whos" of a transformative design practice. This paper seeks to expand upon the previous works cited by exploring and proposing new insights of co-design for sustainable change.

Literature review

The aforementioned design approaches generally focus on understanding users' attitudes and/or behaviour. In this sense, the focus should neither be on who the user is nor on what kind of material or immaterial aspects that they appreciate, but rather on creating interplays and transitions between appreciated actions and through them understand behaviour and create designs (Redström, 2017). Some thoughts on how to achieve this and what to avoid in practice are outlined in the following sections.

Human-centricity might for some seem like a rather new design approach. However, the field of action research (AR) embraces several of the now [re-]discovered human-centric principles and practices. One significant contribution in terms of design for change is by one of the AR founders, Lewin (1947), who emphasised the relevance of human experience and *doing something with*, rather than *looking at* this

experience. Lewin stressed explorations of both parts and the whole as situated in context. He argued that one can never fully understand a system without trying to change it. The concept of 'situatedness' is detailed as awareness of meaning and representation in relation to participating actors, things and contexts (Haraway, 1988). In this view, it is vital to embrace a critical perspective about how meanings are created in order to be able to live in meaningful futures. This involves real-life activities, in which many actors exchange knowledge of the situation at hand and take responsibility for nodes and directions in both the material and the immaterial sense (Haraway, 1997). Such an approach relates to the reflective practice described by Schön as indeterminate zones of practice:

> *"Actions that function in three ways: [1] to test new understandings* […] *[2] to explore new phenomena* […]*, and [3] to affirm or negate the moves by which the practitioner tries to change things for the better* […].*In these instances, we can think of the inquirer moving in the situation, 'talking back' to the inquirer, triggering a reframing of the problem, a re-understanding of what is going on."* (Schön, 1995, p. 25–26)

In relation to material and immaterial meaning, Argyris and Schön (1975) developed their action theory based on 1) espoused theory that expresses the users' idea of how they think they should behave and 2) theory in use that controls how they actually behave. The crux of this theory is that it is not enough to ask a user how they should behave in a particular situation. To understand human behaviour, one must understand and observe a larger and wider context than the concrete situation one intends to change. Hence, there is a need to know more about how people behave, i.e. intuitively rather than sensibly, and through responsible design of nodes and directions guide people toward what are seen as better actions (Thaler & Sunstein, 2009). In this view, a good design choice consists of the principles of exploring incentives, understanding mappings, carefully designing action possibilities and defaults, providing feedback, expecting error and structuring complex choices through careful design. Humans are always subject to various biases that can inform non-rational decisions. In this sense, a good design choice can support behaviour change. Morewedge and Kahneman (2010) describe human thinking as linked to system 1, automatically and intuitively generated representations and based on prior knowledge, background, values and norms. The more energy-consuming system 2-thinking in this respect only starts when system 1 cannot process what is happening. Usually, human inclination is to rely on system 1 thinking in most situations and only apply a small percentage of system 2. By understanding more about how people usually behave, empathic design can contribute to understanding more of how design can support behavioural change (Lidwell et al., 2010). Similarly, Eyal (2014) states that human behaviour can be changed through design. However, he emphasises that the main question is whether the solution will improve the user's life. A key question to regularly readdress is hence how will it be valuable for prospective users?

Lewin (1947) suggested both laboratory and field experiments of change, including both experiments and concrete observations in the actual context to understand the user in the system that is to be changed. Jungk (1987) and Jungk and Mullert (1989) proposed future workshops for understanding the users' context in both current situations and their dreams of what could be. Future workshops are a kind of probe transmitted into the ordinary world to explore users' experiences and situations. The method can also be seen as design spaces or cooperative learning processes, where actors have the opportunity to both question and explore current understandings and practices (Sanders & Westerlund, 2011). Such generative sessions can involve a variety of stakeholders in co-creation activities that both lead to a greater understanding of the users in the situation and also give the participants a greater commitment to the matter as such (Brandt et al., 2008). Such generative sessions have the potential of clarifying both the explicit and implicit understanding that participants have (Sleeswijk Visser, 2009). Moreover, the user

experience is not limited to the actual interaction but contains the whole experience of representations, aesthetics, layout, interface and/or physical interaction (Garrett, 2011). In this sense, it is important to define more than just the actual interaction.

Traditional design practices have been criticised for focusing on designing for the user rather than with the user (Sanders, 2002). The co-design approach is in this respect a change of mindset, considering all people as possible contributors to design, as long as the right tools are given for them to act. The rationale for a human-centric design approach is defined as developing a deep understanding of the user's needs, desires and values to meet these with design (Brown, 2008; Brown & Katz, 2011; Stickdorn et al., 2018). Stickdorn et al. propose that the difference in approaches is more in which methods are used than the basic principles themselves: "Whatever you design, you must always understand the needs of users, you always work iteratively" (Stickdorn et al. 2018, p. 88). Whatever approach is chosen, the notion of user insights is critical. Robinson and Bannon (1991) describe ontological drift as the translation of meaning that occurs between first user insights and goes through different actors' translation in the process into the final delivered solution that either satisfies user needs or not. The latter is hence an example of user insights drifting away as too many stakeholders re-contextualise the insights into their understandings and belief systems. The reasons for such design drifts may be that designers often conduct activities without involving all stakeholders, hence ending up "owning" the user's insights. Some reasons for this are lack of time and doubts around how end-users might experience interacting with other actors. There is also the risk of an applied "I-methodology", which Akrich (1992, 1995) explains as un-reflected design practices.

The designer originates from his/her own understanding and experiences and develops a 'script' that guides the user to a certain behaviour, role and interaction. If the designer fails to recognise important user insights, the risk is that some might not subscribe to the design results. In this, it is important to think design after design. Latour (1987) developed the actor-network theory (ANT) as a critique of designers not taking responsibility for what happens after the design process, in implementation and use. Relevant in this context is the concept of services, as service designers usually have to consider what happens in implementation and use and the whole customer journey. Services has been defined as intangible and heterogeneous interactions, which are co-produced by receivers/customers and providers and which are predominantly local (Gersung & Resengren, 1973). Digitisation is said to be one way of developing existing services by transforming the explicit and tacit knowledge that both providers and customers have into digital yet tangible interfaces and interactions. In such transformations, different forms of co-design practices are seen as imperative in understanding value and desirability amongst both customers and users to finalise a successful service design solution (Steen et al., 2011). The opportunity to develop a service through digitalisation is said to reform the opportunity to create increased value for both receivers and providers and to create outreach beyond the local market (Yoo et al., 2010).

Over the last decades, the service sector has expanded, paving the way for the design field to emerge through creating and formalising practices, processes and tools towards the design of services (Stickdorn, et al., 2018). Service design can be outlined as a merger of industrial, interaction, graphic- and participatory design together with knowledge from e.g. service marketing, innovation, human work science, psychology and system engineering (Segelström, 2013; Wetter Edman, 2011). Other approaches focus on value creation, through a redesign and co-creation of resources by customers and other actors (Wetter Edman et al., 2014). The difference is a reconfiguration of socio-material constellations, as long-term relations between actors necessitate new action patterns and value creations. Vargo and Lusch (2016) articulate a need for outlining the mechanism of coordination and cooperation involved in the co-creation of value-in-context. The significance lies in creating several levels of value for individuals, organisations and society. A

challenge is that service design involves complex combinations of both explicit and implicit knowledge that receivers and providers need to structure and integrate to reach a successful digital service design solution. Online services are generally seen as a way of cutting costs and adding customer value but can also be one way of making customers co-producers of the services they use (Bettencourt et al., 2002).

The BeChange project

The BeChange initiative was initiated as a social innovation start-up in 2017, based on a drive to contribute to efficient lifestyle changes for both companies and individuals. The three founders have different backgrounds as a mental coach, ecologists/environmental scientists and business developers. In Sweden and certainly other countries around the world, environmental and climate issues have gone from engaging a few people to becoming something that most people are aware of, whether they act on that awareness or not. The current drive for sustainable development calls for major transformations, both on an individual and societal level, to reach United Nations (UN) climate goals. Goal 13, for example, deals with climate action through improving education, awareness-raising and human and institutional capacity on climate change (UN, 2020). How we humans choose to live our lives and the choices we make on an ordinary day affect energy resources. Sustainable lifestyles are, however, often depicted as individual sacrifices rather than gains (Ilstedt & Wangel, 2014). Positive future visions are necessary to be able to motivate a change of human behaviour. The BeChange founders noticed that the media debate on environmental and climate issues largely focuses on the negative aspects of climate change, i.e. as future disaster scenarios and the negative consequences of having to abandon “all good things in life”. Carrying such crude concerns might lead to diminished hope or zeal for engagement and with that the drive to engage in solutions (Ojala, 2007, 2013; Scheier & Carver, 1992). Unprocessed climate anxiety and change fatigue might in this sense impede the behavioural changes needed to affect the climate in positive ways.

The BeChange entrepreneurs explored the idea of delivering a global company service that makes it easier for employees to create a greener and more positive sustainable lifestyle customised to their needs.
The overall vision was expressed by one of the founders as “a genuine belief that this is possible, to be the change here on earth” (BeChange founder, May 2020). In August 2019, a core design team was formed, consisting of the BeChange founders, four design consultants (1 web developer, 1 designer, 1 project manager and 1 business designer) and 1 design researcher. Other actors were involved in different phases throughout the process. The vision was initially defined as design for change – to develop a service that contributes to changing human behaviour towards more sustainable lifestyles. The mission was to design an easy-to-use and inspiring digital service concept that tackled both mental models and sustainable lifestyle changes. The overall tactic was iterative co-design sprints, consisting of exploring desirable sustainable lifestyle changes, a viable business model and feasible digital solutions for different platforms in a mix of methods aiming to crack the code between mental models, human behaviour and sustainability. A method, as a simplified representation of a process, seldom accounts for the messiness that often goes on or the values and bias that are assumed. A method “unavoidably produces not only truths and non-truths, realities and non-realities, presence and absence” (Law, 2004, p. 143). The co-design sprint approach was seen as both dynamic and flexible. It is a condensed design process, moving forward through iterations, aiming at co-explorative learnings through experimentations, in which failure should happen fast, and prototyping is seen as vital for understanding what the end solutions must accomplish (Knapp et al., 2016). Such intense processes should in this sense be iterated several times to explore different themes, experiences and concepts to gradually develop an understanding of what values the solution should contribute to. This also associates with the previously mentioned indeterminate zones of practices (Schön, 1995), aiming to test new understandings, explore phenomena and affirm or negate thoughts, ideas or concepts through user involvement.

In summary, the first design sprint dealt with understanding the scope, developing an understanding of the user experience and use context and through insights developing a first minimally viable prototype. The second design sprint consisted of refining understanding of user experiences and use context through user testing and value propositions to develop a feasible prototype. In the third design sprint, all user insights were gathered into a final desirable, viable and feasible digital service concept. Each design sprint involved different actions and actors. Project activities were documented in different ways, mostly through the material being developed in the workshops, by taking notes and photos and some additional recordings of users' interaction with prototypes. Activities were analysed through both quantitative and qualitative means. The online surveys and tests for example provided quantitative data as "how many" experienced different things. Other activities, for example, the co-creative sessions, provided qualitative data on what values participants had that were jointly analysed in the core co-design team in terms of understanding what was going on. The phases overlapped as many activities were initiated in parallel; however, the core team had regular sessions aiming to define insights and discuss what future actions needed to be taken (Image 1).

Findings

The first design sprint was mainly internal, based on the core project team's activities and insights that the founders brought from previous activities. Current services and applications were explored to identify different aspects that participants thought would be good for the final solution. Through both material and visual means, user representations, user actions, service features and content, such as goal-setting, feedback and human behaviour in general and detail were explored (Image 2). The materials from the generative sessions were seen as important starting points and were used as means for exploring and discussing values in the core team. The practical transition the user would have to make in lifestyle changes, as well as the mental transition into positive future visions, were central in exploring the whole concept and its details. Various metaphors for the user journey were discussed and used as a base for developing a graphic profile and a first user interface.

Image 1: The first design sprint iteration.

The second design sprint was more external and focused on understanding user experience and customer value. The prototype was developed with a few additional features and then tested with prospective users (Image 3). During the tests, two people were in the room with the users, and others watched the tests on

a screen. The reason for this was to share insights with the whole core design project team. This iteration provided insights that the conceptual digital service provided valuable actions to take for reaching a sustainable lifestyle but that it was difficult to understand how to set initial goals, i.e. what actions contribute to a sustainable lifestyle? The activities exposed different and sometimes opposing values and preferences, such as some wanting to being able to set short-term goals for the month or year and then change them and others wanting more long-term goals for the rest of their life.

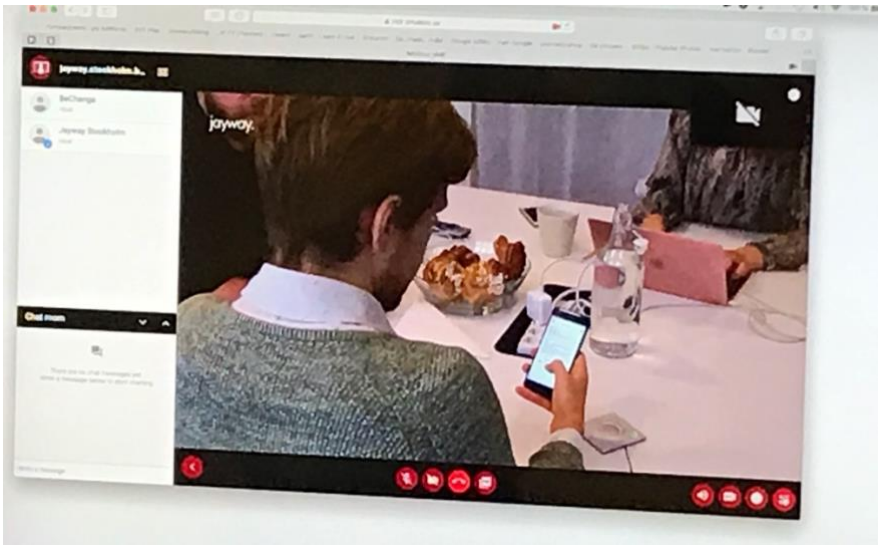

Image 2: Screen view of user test of prototype 1.

Parallel sessions with company managers led to insights into the prospective customer being a medium-sized company in low-impact industries. These participants, however, saw the BeChange concept primarily as a tool for employees' well-being rather than as a service for the company's sustainability performance. This produced the insight that BeChange can be valuable both for individuals who want to change their lifestyle and for companies as part of both their human relations (HR) and corporate social responsibility (CSR) activities. Different self-assessment features were explored through online tests with prospective users. These included reacting to value statements such as "I don't see conflicts between a sustainable lifestyle and how I live" and "I think humanity will be able to make the changes needed for sustainable development" for the mental model feature. In parallel, the sustainability educational service content was developed further through processing the textual content and developing video content in sessions with instructional designers. The service content was advanced and explored with several potential users and went through a couple of iterations before the final design sprint.

Based on user insights gathered in the process, the graphic profile was redesigned. A "buddy" was developed as a character who prompts user interaction through nudging. The character was defined to be "serious" yet "friendly" and was created to represent the core values of BeChange: positive sustainable lifestyle changes. In addition, it was designed and experienced to mix stereotypical representations of a woman/female and man/male to make all potential users feel included. It was created as an answer to user needs for a feature that gives some kind of feedback. The buddy should care about sustainability in general and support the user in particular. The traditional green climate/nature-connoted colour was in the graphic profile complemented with other colours to also communicate moods such as positivity, well-being, harmony, action and hope (Image 3). A new "works-like" prototype was developed. It had limited functionality and did not include all features yet had the central content such as both mental and lifestyle features and the ability to adjust some of the settings.

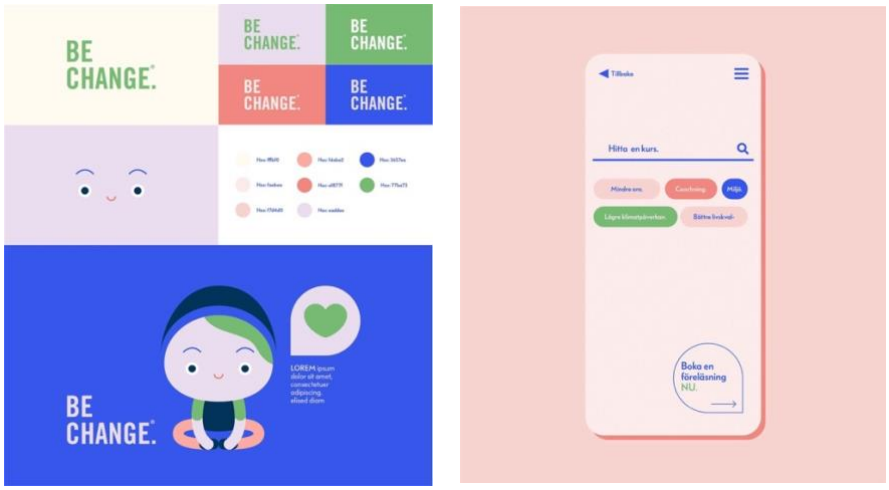

Image 3: The BeChange graphic profile and user interface v.1. Graphic design: Laura Di Fransesco.

The final design sprint focused on forming all insights into a final design. This phase involved more co-learning of what the concept needed to be to fulfil desirability, viability and feasibility. Value propositions were summarised based on the previous insights. The customer was identified to be active in a low-impact industry, e.g. the IT or service business with 200–400 employees of equal gender distribution and most employees younger than 45 years. The main pain points for a BeChange user would be that climate change is too slow and there is limited time to make a change. The BeChange service was seen to add authenticity to the company's sustainability work, which was understood as crucial for preventing accusations of "greenwashing", building a strong brand and making employees feel motivated. A summary of the value proposition can be seen in Image 4.

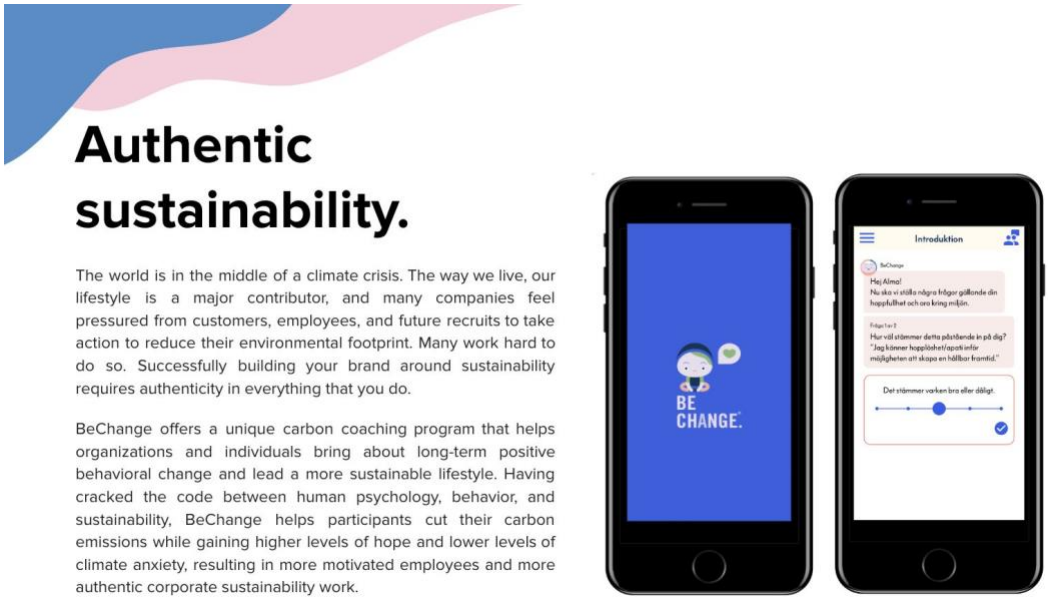

Image 4: The BeChange value proposition and a mobile version of the BeChange service. Interface design: Laura Di Fransesco & Patrik Juteståhl.

Subsequently, the content was re-configured into a prototype with both text and video content to satisfy different uses and users. It was also re-arranged to better follow the user journey of an initial weigh-in and gradually developing both insights and actions to take for change of behaviours through educational content and goal-setting for eating, living, consuming and travelling (everyday/vacation trips) (Image 5). An additional user test invited users to log in and test the service online and provide feedback. This gave insights that the concept was experienced as playful and interactive and that both prospective customers and users found it valuable and inspiring in terms of contributing to a transformation into sustainable lifestyles. The final test run also provided great results, as the participants reduced their climate footprints by half during the two months and stated a positive outlook on humanity's ability to handle the climate crisis.

> *"The whole concept is inspiring, as it facilitates the need for more sustainable lifestyle changes. It is also inspiring in its colours, animations, illustrations and expressions – and 'the buddy'! It is different compared to other solutions, and it is so important to realise that sustainability should not be boring, it should be inspiring."* (Participant May 2020)

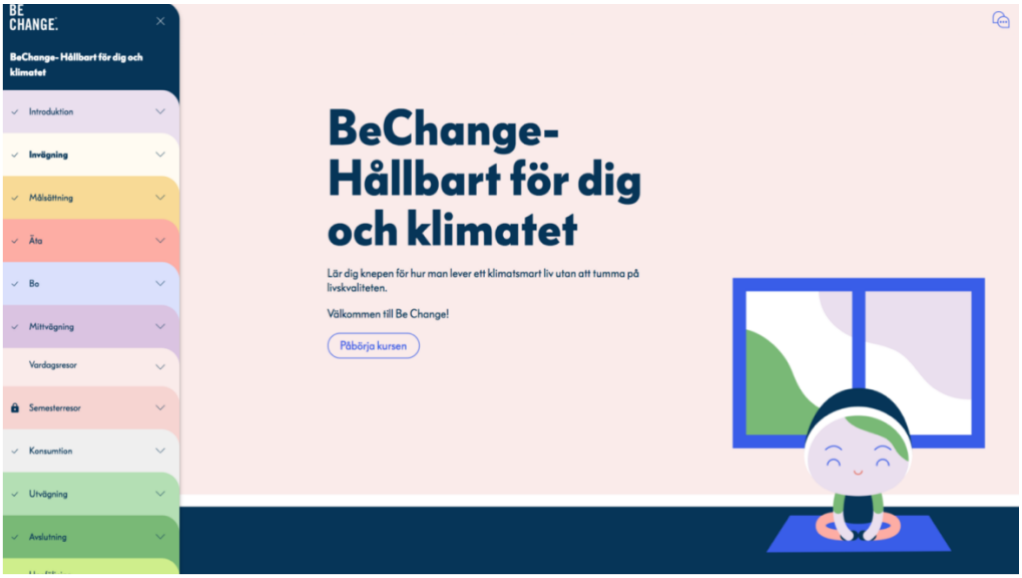

Image 5: The final online version of BeChange — Sustainable for you and the climate. Graphic design: Laura Di Fransesco.

As the BeChange project has now been finalised and the service launched, some participants shared their insights of the process, their learning and the results. It seems that all the core co-design team participants, founders and designers, had different ideas of the project before and after and also developed their understanding of design for change as a consequence of all interactions:

> *"An insight is how important it is to test, test, test – not just speculate about ease of use and how things are experienced. It was valuable but complicated with many parties that should be coordinated and all the knowledge that should flow between all activities and actors."* (Founder, May 2020)

> *"A key insight is that it is so important to involve users. I knew this beforehand, but it has certainly been manifested in this project. The scope should perhaps have been smaller, but at the same time all of the participating users and all of these tests certainly made the solution into what it is. It has been*

stressful from time to time, but overall the co-creative sessions contributed to good communication and transparency in the project team, which is important." (Designer, May 2020)

The final prototype was launched in September- November 2020 in a sort of final "dress rehearsal" with 16 users and the BeChange coaches. All in all, the users were satisfied with the learning experience and had great results in terms of decreasing their individual environmental footprints. One participant summarised:

"[BeChange] made me go from thoughts to actions. I feel better now that I have started the transition to my new clime-smart life." (Participant after final test run, November 2020)

Discussion

The motivation behind the current study was to explore the constitutional aspects of a transformative design practice, the "hows" and "whos" of participation and user involvement in design for sustainability and behavioural change through exploring incentives and insights of the BeChange project. The following sections aims to define such insights.

The project vision was of a transformative design practice to develop a service that contributes to changing human behaviour towards more sustainable lifestyles in a positive manner. The mission was, however, more of a service design practice to design an easy-to-use and inspiring digital service concept. The overall approach was iterative co-design sprints, consisting of explorations of desirable sustainable lifestyle actions, feasible technical solutions and viable business models, through explorations of user experiences and use contexts. The overall endeavour can hence be seen as drifting back and forth between transformative vision and achievable mission. In hindsight, the constitutional aspect of the design sprint approach supports Schön's (1995) description of indeterminate zones of practices: to test new understandings (need for sustainable lifestyles), to explore new phenomena (through co-creating action possibilities and triggers for a digital service) and to iteratively affirm or negate the moves (iterate the design to develop a deep understanding of both physical and psychological triggers for change). The co-creative design sprint approach is hence seen as a key factor in the design success. The latter refers to both the positive user experiences of interacting with the digital service and their actions taken for a successful reduction of their climate footprint.

A vision for a digital service for change of human lifestyles with non-existent current solutions or users imposes a need for a deep understanding of the potential user's insights and values (Brown, 2008; Brown & Katz, 2011; Stickdorn et al., 2018) to be able to meet these with design. The diverse potential stakeholders and users involved in the BeChange project thus confirm that a fundamental aspect of a transformative design practice is authentic co-creation. This also resonates with the risk of user insights drifting away during the process as more financial gains take the upper hand (Kolko, 2017; Lee, 2007; Robinson & Bannon, 1991). Additionally, it resonates with the risk of an "I-methodology" (Akrich, 1992, 1995). The current approach was more of a "we methodology": a will for identifying how we could change behaviours into more sustainable lifestyles. There is thus a need for approaching the mission with a "we methodology", co-creating iteratively with potential users all the way, providing them with a sense of ownership of the design. Some insights are further outlined below.

First, I propose that a constitutional aspect of a transformative design practice, however messy it might be, can be the "hows" of simultaneously and co-creatively addressing mental models and human behaviour and social, economic and ecological sustainability. The BeChange mission was initiated with the incentive of transforming human behaviour into more sustainable lifestyles. The first motivation was thus purely

"eco-logical", i.e. based on the logic of saving the planet. The incentives were of course also "eco-nomical"; the founders wanted to be able to do this for a living, and the design consultants wanted their bills paid. However, they all had the sheer motivation of realising social, economic and ecological sustainability. The co-creative process contributed to more social "eco-creative" incentives, i.e. explorations of user insights of positive human lifestyle changes through the overall service concept and its interactive platform. In retrospect, the BeChange core design team might have anticipated some of the challenges a transformative design practice yields but perhaps did not realise the messiness of sometimes conflicting needs and preferences, many interactions with different actors and a lot of ideas, imperatives and relations they sometimes saw as difficult to manage. This echoes the challenges of current design problems being complex, crossing boundaries of several organisations, stakeholders, producers and user groups and that the design solution must meet diverse demands and expectations (Redström, 2017). In relation to Lewin (1947), the ambition was to identify triggers for change in human behaviour in more sustainable ways: understanding how people behave and, in line with Thaler and Sunstein's (2009) tactics, through design nudge them into what is co-creatively identified as more sustainable actions.

Second, I propose that a constitutional aspect of transformative design for change is how the prospective customers and users are involved in the process. The iterative co-design sprint approach paved the way for the solution being inclusive and human-centred. However, it became so much more than the design of an online service's interface and its interactions, as it involved enquiries into what different values of sustainable lifestyles might be and how they might be accomplished through design. This meant realising that it is neither merely a matter of putting people first nor of finding out what technical solutions or business propositions could best fit the concept. Rather, it was involving many different actors, exploring all of these factors iteratively through co-creation, that ensured a successful outcome. Users were at the centre of the process, it was however not one homogeneous user representation but several diverse perspectives and understandings that contributed to the success. This also included not prescribing user behaviour through the end solutions' action possibilities but co-creating how people would like to be prescribed into such roles and responsibilities.

Third, I propose that a constitutional aspect of a transformative design practice is that the outcomes cannot be discussed as "the design" or even "the final result". We can neither say if the digital service will contribute to sustainable lifestyle changes, nor if it will take one month or 10 years for potential users to make such changes. Rather, the BeChange service can be seen as what Haraway (2004) describes as a cybernetic organism, a creature of social reality as well as a creature of social fiction. This resonates to the ANT (Latour, 1987) of not being able to define beforehand what it will become once it's out there. For this reason, design-for-change practices have to deal with the "hows", as in taking responsibility for nodes and directions through co-creating and testing material and semiotic meanings rather than prescribing actions. It also deals with the multidimensional connections between the "whos": the designers, the things, the users and the planet, relating to how human beings and things interact in the world and the meanings they create of the same. The key question, in this case, was asking how this will be valuable to prospective customers, users and the planet and prompting this question repeatedly.

The original BeChange conceptual idea is now launched as a unique service experience that supports both organisations and individuals to bring about long-term positive behavioural change and sustainable lifestyles. Naturally, more research is needed to confirm and identify more constitutions of design-for-change practices. In that respect, Papanek's (1971) now legendary words that designers are a dangerous bread, little more than producers of future garbage, should be seriously considered. In summary and by contrast, I propose that a constitutional aspect of this particular project was its capacity to invite altruistic

action, performed to satisfy a worthy issue or demand, through the implementation of a core co-design-for-sustainable-change approach. In short, it dealt with authentic sustainability, achieved through a genuinely transformative co-design practice.

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Centenary haberdashery in downtown Lisbon

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Abstract

This study begins with a survey on the conditions of traditional haberdashery business in downtown Lisbon, includes a study of the retail trade, analysis of the retro marketing concept and finally investigates the sustainability of consumption. It aims to propose marketing and design strategies that can help revitalize the economic value of haberdashery and remove these businesses from the dangers of obsolescence and anonymity. Having understood the importance of communication with the consumer, through interviews, selecting a qualitative methodology and aligning this understanding with some theoretical concepts, we adopted a set of proposals for the creation of a new identity. For each haberdashery, a new identity was defined, as well as a broad one that encompasses all stores present in this study – RETRÓS. These proposals seek to redefine traditional values by means of orientation and communication support, aiming not only to attract new target audiences, but also to consider creation of a new aesthetic and imagery that should not be disassociated from these brands nor be outdated. With the adoption of this creative strategy, some positive effect is expected on the relevance of haberdashery business, its financial impact and integration in the economic-cultural context that will give new life to Rua da Conceição haberdashery historical shops and their brands.

Keywords: Retro marketing, Sustainability, Innovation, Historical Shops, Haberdasher

Introduction

Reconfiguration of the traditional haberdashery business

Over the last few years, commerce has undergone profound changes, accompanied in parallel by changes in consumer behaviour, adapting and simultaneously demanding new responses from producers and distributors. Consumers began this behaviour in a more intense and constant way due to the mass consumerism that is now inherent to life in the 21st century. These sharp and rapid changes resulted in the rapid obsolescence of some business models, which is why some retail trade that is more traditional and poorly articulated with the evolution of consumption, has become outdated, despite the resilience registered in various sectors.

Rousseau (2017) states that “throughout this century, the face of commerce has changed more than during the previous two millennia” (pp. 10–11). In the second half of the 20th century, a consumption logic was adopted, whose evolution was very fast and intense, bringing new consumption dynamics, but also other standards of consumer demand. It should be noted that the pace imposed today, mainly in urban areas, changes the entire behaviour

that the consumer has towards commerce – by looking for more convenience in consumption and seeking the lowest prices. As products are increasingly accessible and prices tend to be lower, largely due to mass distribution, small and traditional commerce outlets find themselves forced to reinvent and differentiate themselves in the face of this constraint.

When a consumer product fails to work as intended, the consumer quickly replaces it with another instead of repairing it. Replacement is cheaper, less time-consuming and often less costly. For this reason, retail stores with more limited supply or with products that are not ready to consume such as haberdashery, become less frequented by clients, due to the disappearance or at least scarcity of some professions that had regular customers, such as dressmakers. Being less frequented, the businesses break down and their livelihood is threatened. It is at this stage that these spaces are confronted with the need to reassess their business model, as not doing so would only mean financial decline.

Haberdashery outlets are, according to Porto Editora's dictionary, "haberdashery shops"; they are "sellers of retrós, railings [trimmings], articles made of silk thread, etc." (https://dicionario.priberam.org/retroseiro). Nowadays, it is almost unrealistic to think that the average consumer goes to a haberdashery to buy tools for themselves or someone else to repair or make a piece of clothing from scratch. The typical 21st-century consumer buys something that is replaced when it no longer is in good condition and without consuming a lot of resources. This is the general picture of the thinking of today's consumers. For this reason, it is urgent that some businesses, although resilient in their present condition, be rethought so that they survive the new challenges of the 21st century. With this concern, this project emerged to present strategies, objectives and goals for five haberdashers located in Rua da Conceição, in the heart of Lisbon.

Based on the above idea, this study intends to define a marketing and commercial design strategy for the five stores. It is hoped that this project will contribute to giving back to these businesses a more stable financial situation due to innovative methods and practices, starting with a diagnostic phase based on the characterization of the business units and ending with an intervention plan aimed at redefining the business and its commercial strategies. This work has as its main objective to restore the vitality that haberdashery once had within the retail market and promote the adoption of strategies intended for a better business future. It is also hoped that the path outlined will reveal some relevance for today's consumers and enhance the reputation of the business units in their context. It is intended that these stores, as a niche in the retail market, become once again a shopping reference and regain their relevance. And, although this reappearance is conditioned by using different strategies from those that are currently prevailing, they gain relevance in the Lisbon retail market.

Image 1: The five haberdashery shops' signs: Bijou, Alexandre Bento, Adriano Coelho, Arqui Chique and Nardo (clockwise from top).

Research question

According to Creswell (2010), it is important to formulate the questions and hypotheses that lead to an investigation. Punch (1998) argues that a hypothesis is defined by anticipation, as it equates the results with the research problem. Creswell (2003) adds that hypotheses are normally used when one wants to compare two scenarios. Due to the nature and the way this investigation is intended to be focused, the research questions objectively guide the project's implementation.

The opening question marks the start of the investigation: Can marketing and communication design contribute to the revitalization and redesign of the traditional haberdashery businesses in downtown Lisbon?

Following this, operational questions were also formulated in a second phase, aiming to complement and enrich the opening question:
1. How can a traditional business become sustainable and adjust to current socioeconomic and cultural constraints?
2. How can the identity of a traditional business be maintained to make it economically viable?

Commerce as a source of identity

The exploration phase explains the historical and social development of cities and the economic activities of commerce, proceeding to a reflection on their interactions and dependencies, namely in the traditional commerce of downtown Lisbon. The emergence of these business spaces and their evolution is explored, thus creating an information network where all matters explored help to structure solutions to this investigation's problem/object. This analysis would not be fully complete if currently pertinent and frequently debated themes were absent – amongst them, the market concept of *saudade*, nostalgia, the curatorship of commercial space, the sphere of the commercial and cultural world and the paradigm shift of consumption and other strategies for more conscious consumption.

In this subchapter, the main academic works for this investigation are the book by Rousseau (2017), “Resiliência do comércio: As lojas centenárias de Lisboa”, the work of Lisbon City Council (Câmara Municipal de Lisboa, n.d.), “Lojas com história”, the work “Retromarketing - Old is wow!” by Cruz (2013) and the work of Herculano (2001), “O comércio retalhista Português: Pós-modernidade, consumidores e espaço”.

Methodology

In the first stage of outlining the methodology, it was defined that methods of a qualitative nature based on an exploratory study of an inductive nature are privileged. Specifically, in this project, and because the entire historical framework gave us a vision of the past, to understand the present and project the future, it was necessary to find a set of strategies that would allow a deep understanding of the reality on which it plans to intervene. For this reason, the answers to the initial questions were sought through field research, where the formulated question or problem is experienced.

This direct collection was chosen since it is believed that the answers are precisely in the field, obtained through an interview survey, from the various haberdasheries subjected to research.

These interviewed parties are the faces of haberdashery under study, the ones who have been dealing daily and for several decades with these business changes. They are privileged witnesses, who transmitted through their experience and position in the business, the best inputs on the area. The interviews were carried out in the stores of the five respondents to have the possibility through observation of visualizing the environment to which those involved in the interviews are subject (Image 1). After analysing each interview individually, a general assessment of all interviews was carried out. In this way, it was possible to find contrasts or points in common, resulting in the best insights for the project’s construction.

Although the interviewees, in general, show discontent and pessimism regarding the adversities of the business, they do not seem to consider other strategies or objectives to solve the problems they identify. For example, regarding graphic identity and communication actions, it is noted that haberdashery, as it was not necessary for many years, never thought of this subject as being extremely important for the dissemination or constitution of their brand reputation. Now that the main consumers, the fashion designers, have disappeared, it is urgent to project the future not only based on sales in the store’s physical space. Having been faced with this issue, which plays an important role in this project, they state that they cannot do so, as they do not have the experience, resources or knowledge of how to proceed. Everything that is part of the rules and procedures is traditionalist with little innovative character, almost unalterable from what was done in the year in which the different haberdasheries opened. The way communication is handled is no exception. The values also do not reflect a concern to keep up with the needs of consumers in current times, being limited mainly to quality and customer service, which, despite being important, should not be the only ones.

These were the common points, which were found to be the most pertinent and where the greatest opportunity for transformation and change resides.

- First, most of those responsible for haberdashery show pessimism and discontent with the situation their businesses are going through now but do not consider any strategy or objectives to overcome them. Many can identify where the problem lies, but they cannot formulate an answer to overcome it.
- They do not recognize the importance of communication, marketing or graphic identity strategies. For many years, dressmakers were the main target for this business, relying only on the store's good reputation. Everyone knew that on that street you could find many haberdashers. However, now that it is an almost extinct profession, it becomes urgent to attract new clients and define a communication strategy. With this factor, it is also important that brands have an identity so that they are identified and consistent in the way they present themselves. They understand that this may be important for the business, but they lack resources or capabilities.
- The existing marketing rules and procedures are traditional and not very innovative. They have been the same almost since the beginning of the century. The business continues to revolve around customer service in the sales area, which, despite being very valuable, cannot be sustained in this way.
- Service to the public and product quality are the values these stores find important. A change in the strategy of these stores must, above all, start with the constitution of their base values.

REPARO-TE

This project is structured to define an important proposal that considers adding value to the haberdashery business in Rua da Conceição, aiming above all to practically answer the introductory question: Can marketing and communication design contribute to the revitalization and reconception of traditional haberdashery business in downtown Lisbon?

After a descriptive phase in which some weaknesses were identified, such as the absence of a graphic identity, communication and advertising, marketing techniques, values and mission, a strategy and some actions are proposed to help remedy some weaknesses and gain business viability.

As a starting point, brand identities were developed, seeking to articulate and balance the traditional form with contemporary communication. Having this confrontation between maintaining a traditional business, which has its heritage, with the new demands of a captivating and modern presentation, this project focuses on the search for harmony between these two different poles. The new graphic identity tries to be representative of what these stores once were and their current and future vision. In this way, five identities corresponding to haberdashery were created: *Bijou, Alexandre Bento, Arqui Chique, Adriano Coelho* and *Nardo*, and one more brand, which brings them together as a group. The name is RETRÓS, and its mission is to represent these five stores as well as their common ground (Fig. 1).

The second step carried out in this project responds to the need to develop a communication and marketing strategy. The means and platforms that best suit the brand and the new target identified were defined. In addition, the motto and values that are intended to communicate

and adapt to the guidelines and values of sustainability were created to communicate the RETRÓS brand. This brand represents the collective of all five haberdashery stores involved in this project. It is a question of changing the perspective towards which these stores are directed and orient them towards being places of knowledge supply and materials for textile repair. This is an opportunity to adapt these businesses to the value of sustainability and act as a hinge for good practices. In the end, it is hoped that haberdashery can reach a safer position in the market, no longer be an obsolete business, start having a relevant and prominent position and contribute to the sociocultural spectrum of the city of Lisbon.

To guide the way forward, explanatory objectives were defined. To make them more concrete and specific, the objectives were divided into marketing, financial and sociocultural objectives.

Marketing objectives:

- Build loyalty with existing consumers
- Increase brand visibility through the media
- Expand the target audience to a younger audience
- Increase consumer involvement with the brand mission and values
- Build a solid image that represents the brand

Financial goals:

- Increase sales volume
- Increase the profit margin
- Make store visits convert into more sales

Sociocultural goals:

- Go beyond the cultural and commercial universe to become a reference in downtown Lisbon
- Promote sustainable consumption behaviour through products and repair services
- Appeal to new conscious consumption for more sustainable practices
- Bring people with a common interest in sewing together to share ideas and knowledge
- Call for more sustainable behaviours through upcycling, which according to the Cambridge Online Dictionary (n.d.) means “the activity of making new furniture, objects, etc. out of old or used things or waste material”
- Promote practical skills in clothing repair

The communication lure, towards which all stores must be directed, should be based on the textile industry’s sustainability. The promotion of a circular economy becomes the most important value to communicate. Hence, within the RETRÓS group, REPARO-TE was born, a service that promotes the circular economy of textile objects through sharing sessions. It is intended that the stores are perceived as centres for the promotion of more conscious consumption, as they can find the knowledge and materials to do so. These stores defend quality as one of the most important values they consider in their products, coinciding with one of the main values of slow fashion.

Business is sustained and directs its conduct, communication and the continuity of a solid and trustworthy relationship with consumers through brand values. The way consumers perceive the brand will certainly be influenced by the values transmitted to them. For this and any rebranding, values that give the brand a skeleton must also be rethought. The base pillars of this brand are the five values of sustainability, quality, service, community participation and search for innovation based on tradition and history.

The competition was identified and the target consumer characterized as one who does not just look at function and aesthetics. Consumers have a series of requirements that often involve ethical behaviour. Consumers with ethical concerns related to sustainability who seek to deepen their knowledge of sewing and upcycling are considered the target audience. We are mainly looking for a young/adult target audience between 23 and 45 years. Based on the structural issues for the RETRÓS brand and the individual haberdasheries, the concept to be followed in the communication campaign was identified, as follows:

- Rationale: A growing number of consumers are increasingly looking for ways to adjust their consumption to more sustainable ways and practices, such as maintaining and preserving their clothes for as long as possible. The path to achieving this is still hampered and conditioned by the lack of knowledge of where to find the necessary tools and knowledge in one place.

- Insight: Stores that survive are like a piece of clothing that is very dear and that the owner seeks to preserve and make it last. It takes persistence, care and some 'patching'. These haberdasheries, which persisted over the years, now help to repair something that is also treasured by consumers, such as clothing. Haberdashery history gives colour and meaning to patches and seams.

- Promise: Facilitate the provision of training or materials for repairing and preserving textiles. Sustainability and the pieces that are dear to consumers are also important for those who visit the store, which is the justification for this pledge.

- Campaign concept/signature: Patching is creating.

During the interviews with those responsible for each store, it was verified that communication or visual identity was never given much importance as a way of boosting the business. This compromises the memorization of the brand and its credibility. Communication without this becomes fragile and inconsistent for the consumer. For this reason, an identity was created for each haberdashery and for the group that aggregates them, as well as a manual of good practices, to guide the brand's implementation. Even though the identities are all different, we sought to check common aspects that would make it seem that all brands come from a common visual style and that they all belong to the same core. In addition to the logos sharing the same graphics, there was a concern to preserve some aspects that are still part of the brands, such as the lettering on each store's façade. This element, which is part of

the logo, was linked by a symbol that represents of a characteristic haberdashery object (Fig. 1).

Figure 1: The graphic identity of RETRÓS and the Alexandre Bento, Adriano Coelho, Nardo, Arqui Chique and Bijou haberdasheries (L–R) represent what this business is all about.

As for the graphic identity of RETRÓS, it was chosen because it embodies the core word that names the businesses represented and refers to what they still sell. 'Retro' is also the beginning of the word 'retrospective', which means looking back, paralleling the antiquity of this business supported by traditional foundations. From this, the intention is to create an identity with a view to the future. Concretely in the symbol, each haberdashery is represented by two retrós threads and a colour. Each thread is an indispensable part of building something. Together, they can give a body to a unit, like a fabric.

Since the fashion industry is one of the most polluting, sustainability was defined as a primary value for the brand, and a service was created shared by all the haberdasheries involved. These are sessions for the practice and dissemination of knowledge about upcycling. It is not enough to offer the sale of materials; it is also necessary to share knowledge. These sessions, which are intended to bring together interested parties with issues related to sustainability seek to deepen knowledge of sewing and upcycling, and the repair of textile objects or creating objects from waste is proposed. The sessions will be held alternately in each store involved with three agents responsible for each session: a store employee, a designer and two seamstresses or experts in this area. The presence of all these agents is essential for the proper functioning of these REPARO-TE sessions (Figs. 2 & 3).

Figure 2: Graphic identity of the REPARO-TE programme.

Although it is a social and environmental project, there is also the purpose that products are sold and that sales increase. The intention is to help sell old stock and for new consumers to start visiting these stores. With this new insight associated with ecological practices, we want this new consumer to look to haberdashery stores as tool stores, where they can find the necessary materials to give a new opportunity to their textile pieces through textile upcycling. In this way, after registration is paid, a bag and consumable materials will be made available.

These sessions are very important, as they reinforce the value that the RETRÓS brand intends to pursue. Although a large financial return to each store is not envisaged, this service is part of the strategy to communicate the importance that sustainability asserts for the brand. Because we believe that REPARO-TE is an important service and that it promotes the brand, a communication strategy has been created to communicate this service. The dissemination will include cultural agenda platforms, online platforms of stores with a history, RETRÓS social networks, the RETRÓS website and a collaborative network of associations or entities that promote similar services and with the same mission. All disclosures must be made on the RETRÓS brand website, which will contain more information and direct access for registration.

Figure 3: Information brochure about the REPARO-TE programme.

A good name, as the respondents said, is no longer sufficient for effective communication. As this area is forgotten, and as it was confirmed as an important field, a communication strategy focusing on the means that are more permeable to the target audience was planned. Thus, digital media was the chosen channel, including the RETRÓS website, but mainly focusing on social networks like Facebook, Instagram and YouTube, each with a purpose and a mission. The YouTube channel should work as an extension of the REPARO-TE programme and the brand's main value, namely sustainability. The website has a more institutional and

informative function and should contain information about the brand and the haberdasheries as well as enabling the registration and scheduling of the REPARO-TE sessions.

Conclusion

The contributions that can be made to equate the current state of the units/businesses with history and identity in themselves entail several challenges. The first is to have a comprehensive research objective and, although in a state of decline, it is the traditional haberdashery outlets of downtown Lisbon. Conversely, this study also considers the enormous challenge of reflecting, researching, analysing, creating and proposing hypotheses to keep alive, dynamic and successful, the businesses of the few existing haberdasheries on Rua da Conceição.

In summary, an environment of instability and despondency, closely linked to the past, could be detected in the stores in this study. In recent years, several stores have closed, and those that survive express fear for their future because they think their business has become obsolete. These stores have little relevance to society and do not present great value to consumers, and except for a small niche, demand has been decreasing. Despite the interviewed subjects showing discontent and pessimism in the face of business adversities and seeming unable to find solutions, they are faithful to defending the businesses' interests and relevance. They do not seem to consider a strategy or goals to address the problems they identify with; their financial condition has deteriorated, their preferred audiences of dressmakers have disappeared. Strategies, knowledge and means to attract potential customers are lacking. They do not consider the need to create a visual identity or develop communication actions to add value to the business beyond sales in the store's physical space. In general, they do not reveal any concern with keeping up with new business models or being more active on this front.

This leads to an extreme need to rethink the business and add value and relevance based on innovation. The entire project component in this work was based on this objective and developments were initially thought of in the context of retro marketing. The most interesting option, but also the most challenging, was to follow the path of sustainability and new business values, as well as a way of interacting with markets and (re)conceptualizing the business model. There is a type of consumer who is interested in issues related to the environment and ethical behaviour, who seeks to repair their clothes or try to make the most of their potential. In the search for competition, it is concluded that there is a market for this project (REPARO-TE) that is sensitive to these issues. This was verified through informal conversations and the frequency of meetings organized by relevant stakeholders.

One objective considered in this project was to reach some answers and these were found. A business, despite trying to stay true to its principles and focuses, must also try to understand the social environment and what its needs are. Without these, stores are losing focus, function and identity. A new strategy, business concept and ways of communicating were designed. Values such as sustainability gave rise to the REPARO-TE project. The strategy first went through an analysis of business objectives, value and analysis of the competition, realizing how important it was to create a new image for the brand(s) – individually and together.

Considering the importance of the visual image, work followed to define this image, as an expression of identity – RETRÓS, and of each business unit. A fusion between traditional and current was intended as an element of communication.

To the question raised at the beginning of this study, i.e. whether marketing and communication design can contribute to the revitalization and redesign of traditional haberdashery business in downtown Lisbon, it is considered that marketing and communication design can effectively contribute to this. That said, some of the actions and pieces created for this purpose are evidenced in the proposal, considering that a traditional business can be redefined, becoming sustainable and adjusting to consumer trends and market demands, and it is still possible that with this innovation, its identity and traditional business traits are maintained.

Study limitations and recommendations for future research

The qualitative method adopted allowed the collection of in-depth information from field agents who have been in the haberdashery business for decades, since the information that exists about this business in Portugal is very limited. This lack of information constitutes the greatest limitation in this study. The sample is also a problem, since of the agents interviewed, now only four haberdashery owners in Rua da Conceição remain.

For this reason, and because the knowledge of this business has tended to be passed on orally over generations, it is feared that some relevant information may have been lost over time. As there are not many studies on this topic, the information described in this project, supported by the interviews, may not be the most reliable, even though there are not many more actors or sources.

The conclusions reached cannot be extrapolated to other spheres of traditional business. For future works/projects, it is proposed that the approach to this type of case be carried out in a more integrated way in a network involving other stakeholders. During the realization of this project, the need emerged to speak with other social actors, namely the identified direct competition. It should be a more in-depth study, involving, for example, suppliers, customers, official bodies and the Municipality of Lisbon, to obtain a multidimensional view of the same issue. For example, in the business itself, it must be possible to identify the strengths and weaknesses more deeply to try to establish a network of opportunities for each entity involved.

In addition, it is possible to plan and integrate the promotion actions in tourist actions, circuits and activities by integrating visits to haberdashery outlets in exclusive tourist itineraries. Some small agencies arrange visits to the city of Lisbon to places with little prominence in conventional tourism. They aim is to give a different perspective of the city of Lisbon to those who are interested in places that are still unexplored, and this could be an additional opportunity. For example, the Loft brand already organizes visits to haberdasheries on Rua da Conceição and some fabric stores for participants who are interested in sewing and buying relevant materials. These itineraries work as both cultural and functional visits.

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Enabling co-creation for social innovation: The Parada do Sol Project

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Enabling co-creation for social innovation: the Parada do Sol Project

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Abstract

This article describes a social innovation project coordinated by the Tecnopuc Creativity Laboratory (Crialab) from the Pontifical Catholic University of Rio Grande do Sul (PUCRS) that impacted Morro da Cruz, a neighbourhood in the peripheral region of the city of Porto Alegre, capital of the state of Rio Grande do Sul in southern Brazil. The main objective of the project was to positively impact the environment and the residents of the neighbourhood in question, which led to the development of a technological installation using renewable energy. The method combined the stages of the process for social innovation (Murray et al., 2010) with Tecnopuc Crialab's authorial user-centred exploratory research approach. Using the quadruple helix model for innovation as a framework, a group of diverse stakeholders was involved. The execution of the project followed a participatory process based on co-creation, which is one of the important characteristics of designing for social innovation. The participatory aspect was fundamental to creating an outcome capable of impacting and bringing real benefits to the territory and its community. In addition to the development of a technological installation, the project had a significant impact on the lives of young people, as an opportunity to train and educate the young participants was identified, providing practical learning opportunities that amplified the results and assured the project's continuity. This article reports the Parada do Sol as a case study, the results of which show the relevance of involving stakeholders in a participatory design process to create an innovative solution.

Keywords: Social Innovation, Co-creation, Participatory process

Introduction

Based on the concept of social innovation (SI) as a means of transforming reality, responding to the unmet needs of a group, usually in a socially vulnerable situation, and giving new meaning to processes and flows of authority to generate value for people impacted by innovations (Sinclair & Baglioni, 2014), the goal of the Parada do Sol Project was to positively impact the environment and the residents of the neighbourhood in question. By relying on partnerships and inputs from multiple stakeholders while adhering to co-creative design methods, it led to the development of a technological installation using renewable energy.

Historically, peripheral urban regions are spaces seldom covered by formal innovation initiatives, which are usually launched in central regions, thus contributing to strengthening a sense of segregation between social strata. The project's hypothesis was that a technological installation could transform the neighbourhood environment. For that, the residents' participation in the definitions regarding the solution was fundamental. Innovative and technological initiatives are usually conceived and implemented in top-down procedures, in which external and outsider stakeholders assume what should be done in a specific territory. Therefore, the project method and its participatory co-creative approach, which put residents in the spotlight, became very important.

The project's methodology was drawn from references that, amongst other characteristics, put forth three premises: user-centricity, experimentation and co-creation. Co-creation is also an important feature of design for SI (Cipolla, 2017), as involving users in the process of creating a product results in a much more relevant and innovative solution, built through the diversity of views and the real needs of users. Furthermore, for young people, participating in a project such as the Parada do Sol Project can influence their choices for the future. Most young people born to poor families grow up in an environment that reinforces this situation and tend to follow the same path as their parents (Lareau, 2014). When coming into contact with new incentive structures they envision new possibilities and can be inspired to choose a path not previously imagined.

The Parada do Sol project was characterized by environmental sustainability, since its outcome was related to renewable energy by 1) educational activities which arose from its implementation through training opportunities for young people in the community, 2) the understanding that all people have a right to obtain relevant knowledge for their personal growth and, finally, 3) the notion that SI should contribute to social-environmental issues. Thus, the Parada do Sol project is aligned with two UN Sustainable Development Goals (SDGs): the promotion of clean and accessible energy (SDG 7) and quality education (SDG 4).

In addition to the direct involvement of community representatives from Morro da Cruz, several stakeholders interacted over a period of two years, inspired by the quadruple helix model (Carayannis and Campbell, 2009), an internationally recognized model for innovation, in which the relationship between the university, business, government and organized civil society is considered. One of the goals of this model is social development. It acknowledges that it is of great importance to bring society and its cultural aspects into the process of innovation and construction (Galvão et al., 2017).

Since the 1990s, the application of the body of knowledge of design and its method has been extended to projects focused on social and environmental problems (Oliveira & Curtis, 2018). SI is inherently multidisciplinary, and the design contribution is of high relevance due to its people-centred and co-creative methods and mindset. This paper aims to discuss the contributions of a design-based method in SI projects. The Parada do Sol case study is presented below as a way to demonstrate aspects of co-creation, SI, multidisciplinarity and user-centricity. Initially, the theoretical framework that guided the work is presented. Afterwards, the method and the achieved results are reported, followed by a brief discussion.

Design for social innovation

A fundamental starting point to situate this case study is to understand the concept of SI. SI has three features: 1) the content/product, which is generally oriented towards unmet needs; 2) the process, which transforms social relationships so that the logic of the process is changed, bringing greater social participation and hierarchical change and 3) the empowerment of the people involved, strengthening social assets and relationships (Sinclair & Baglioni, 2014). Therefore, SI projects need to have a practical impact and generate value for the people affected by the promoted change. SI is a collective and creative process that happens in partnership with users, non-users, social movements and organizations (João-Roland & Granados, 2020). One aspect to be observed in projects that use a design approach for SI is that design must be adapted to reflect participation and co-creation, avoiding superficial approaches or just being a discourse that does not reflect practice (Hillgren et al., 2011).

According to Manzini (2014), design and SI have an affinity. While SI creatively recombines existing processes and things leading to change, design has the characteristics of creating processes and developing

solutions to existing problems. There has been an increasing recognition of users as potential sources of value and as innovators in innovation processes (von Hippel, 2005). Thus, SI seeks to solve social problems by working together with society, and it is complemented by design as a discipline to create projects and solutions focused on people. In this process, there are top-down projects, in which the solution has a large impact on social transformation but lacks in co-participation; bottom-up projects, which are usually initiated by local groups and that result in a more specific or territorialized solution; and hybrid projects, in which there is a mixture of these two modalities (Manzini, 2014). What differentiates hybrid projects is that they can start with a territorial focus (bottom-up) and be replicated based on top-down decisions.

Within the different applications of design within SI projects, its particularities stand out when working in a specific geographic territory, such as a neighbourhood or a small town. Some important aspects are: 1) valuing products and processes from the territory; 2) promoting the political and aesthetic potential of the territory; 3) dealing with convergences and divergences in the environment; and 4) creating spaces for experimentation (Krucken, 2017).

In this scope, the designer needs to connect with the people from the territory and its context to be able to propose a solution that will have greater chances of sustainability and continuity. Moreover, their work should respect local traditions or the "cultural heritage, that is the practices, representations, knowledge and techniques, associated with the instruments, objects, artifacts and places recognized by local inhabitants as part of their culture" (Krucken, 2017, p. 328). Thus, SI is achieved by respecting the territory's particularities.

Another important concept is user-centred design, as SI projects focus on people and the resolution of social problems, believing that the problems are solvable. According to IDEO (2015), "[…] human-centred design offers problem solvers of any stripe the chance to design with communities, to deeply understand the people they're looking to serve, to dream up scores of ideas, and to create innovative new solutions rooted in people's current needs" (p. 9). In user-centred design, one method used is co-creation, which despite being a concept still under debate, is understood in this article as a process of creation in collaboration with the end-user (Schuch & Hoffmann, 2021).

Articulating stakeholders for innovation

In design for SI, it is important to understand and strengthen the interaction between different actors who are somehow involved in the processes (Cipolla, 2017). The quadruple helix is the model that best represents the interaction between actors that occurred in the presented case study, as it indicates an evolution in innovation ecosystems, a respect for social and environmental issues, mainly by acknowledging society's role and interests (Galvão et al., 2017). Figure 1 shows the correlation of the actors involved in the quadruple helix.

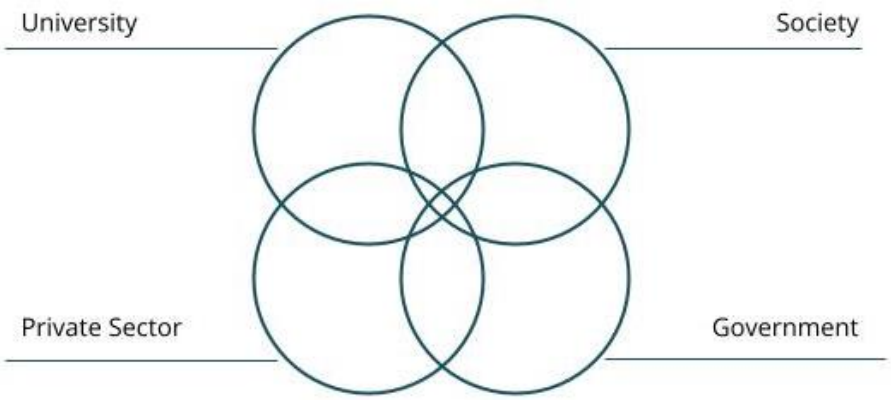


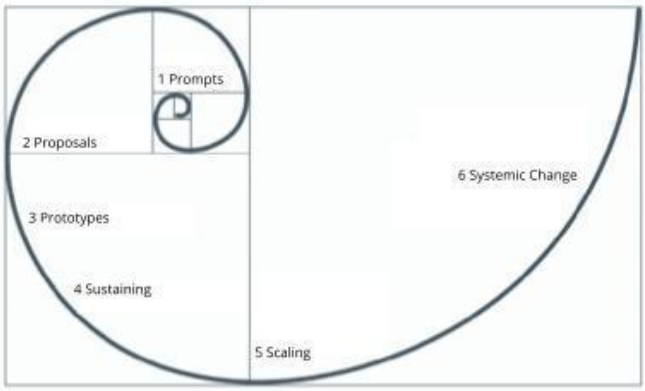
Figure 1: Quadruple helix model (adapted by the authors).

In projects focused on specific territories, it is important to take into consideration the interactions between the different stakeholders involved, since these interactions might alter during the project, creating new dynamics in their relationships. Thus, it is possible to sum up the aspects that Manzini (2014) highlighted about hybrid projects in design for SI, as they can start with a territorial focus and be replicated with their widespread performance from top-level decisions. In the context of the case study, it is possible to situate Tecnopuc CriaLab as responsible for managing the co-creation approach and the diverse stakeholders involved in a user-centred hybrid project modality, due to its ability to connect university, business, society and government. The top-down perspective relates mostly to the definition and application of the method used and to the management of the stakeholders involved. The bottom-up perspective relates mostly to the community leader, who envisioned the opportunity to contribute to the development of the territory and reached out to Tecnopuc Crialab for help.

The social innovation process

In general, SI methods foresee community engagement, stakeholder articulation and co-creation. Based on the understanding that innovation is not a matter of luck nor is it restricted to brilliant individuals but that it can and should be shared and managed, the 'Open Book of Social Innovation' (Murray et al., 2010) provides a description of the process for social innovation (PSI) which was elaborated on based on various methods and tools for SI used around the world and in different sectors. Aligned with Manzini's (2014) concept of the hybrid project modality, the Parada do Sol Project highlighted that most social changes do not happen as a result of just one direction, that is, they do not result only from bottom-up or top-down interactions, but they involve the relationship in both directions, bringing together individuals who bring ideas and energy and large organizations with the power to develop and scale ideas. In this sense, Tecnopuc Crialab's work as a manager in a hybrid SI project indicates that design can fulfil this role by bringing multidisciplinarity, inclusion and social impact towards a cohesive, measurable and applicable result.

The PSI (Murray et al., 2010) comprises six stages to promote social impact, from the conception of the idea to systemic change. The stages are visually represented in a spiral that indicates magnification, shown in the graph below (Fig. 2). Importantly, this process does not necessarily need to follow the spiral sequence, and the stages can even overlap. The six stages are described in the illustration below.



1 Prompts - Commands, inspirations and diagnostics: The first stage concerns problem identification. It is understood that the best solution is found when the real problem is identified.

2 Proposals - Proposals and ideas: Once the right problem is found, a focused effort must be made to stimulate the generation of ideas. So the second stage aims at generating ideas.

3 Prototypes - Prototyping and pilots: An idea is rarely born fully ready, it molds itself as it is tested. Therefore, at this stage, prototypes and pilots are used, which are ways to quickly test an idea.

4 Sustaining - Support: The fourth stage aimed at improving the ideas that have gone through the pilot, considering their economic feasibility. Mappings and definitions are made regarding costs, revenues and actions necessary to take the innovation forward.

5 Scaling - Scale and diffusion: One interest of the social economy is to share innovations to promote change around social missions. In the fifth stage the goal is to scale the idea to spread the innovation.

6 Systemic change: The sixth and last stage represents the main goal of a social innovation: promoting change. It involves long and complex processes for change in different spheres (public, private, economic) and requires the adoption of new ways of thinking.

Figure 2: The PSI (Murray et al., 2010 - CC BY-NC-SA 3.0).

Combining methods in the Parada do Sol Project

Combined with the PSI by Murray et al. (2010), the user-centred exploratory research method (UCER), developed and tested by Tecnopuc Crialab, was partially applied in the Parada do Sol Project. This method is "directed – but not restricted – to the initial steps of a process of development of a technological product and/or service, from the perspective of user-centred design" (Szabluk et al., 2019, p. 4). A unique aspect of this method is the use of low-resolution prototyping (which uses simple materials such as cardboard, pens and adhesive tape) to build the first prototype of a product with low cost and reduced time. This type of prototyping contributes to creating and analyzing a first experience with the product or service, allowing the evaluation of the product ideation, in addition to facilitating changes and alterations to the project, without causing great financial expense (Szabluk et al., 2019). Figure 3 is the visual representation of the method and its four phases: Context, Plan, Action and Analysis.

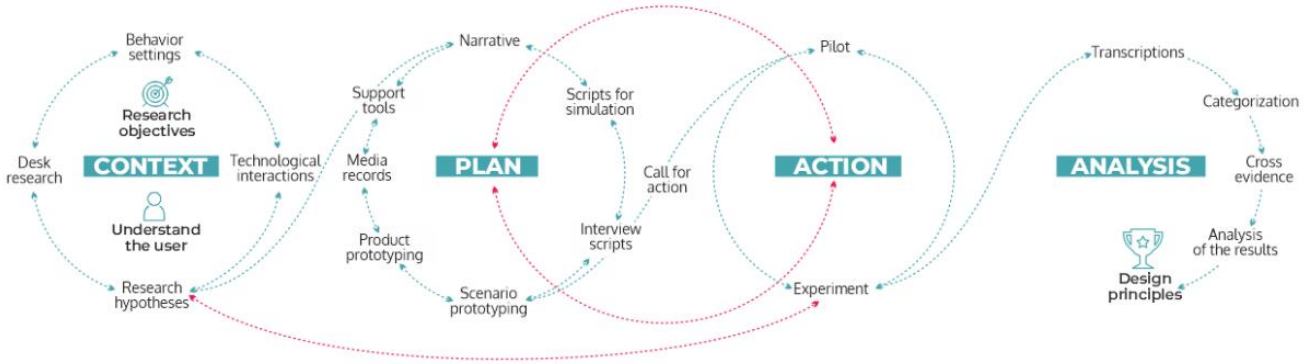


Figure 3: User-centred exploratory research method.
Reprinted with permission from Szabluk et al. (2019).

The Context phase seeks to define the main objectives of the research, in addition to understanding the end-user through different tools. In this method, the user's understanding is fundamental for defining the hypotheses that will guide the next steps. The Plan phase consists of prototyping the scenario and the product or service that will be tested in the next phase. To guide this construction, a narrative of the user's

interaction with the product/service is made and a script for the research is formulated, considering the hypotheses raised in the previous phase. In the Action phase, users are prompted to test the product or service that was prototyped. The test is characterized by analyzing the user's complete experience from their arrival on the scene to their interaction with the product or service under research. Finally, the Analysis phase is dedicated to analyzing the data collected in the testing experience and compiling the results in the form of design principles that will define the development of the desired solution.

Although the method presents the phases sequentially and foresees actions that fit from the beginning to the end of the process, the authors highlight that "the method has an iterative character and each step can be revisited, whenever necessary" (Szabluk et al., 2019, p. 5). A relevant feature of the method is the intentional and well-planned interaction with the user. It highlights the importance of removing the designer from the role of sole responsibility in the creation process and shows the relevance of co-creating with users.

In the following section, we explain how the Parada do Sol project was developed by combining the SI process and the UCER. The case study is described, pointing out its main results along with the method and theoretical framework used and the researchers' perceptions.

Case Study: The Parada do Sol Project

Initially without a specific name, the Parada do Sol Project was born from the will of a community leader from Morro da Cruz to impact the community. This community stands in the São José neighbourhood located in the peripheral region of Porto Alegre. The neighbourhood has more than 30,000 inhabitants (Observatório POA, 2010), with heterogeneous characteristics in its socioeconomic constitution, but hosts mostly a low-income population and people in a socially vulnerable situation. Worried about the environmental issues caused by the lack of education in this community, the community leader thought the neighbourhood could benefit from getting closer to knowledge and innovation generation. He approached the closest university (PUCRS) and its Science and Technology Park (Tecnopuc) to get help to conceive an installation related to renewable energy that could make a positive impact on the community and its territory. Tecnopuc mobilized its creativity and design laboratory (the aforementioned Tecnopuc Crialab) to participate in this initiative.

Benefiting from an ecosystem that comprises over 180 companies of several sizes and 7 schools with an academic body of over 3000 professors and researchers, Tecnopuc Crialab started its involvement by mapping the actors whose activities were related to the topic of renewable energy. Thus, the first companies and startups were mobilized to participate in the project. Also, based on its regular practice of the user-centred design process, Tecnopuc Crialab proposed that young people from the community be invited to participate in the project. It was up to the community leader to invite young people between 16 and 25 years old who live in the community to be part of the workgroup.

The process was oriented to the co-creation approach and bottom-up modality to capture the community's needs and wishes. Seeking to make the presence of these young people viable during the project, a grant was provided for the duration of the project, sponsored by one of the companies involved. In addition, lessons about basic electricity, photovoltaic installation and curriculum development sought to expand the participants' skills. This later proved to result in a feeling of belonging to the project amongst the young participants, according to feedback sessions with the participants.

Therefore, an ecosystem for creating the means for SI was articulated. Using the quadruple helix model, Tecnopuc Crialab mapped the stakeholders that were involved in the project (Fig. 4). The 'University' dimension was represented by PUCRS Science and Technology Park (Tecnopuc) as host of the project, by the University career office (PUCRS) as the support for curriculum development and by the Tecnopuc Crialab, the laboratory whose team was responsible for coordinating the execution of the project, mobilizing the necessary actors and conducting the co-creation process with everyone involved.

The representatives from the 'Society' dimension of the model were the community leader, the project participants and the Morro da Cruz community. The community leader recruited and organized the participants, and the community got involved in the in situ co-creation activities. Regarding the 'Private Sector' dimension, the representatives were Clube Watt (a startup that develops photovoltaic panels), Sevenia (a company that sells renewable energy solutions), NaE (an architecture firm) and Metalco (an urban furniture manufacturer). The startup, Clube Watt, was responsible for filming and photographing the activities, and the Sevenia company financed the grants and provided lessons on basic electricity and photovoltaic installation. NaE and Metalco were responsible for generating technical drawings and for building the structure that was the project outcome. As representatives of the 'Government' dimension, the Public Transport and Circulation Company (EPTC) and City Hall were contacted to ensure public authorization and licences for the implementation of the project.

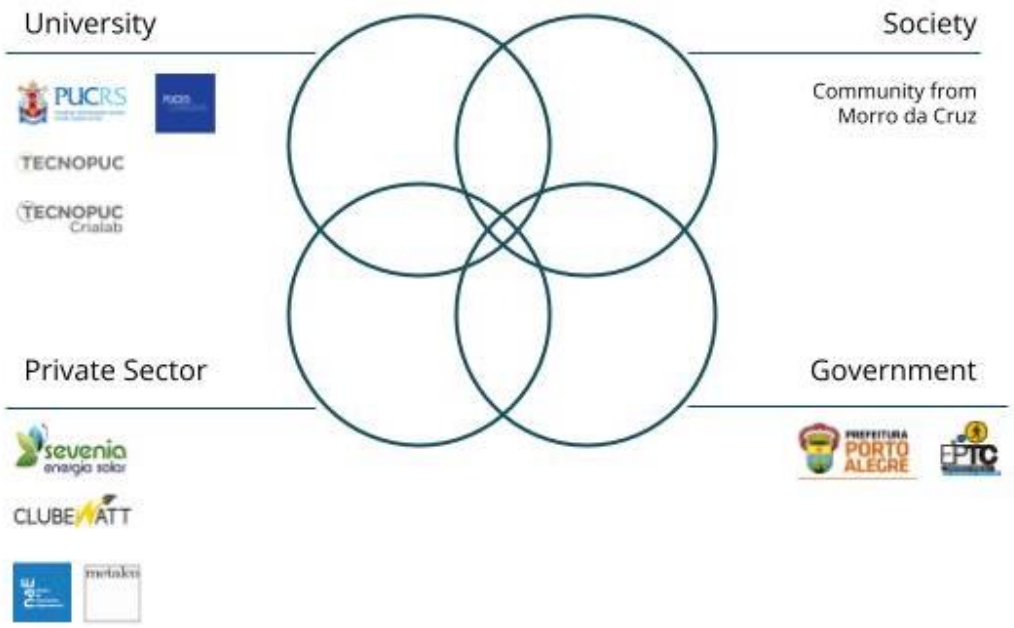


Figure 4: Stakeholders of the Parada do Sol Project.

From the initial objective of impacting Morro da Cruz's community with a technological installation, specific goals were drawn and the method was established. With the guidance of Tecnopuc Crialab's team, the group found an opportunity to work on a co-creation process to identify relevant possibilities to benefit the community through the use of this renewable energy. As a project preamble, a series of meetings took place at the Tecnopuc and the community centre at Morro da Cruz. All stakeholders were involved in some or all the meetings, according to the method used and its activities.

Since the project arose from the preconceived idea 'to impact Morro da Cruz with a technological installation', the stages of identifying problems came together with the effort to think how this idea would be. Therefore, regarding the method used in the Parada do Sol Project, stages 1 (Commands, inspirations and diagnostics) and 2 (Proposals and ideas) of the PSI were developed concurrently.

The stage 1 activities were aimed at group formation, visiting and exploring the territory in field visits to know the habits of the Morro da Cruz community and identifying problems that could be minimized or needs that could be addressed with a technological installation using renewable energy - a suggestion from the community leader motivated by observing the lack of public lighting in the area. During field visits to Morro da Cruz, user-centred research techniques were used, such as interviews, observations and field notes. As a result of this stage, it was highlighted that the young identified the area near the community centre as the place the installation would be made, since it is a central area of the neighbourhood where the community and external people meet and also the definition of using solar panels as a visual way of instigating people about the theme of sustainability and renewable energy. It was important to have representatives of the community (the young) in the field exploration to gain the community's trust. Also, the representatives of the university and the companies could not think about the problems of the community with the same gaze as those who live there.

Young participants visited the sites of the startup and the companies who partnered in the project to learn about their work and meet the professionals. Due to the basic level of education of the young participants, the companies got together to offer ways to help them gain knowledge about renewable energy and the realities of the labour market in the technology sector. Those initiatives are described below.

Figure 5: Exploratory field visits at Morro da Cruz and the place defined for the installation.

At stage 2, activities aimed at identifying the best place to make the installation and generating ideas in co-creation sessions were undertaken. Brainstorming techniques were used in a co-creation session between the community participants and the representatives of the companies and the university involved. From the narrative and previous experiences of the community, it was defined that the best place for the installation of the technological installation would be the bus stop near the community centre (Fig. 5). Besides generating ideas and designing the installation format in more detail, during co-creation sessions the community named the project. Parada do Sol is a play on words in Portuguese that means 'sun stop'.

The group then brainstormed about its inherent problems and how electricity generated by the solar panels could help. The problems identified were the lack of public lighting (which resulted in insecurity for the population), the small shelter available for the number of people who wait for buses daily and the lack of entertainment possibilities since people spend a lot of time at the bus stop. Ideas like having cell phone chargers, plants and seating could improve the space. Each participant drew how they envisioned the

installation and presented their idea. Then, combining ideas and converging them into a single concept, the ideal model of the bus stop was defined (Fig. 6).

Figure 6: Co-creation sessions and conceptual drawings of the installation.

The stage 3 activities concentrated on conceiving and making the group ideas tangible. Tecnopuc Crialab's team (the university representatives) saw the opportunity of using the UCER method, concentrating on the 'Plan' and 'Action' phases, as highlighted in Figure 7.

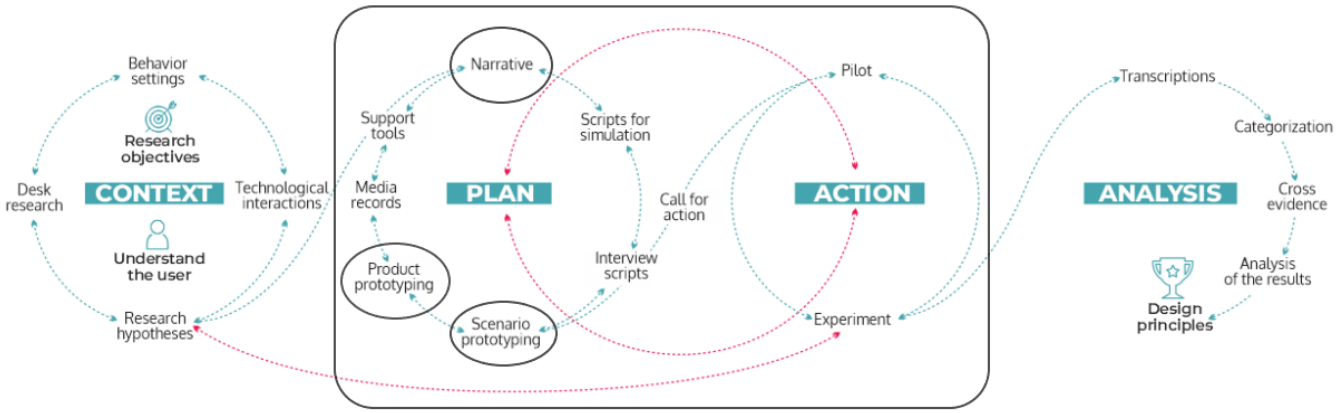


Figure 7: Diagram of the UCER method adapted to the PSI.
Adapted with permission from Szabluk et al. (2019).

In a field visit, the location where the installation developed by the participants of the project would be implemented was studied in detail. Therefore, new co-creation sessions at the University premises were facilitated to prototype the ideal installation. Once again, the young representatives of the community and the representatives of the companies and the university worked together prototyping in a reflection-in-action process (Goldsmith, 1991). From that, a true scale prototype was built. This approach to prototyping allowed the group to keep reflecting on the users' needs (in the Parada do Sol Project, the users were the community itself) which meets one of the characteristics of the method, that is "constant interactions throughout its application" (Szabluk et al., 2019, p. 7).

Following the proposed UCER method combined with the PSI, the technique used was low-resolution prototyping: the installation model was built using cardboard, brown paper, adhesive tape, crepe paper, pens and other simple materials available on site.

Figure 8: Co-creative prototyping process.

At Stage 4, the stage the project is currently on, the results of the co-creation sessions and prototype were turned into a technical project, led by one of the companies participating in the project. During this stage, the young participants from Morro da Cruz were not as involved as in previous stages, due to the technical aspect of the activity. Until this stage, the participants attended six different training courses given by one of the companies involved in the project, in which the following topics were taught: Basic Electricity, Basic Photovoltaic Project and Installation and Maintenance of Photovoltaic Systems. The training took place in different locations at the university campus, providing opportunities for young people to have contact with the university's undergraduate environment. At the end of the training, a workshop conducted by PUCRS Careers (an area of the university that provides career development orientation) provided guidelines for the development of a curriculum and information about the current labour market.

Figure 9: Training courses in basic electricity, photovoltaic projects and installation and maintenance of photovoltaic systems at the University's premises.

Still at stage 4 and in preparation for stage 5, a retrospective dynamic session was held with all participants to consolidate group learning. This discussed issues about the project, seeking to understand how participants felt during the process, positive and negative points they identified and what could be improved in the next effort. Regarding the positive points, the young participants from Morro da Cruz mentioned that they were grateful for the opportunity of knowing the innovation ecosystem of the nearest university to their home and that they felt like they had learned a lot about topics their regular school does not cover. They were also enthusiastic about the prototype they built. Regarding negative points, they mentioned feeling frustrated with the time it will take to build and install the bus stop they designed and that they wished the project was better communicated to society to inspire other initiatives. The will to keep in touch with the stakeholders involved was also highlighted to find new project opportunities.

The results of the Parada do Sol Project until stage 4 and the preparation for stage 5 of the process were presented to the Morro da Cruz community in a traditional Christmas event in December 2020. The young

participants received certificates for the training they had attended, and a video about the project was shown to the community. The Tecnopuc Crialab team is currently in touch and working with the companies who are manufacturing the co-created solution. This aroused in the community high expectations of what could result in their neighbourhood from this project. In the next section of this paper, considerations regarding the method used and the main results achieved so far in the Parada do Sol Project are discussed.

Discussion

This article presented a case study that used the process of social innovation (Murray, 2010) as a methodological framework. From the standpoint of co-creation, the quadruple helix (Carayannis and Campbell, 2009; Galvão et al., 2017) helped to understand stakeholder involvement. The steps of the UCER method (Szabluk et al., 2019) were indicated as a guide in specific stages of the process, specifically the prompts, proposals and prototype stages. In this process, co-creation was facilitated and its method was proposed by a design team. It was important to have people trained in design to manage the process, the information and the people involved. The facilitation was important not only in the prototyping sessions but also in the field visits and ideations. The user-centredness mindset of the designer was important to ensure that the community perspective was always in focus during the process, despite other stakeholders' interests.

Co-creation had an important impact on the stakeholders involved. In relation to the community members involved in the project, treating them as co-designers is a way to promote the culture of innovation (Eckhardt et al., 2021), and it also generates a sense of belonging when they are involved in the process of developing solutions in tandem with organizations (academic, private sector and governmental). The community valued having other actors involved in creating something to impact their territory, and the con-creation sessions led to greater integration between the participants. Therefore, it is possible to highlight the design and its inherent multidisciplinary, horizontal and co-creative approach as a locus for merging and managing different methods and tools to drive purpose and push through difficulties, encircling expectations and desires to generate measurable, positive outcomes.

A real-scale prototype of the bus stop was rapidly developed using the exploratory method of user-centred research. The approach used differs from existing ones due to the low-fidelity experience prototyping procedure and the hybrid modality adopted to convey and engage the multiple actors of the quadruple helix involved in the project. The build of a real scale low-fidelity prototype of the intervention helped participants to perceive the outcome of the co-creative process and also to visualize how their idea could impact their territory. The prototype also brought tangibility to the process the community had gone through along with the other stakeholders who were already more familiar with innovation and product development processes.

From an external person's standpoint, a simple bus stop might not be the choice to start a process of SI, but it emerged as a point of reference for the community, where every day many people meet and stop by to go to work, featuring a space of the territory's identity. This highlights the importance of respecting the cultural heritage of each location (Krucken, 2017). This was possible because by bringing the standpoint of the members of the community into the spotlight, it was possible to capture problems, wishes and needs specific to their neighbourhood and the idiosyncratic interactions that happen within it. These grievances might be addressed in future projects complementary to Parada do Sol, eventually resulting in a virtuous circle of spontaneous improvements in the environment.

The government acknowledged the need for improvements in the public security of the area and accompanied and authorized the work to be done. The university and its science and technology park acted with the articulation of the actors and conducted the co-creation sessions, mobilizing knowledge and human resources to spread innovation beyond its campus. The project's young participants and the community actively participated in efforts to understand their own needs as a community and generate alternatives to overcome difficulties. The Parada do Sol Project is in stage 4 of the PSI, and stakeholders are currently fundraising for the construction and installation of the bus stop.

An unexpected outcome of the project was the relevance given by the young participants to the training and certificates that they were awarded. In the reality in which they live, education usually presents itself as something distant and difficult (Lareau, 2014). Reaching a peripheral urban region with innovation initiatives and providing training broke the 'glass ceiling' of a socially and educationally segregated community. These are elements that might be explored in a knowledge-based society, creating a path forward to help discontinue the disbelief in the educational system towards the insertion of skilled people in the labour market. These aspects corroborate the concept of SI, as the young people have experienced another dynamic of education, accessing relevant knowledge and professionals, developing relevant skills and improving their placement in the current labour market. Furthermore, it contributed to objective 4.4 of the SDGs, which is to "substantially increase the number of young people and adults who have relevant skills, including technical and professional skills, for employment, decent work and entrepreneurship" (United Nations, 2021).

Brazil lacks human resources in the information technology labour market due to basic educational gaps. In this sense, the Parada do Sol Project shows a way to insert a socially vulnerable audience into the science, technology, engineering and mathematics (STEM) area, which is so important for a knowledge-based society. Assessing the collaboration between stakeholders based on the quadruple helix model, it was identified that the partnership between universities and companies is extremely relevant for promoting long-term change. The mixing of the academic environment with members of society who do not have access to formal education proved to be a very rich learning experience for the group. However, it is noted that diverse interests from each group of stakeholders could have been better taken into consideration. From the real scale prototype on, the progress of the project was somewhat impaired due to difficulties in the interaction between the companies, the university and government.

These difficulties can be exemplified by the protraction and bureaucracy regarding municipal authorizations for the installation and the deprioritization by the companies of the pro bono project due to labour market demands. Thus, it is possible to say that from the quadruple helix model perspective, mobilizing stakeholders and creating an innovation ecosystem for the project built from the interaction of these actors brings great results, but it faces some difficulties, especially regarding project management, considering the time it takes for each institution involved to conduct its external and internal processes.

It is important to mention the inherent complexity in developing and implementing a project with the characteristics of Parada do Sol. The expectations generated in the participants, especially in the community involved, needed to be carefully managed. People tend to become emotionally involved with the idea or concept they are creating and prototyping and naturally tend to find it hard to understand the slowness of implementation. Another limitation identified relates to the participation and support of the government in medium-term projects such as Parada do Sol. The periodic election and renewal of the government body needs to be considered in the project timeline due to the fragility of combined agreements.

In addition to the practical issues of the Parada do Sol Project, the overlaying of the UCER method to the PSI should also be highlighted. Its main tools are low-resolution prototyping and the use of narratives to elicit opportunities and to run tests with users, which fit the PSI. As indicated, the process's stages 1 and 2 (respectively, Prompts and Proposals), correspond to the 'Context' phase of the UCER method created by Tecnopuc CriaLab, as they are the stages of problem identification, research and raising hypotheses and of generating ideas to solve the identified issue. Stage 3 of the PSI (Prototyping) can be correlated with the 'Plan' and 'Action' phases of the UCER method. Tecnopuc Crialab's method offers the tools of structured low-resolution prototyping and the use of narratives to build an effective and low-cost prototype. The last overlap identified is between stage 4 of the PSI (Sustaining) and the 'Analysis' stage of the UCER method. In both situations, the aim is to identify the feasibility of the created product/process.

The main difference between them is that the PSI foresees in its process the reproduction and expansion of the carried out initiative, while the UCER method does not foresee this step, although it is not an impediment. Thus, the UCER method can support projects focused on SI providing tools and process flows. It was noticed that in the Parada do Sol Project, the diagram of the UCER method was not applied to the research of a product to be marketed but to the elaboration of an artefact in a specific social context, which was conceived through and reflects the needs of a community and the territory in question. This demonstrated its viability in contexts other than a market-oriented one. Also, the young and the community from Morro da Cruz represented the end-users, whose collaboration in the creation of the product/installation was essential. This meets the characteristics of SI projects. Thereby, the viability of applying this method in the design-driven SI field was identified.

It is believed that the project had a positive impact on the participants. It has already transformed the community by the transfer of knowledge it made possible. Even if the solution is not implemented, a spark for a fruitful path has been started, in which the community felt included with the ability to insert themselves in contexts that would not otherwise feel adequate (e.g. the technology area). This way, this case can inspire other initiatives that seek respect for the environment and society, understanding that sustainable development is a reflection of the balance between technology, well-being and respect for differences. As a contribution to the body of knowledge in the area of design, this paper emphasizes the importance of the role of the designer as a facilitator and manager of an SI process, the possibilities and limitations of mobilizing different actors to achieve a design goal (society, government, organizations and the university) and the value of using design methods and techniques with non-designers in the pursuit of relevant innovative solutions.

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Social design pedagogy and the UN SDGs: Bridging theory and practice to foster critical agency for sustainable futures

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Social design pedagogy and the UN SDGs: Bridging theory and practice to foster critical agency for sustainable futures

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Abstract

This paper reflects on designing, coordinating and teaching a third-year unit of study, Design for Social Impact, at The University of Sydney, Australia in 2020 and 2021 during the COVID-19 pandemic. It specifically comments on how the United Nations 17 Sustainable Development Goals (SDGs) are used to scaffold student projects in social design spaces. What we are interested in extracting from the entire unit of study is how design pedagogy for social change combines design theory and practice to deepen enquiry into what, how and why student social designers design. To do so, we pay specific attention to what constitutes social design and the role of a social designer. We discuss how design theory and practice might underpin a student's understanding and application of critical agency to their practice of design. Further, we draw specific attention to the unique challenges and complexities of the practice of social design for students in the context of COVID-19. This paper intends to contribute to the critical discussion of social design pedagogy and offer insights into how the SDGs might frame this pedagogy.

Keywords: Social design, Sustainability, UN SDGs, Pedagogy, Criticality

Introduction

To shape sustainable futures, it is imperative to educate the next generation of social designers on the agency of design, given how design acts upon the world and the world acts upon it. The key to these futures is an interrogation of the systems that shape them. The social and the theory and practice of social design is one system that can be examined to help secure sustainable futures. This paper focuses on our approach to bridge such theory with a social design practice in the delivery of a new undergraduate unit of study at The University of Sydney, titled Design for Social Impact. We turn to theory from prominent designer scholars such as Elizabeth Resnick, Jennifer Ritter, Cameron Tonkinwise, Tony Fry and Anne-Marie Willis in our approach. Further, we specifically unpack how the United Nations (UN) Sustainable Development Goals (SDGs) are used to underpin student projects in social design spaces. We touch on how the course and student outcomes were influenced by the challenges of the "next normal" of hybrid and online education. A focus is then brought to the most successful student projects, including a discussion of the role of interdisciplinarity for approaching the complex challenges that the SDGs and social design seek to address. We conclude with an exploration of interrogating systems through practice, how this relates to the SDGs and a reflection on what the next iteration of Design for Social Impact might look like.

Our intention here is not to dwell on the specificities of curricula or student outcomes but rather to explore how pedagogy can contribute to shaping the future of the social designer and subsequently their shaping of the world. We provide students with a glimpse into what designing beyond the market might look like and what ontologies and epistemologies of social design might underpin this. We argue that the approach taken offers a model of how social design pedagogy can move beyond the interrogation of systems through discussion and towards an interrogation through design action, underpinned by fostering critical agency in students.

Positioning design for social impact

Design for Social Impact is an undergraduate third-year, six-point unit of study offered as part of the Design Major at the Design Lab, School of Architecture, Design and Planning at The University of Sydney. A broad objective of the three-year design major is to equip students from a wide variety of disciplines with critical and theoretical understandings of design and design thinking skills to address and respond to complex problems. For example, the three-year design major combines units of study that focus on design theory (Principles of Design and Design Theory and Culture) with those that specifically focus on design practice, such as Design Thinking, Innovation Design Studio and Experience and Service Design.

Design for Social Impact seeks to merge the study of design theory and practice. It is a relatively new unit for the design major that was first offered in 2020 and again in 2021 during the COVID-19 pandemic. Students undertake the unit equipped with practical knowledge of design thinking methodologies and methods of user and human-centred design from previous units of study (Tomitsch, 2021). Design for Social Impact students are asked to consider the application of these methods to a social design space based on their choice of an SDG and draw on learnings from the unit to strengthen and critically deepen their design practice. Students are also explicitly encouraged to develop critical agency over their design thinking process rather than applying by rote design thinking methods learnt previously. Key to this directive is an aim to foster critical, future-focused designers who possess the ability and flexibility to respond to the unique needs of contextual social design projects and community-focused problem spaces.

Design for Social Impact encompasses 12 weeks of lecture and tutorial content that introduces students to the theory and practice of design for social change (Fig. 1). The unit is divided into four interrelated stages: (i) theoretical underpinnings, (ii) positioning practice, (iii) engaging practice and (iv) thinking forward.

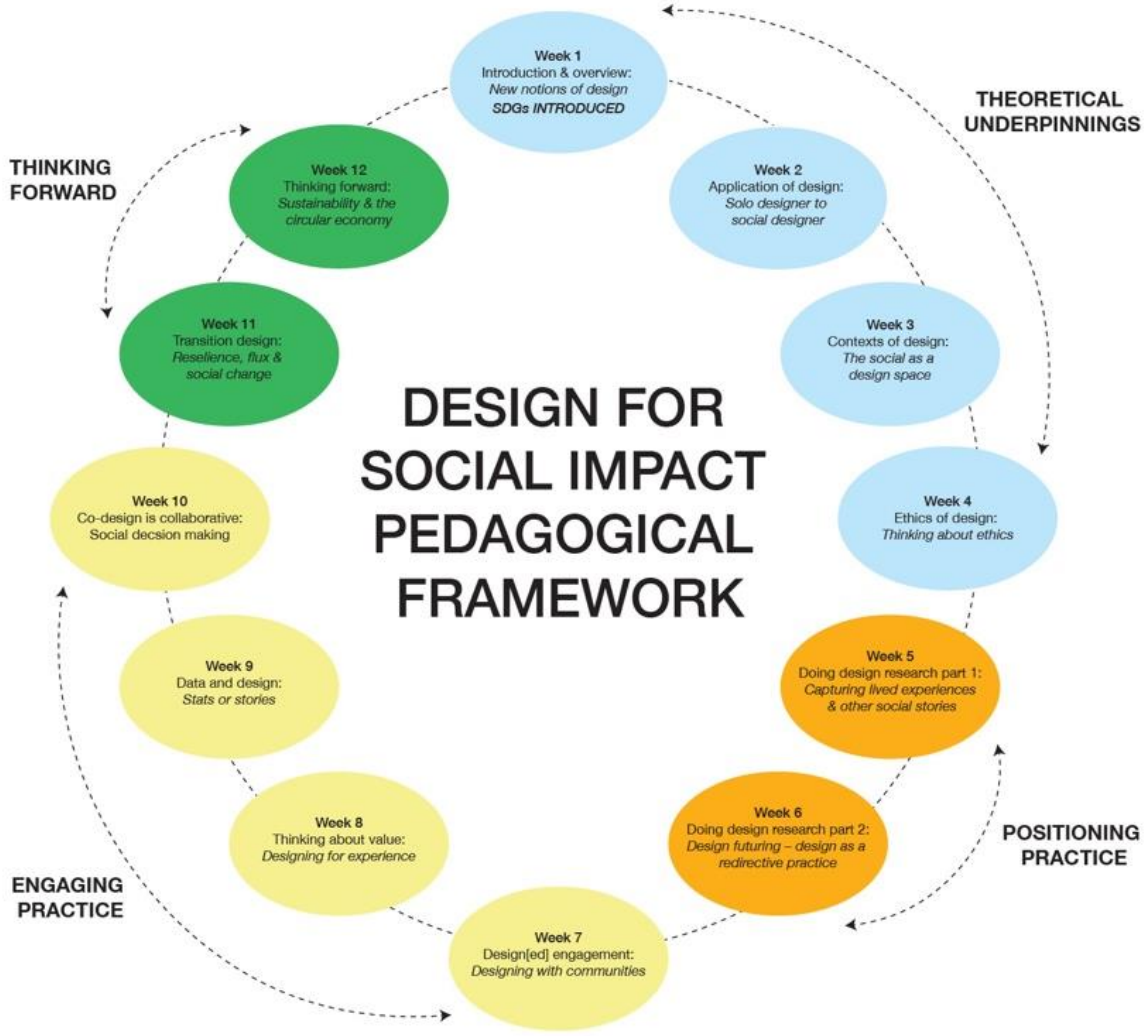

Figure 1: Pedagogical framework of Design for Social Impact highlighting the key stages – theoretical underpinnings, positioning practice, engaging practice and thinking forward – of the curricula.

Student success is measured by their performance across four assessments, as outlined in Figure 2. A full breakdown of these assessments can be found in the Appendix.

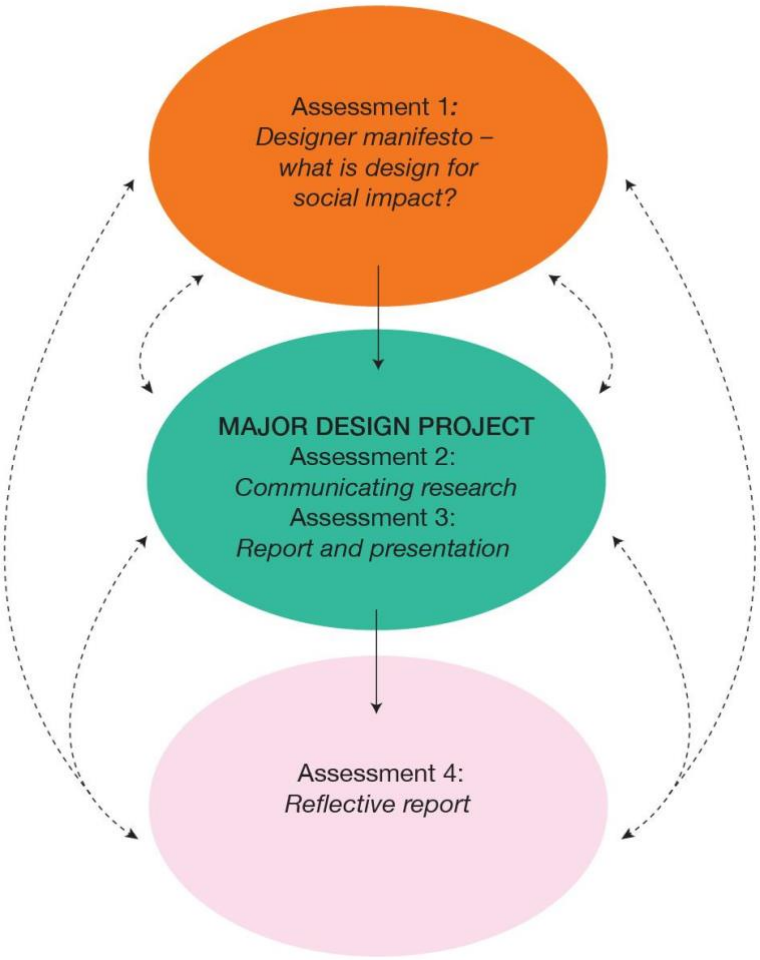

Figure 2: Assessment breakdown for Design for Social Impact. The centre arrows indicate the direction of the assessments; each assessment builds on the next. The dotted lines represent how each assessment likewise speaks to those preceding and following it so that there is movement across the learnings.

The UN SDGs are introduced in Week 1 and scaffold the unit's lecture and tutorial content and assessments; they offer students a list of actionable, real-world and future-focused targets to base their major design project on. The goals act as a framework for student designers to work towards social outcomes that sustain our world, rather than designing within a delimited market, consumerist frame of reference. For context, the SDGs are a series of objectives ratified in 2015 by the UN General Assembly to assist in the creation of global sustainable futures by 2030 and beyond. In July 2017, a list of targets and indicators was added to the original goals to provide direction on how each can be achieved. The UN explicitly indicates that the goals are interrelated and bound; in other words, action about one goal will facilitate change in another (United Nations Development Programme, n.d). Further, the UN acknowledges the plurality of sustainable action and that "development must balance social, economic and environmental sustainability" (UNDP, n.d). The types of problems that the SDGs are designed to address are those that parallel the "wicked" or complex problems that are so often spoken about in design thinking (Buchanan, 1992).

The theoretical underpinnings of Design for Social Impact

Design for Social Impact begins with an explication on what constitutes social design. Students are

introduced to the idea that social impact design is a term used interchangeably with public-interest design, social design, socially responsive design, transformative design and humanitarian design (Resnick, 2019). What underpins the interchangeability of these terms is that, as Elizabeth Resnick articulates, "social design is the practice of design where the primary motivation is to promote positive social change within society" (Resnick, 2019, p. 3). To facilitate this change, social design is concerned with the interrogation of systems – economic, institutional, behavioural, moral/ethical, political, social – that constitute ways of being in and being shaped by the world (Rittner, n.d). Further, Cameron Tonkinwise argues that a schema of social design comprises "designing as a social activity […] designing for/with non-commercial contexts […]" and "design in the context of unmet needs" (Tonkinwise, 2019, p. 9–16). Tonkinwise also indicates that social design is contextual, "directed at the creation of systems and places that support particular kinds of social activities" (p. 11). In other words, Resnick, Rittner and Tonkinwise indicate that social design is systems-focused, participatory and engages beyond design for market-oriented needs to create change. Indeed, Fuad-Luke argues that

> *"The ability of design (and designers) in bringing different people together to codefine possibilities, cofind problems, coframe challenges and co-create new modes of action lies in participatory processes and tangible aesthetic experiences that create difference."*
> (Fuad-Luke, 2021, p. 34)

As such, social design encompasses a broad set of motivations, approaches, audiences and stakeholders, and impacts (Armstrong et. al., 2014).

It is well accepted that design is crucial to how people shape, experience and navigate their worlds (Buchanan, 1992; Papanek, 1972). As Victor Margolin posits, design is not a fixed practice but a constantly evolving one (Margolin, 1995). Design and design practices that exist today are vastly different from those that populate human history. As people engage with the world in different social, technological, environmental and political ways, the designs they choose to make, implement and use reflect this change. To deepen enquiry into a critical discussion of social design, students are introduced to the idea that "design designs us" (Stewart, 2015 p. 290). In other words, humans design, and these designs configure people, places, and things into particular ways of being. Design scholars Tony Fry and Anne-Marie Willis refer to this as "ontological design" (Fry, 2009, p. 34; Willis, 2006). As Anne-Marie Willis suggests:

> *"Designing is fundamental to being human – we design, that is to say, we deliberate, plan and scheme in ways which prefigure our actions and makings – in turn, we are designed by our designing and by that which we have designed* […] *We design our world, while our world acts back on us and designs us."*
> (Willis, 2006, p. 80)

Further, students are exposed to Fry's idea that design is a "redirective practice" capable of addressing how people, places and things are currently shaped, and redirecting them "towards the future with sustaining ability" (Fry, 2011, p. 77). We argue that the benefit of introducing the idea of ontological design and design as a redirective practice to social design students is twofold. Students can (i) consider and critique how design exerts a shaping force where it is employed and (ii) examine how what design shapes can be shifted towards sustainable, future-focused outcomes.

The social designer

In Design for Social Impact, we unpack with students the meaning of the "social designer" as it might exist in opposition to the market-focused designer. As Tonkinwise suggests, the practice of social design differs from the practice of design that produces commercial, market-driven outcomes (Tonkinwise, 2019). It is well accepted that designers design things for people to consume. Following the philosopher Pierre Bourdieu, "designers" are often referred to as mediators, the "new cultural intermediaries" or "cultural engineers" (Bourdieu, 1984; Nixon & du Gay, 2002; Forty, 1986). Building on Bourdieu's work, Guy Julier argues that a designer's role is that of a "taste creator" involved in "needs production". Designers introduce new things to people and encourage them to think that they need them (Julier, 2014, p. 54). The designer's job is predicated precisely on this manipulation of need. As Julier, amongst others, suggests, the designer's role is also to generate value, both fiduciary value for a company's shareholders and social value for a consumer (Crocker, 2016; Heskett, 2005; Julier, 2014). Recalling Tonkinwise's (2019, p. 15) idea that social design is "design in the context of unmet needs", students are asked to consider what these needs might be and how a social designer might differ from a designer who designs for the market in finding and addressing these needs.

Designer, urbanist and spatial justice activist Liz Ogbu provides an accessible pathway for students to understand what might constitute a social designer. A lecture given early in the semester introduces Ogbu's TED Talk (2014), "Why I'm an architect that designs for social impact, not buildings". Ogbu proposes that designers are (i) citizen designers working with (ii) citizen experts as (iii) translators and (iii) storytellers. What is made explicit here is that the practice of social design and the social designer is participatory; it is driven by designing with and for people. In other words, Ogbu stresses the importance of a designer's engagement with "expert citizens", who she explains have "the experience of living and working in a specific community" (Ogbu, 2014). As such, we encourage students to conduct research via interviews and focus groups to search for "expert citizens" to work with who can provide critical insights into the complex SDG problem spaces they were addressing. In turn, students are encouraged to position themselves as "citizen designers" (Ogbu, 2014).

Ogbu's explication on what might constitute a social designer extends students' pre-existing knowledge of the user and human-centred design methods. Here, design practice that focuses on uncovering and responding to the needs of a particular group of people underpins the lifespan of the design thinking process (Tomitsch, 2021). However, we challenge students to consider the terms 'user' or 'consumer' in the landscape of social design, suggesting that such nomenclature conflates the complexities and intricacies of being human to that of a person who uses/consumes a particular design. Although we suggest that the 'human' in human-centred design comes some way to address the view of a person as a 'user' or 'consumer', the unit encourages students to adopt Ogbu's use of the word 'citizen' to describe the people social design projects seek to work with. Adopting the word 'citizen' rather than 'user' or 'consumer' also socially and contextually situates the people who student designers design with and for.

Integrating the UN SDGs into curricula: Positioning and engaging practice

Returning to the lens provided by ontological design and design as a redirective practice, students are encouraged to approach the SDGs as a series of objectives that seek to overcome how the world has been designed in unsustainable ways; they offer a series of directions to think about how things could be designed differently. Indeed, the SDGs acknowledge a world made unsustainable and provide a series of pathways to facilitate change. However, what this change is and how it will manifest is open to contestation. Students are asked to critically interrogate precisely what is meant by change. If designers, as Herbert Simon indicates (1996, p. 111), "devise courses of action that aim to move existing situations to

preferred ones", we argue that designers must critically consider what underpins these courses of actions and what a preferred situation looks like. It is via this criticality that change might indeed come about, rather than a return of the same conditions the SDGs are seeking to overcome. Indeed, Fry (2011, p. 76) explicitly argues that design and designers "bonded to the economic status quo […] must break radically with existing and dominant patterns."

When defining the subject matter for their major design projects (Assessments 2 and 3, see Fig. 2 and Appendix), student groups were directed to pick one SDG and explore the various sub-problem spaces associated with this. For example, a group focused on SDG 4: Equity & Education chose to explore the sub-problem space of gender inequities in Australia's education system. The SDGs chosen by the groups in the 2021 class of 45 students included the following:

Goal 3: Good Health & Wellbeing – 1 group
Goal 4: Equity & Education – 2 groups
Goal 5: Gender Equality – 2 group
Goal 10: Reduced Inequalities – 1 group
Goal 11: Sustainable Cities & Communities – 1 group
Goal 12: Responsible Consumption & Production – 2 groups

To reiterate, the SDGs worked to frame students' understanding of social design as a redirective practice (Fry, 2009) in the sense that we encouraged them to use design interventions as a vessel to redirect the status quo towards these goals of sustainability. Our pedagogical project of redirection in this unit was to get students to see beyond the frame of reference of purely economic goals in design practice and towards social and environmental goals like the SDGs. We found that the SDGs worked well as common goals for redirective practice given they were ones that all students, no matter which culture or nationality they were from, could understand and were motivated to work towards. Indeed, all students had at least one goal that was interesting or personally relevant to them.

Social design education in the 'next normal'

The challenges posed by the COVID-19 pandemic disrupted the planned delivery of this unit of study yet created an opportunity for pedagogical innovation within higher education's 'next normal'. That is, the post-COVID era of reshaped ways of doing and being and the aftermath of "the great onlining" (Bozkurt & Sharma, 2020). The unit was first delivered in three months from March 2020, which saw the entirety of teaching transitioned to online due to the state-sanctioned conditions imposed by the first wave of the COVID-19 pandemic in Australia. The following year, 2021, we faced a new set of circumstances that entailed we delivered the course simultaneously in three modes: in person, online and hybrid. Whilst transitioning a course based heavily on community engagement to online and hybrid formats posed novel challenges, an interesting set of opportunities subsequently arose.

In response to the conditions imposed by the COVID-19 pandemic, virtual communication tools were employed. We used Zoom to conduct online lectures and tutorials and Miro, an online whiteboard application, to foster teacher-to-student and peer-to-peer collaboration. The latter was particularly useful in the case of hybrid delivery in 2021, as those students participating in person could collaborate in a shared visual space with those online. We used this to foster in-class conversations. Likewise, students were able to complete tutorial activities such as system mapping (Tomitsch, 2021) to foster understanding of cause-and-effect relationships in complex problems (Lich et. al., 2017), such as that of the SDGs, in this virtual collaboration and co-learning environment. Following these activities, we encouraged students to

reflect and review the approach of others on Miro. Whilst these tools enabled the effective delivery of this unit in parallel formats, there is still a significant opportunity for improvement as these technologies develop.

As DiSalvo et al. (2012) argue, a central pillar of participatory design practice is community engagement. As such, the design of this unit focused heavily on this activity. This presented challenges for students, predominantly because they were often geographically distanced from the communities they were designing for. However, it also enabled students to widen the scope of communities that they could design for, given their new familiarity with virtual communication tools. We were impressed to see, for example, one group of students based in Sydney using Zoom to conduct semi-structured interviews with stakeholders in the Australian Northern Territory's indigenous tourism community, who discussed the unique challenges they faced in light of the travel restrictions caused by the COVID-19 pandemic in 2020 and 2021. Another group of students from South Korea, China and Australia chose to focus on the challenge of gender inequality, which they believed to be a shared issue; they were able to learn about this issue in their teammates' countries. Our intentions behind integrating the SDGs into the Design for Social Impact curricula were to broaden students' outlook and, as Kopnina (2020) recommends, emphasise a planetary ethic. It was thus reassuring to see students taking the initiative to engage with communities beyond their everyday sphere of interaction.

An advantage of teaching in hybrid and online formats was that we were able to create an international classroom of many nationalities and geographies, whilst still aiding students to ground their design practice in community engagement. This 'next normal' of social design education reflects Irwin et. al.'s idea of "place-based, globally networked" solutions being central in design for sustainable transitions (2015). What is important to note here is that transition design encompasses a mindset that is at once both communities-focused and globally minded. This dual perspective is something we aimed to integrate into the curricula, specifically through drawing upon the SDGs as a project framework. Students were encouraged to (i) select and research one of the 17 SDGs, (ii) consider and choose a specific target of their chosen SDG and (iii) narrow this target to a micro problem space that is place-based and specific to a community that they could connect with. As such, we aimed to connect their locally focused design solutions to globally minded long-term visions. We were thus able to aid students in learning through experience how a designer can play the role of mediator, as highlighted by Howard and Melles (2011), connecting the local to global transitions.

A limitation of this approach is that problems can arise when students, as designers, are abstracted from the communities they are designing for. In particular, groups of students found it difficult to connect with relevant communities due to several constraints, primarily geographical. They were limited in the research methods they could draw upon, including co-design methods and ethnographic methods such as participatory observation, which in many cases involves observing people in physical contexts (Clark et al., 2007). For this type of research, such contextual behaviour is important to understand given it can provide students with a deeper understanding of the lived experiences of those they are designing for (Prosek & Gibson, 2021). Whilst some qualitative research may be conducted online, in many cases this gave students a limited window into participants' lives, leading to designs that were not informed by the complex contexts of communities. The risk here, Janzer and Weinstein (2014) argue, is that a design practice not informed by these complex contexts may be seen as a form of neocolonialism, where the designer exercises control or a shaping force over a community they are abstracted from. To mitigate this, we ensured that students were aware of this risk and were critically reflective of how they were going

about designing and their subsequent outcomes. Where possible, we encouraged them to continually engage with and in community-oriented contexts.

In summation, this 'next normal' – consisting of a learning mode trifecta (in-person, online and hybrid) – is no doubt shaping the future of social design education. Opportunity remains for continued iteration.

Interdisciplinarity for sustainability

As Menken et. al. (2016) argue, the complex questions and problems of the type that social design practice addresses require an interdisciplinary approach. This unit of study is open not only to students from the Design faculty but also any undergraduate student at The University of Sydney with assumed prior knowledge in design methodologies and methods. A benefit of this is that the cohort of students is truly interdisciplinary, spanning academic backgrounds such as economics, biology, anthropology, visual arts, psychology and marketing. Most student project groups were composed of at least three different disciplines. It was thus interesting to see the variety of perspectives drawn upon when approaching the SDGs. For example, one group designing an experience for train stations drew upon their knowledge of both behavioural psychology and biology to create a biophilic installation that elicited feelings of increased safety when travelling.

Tonkinwise (2013, p. 219) provides a list of traits for the contemporary designer which include an understanding of histories, anthropologies, psychology and living systems. These, as inspired by Buchanan (2001), realign design with the humanities, in addition to techno-scientific disciplines. We too agree that bringing a humanities perspective into design pedagogy is essential given this practice is inherently social. Hence, much of our teaching touched on and incorporated ways of knowing through the methodologies of the humanities, so that students could develop a richer understanding of the mechanics of systems, cultures, institutions, and individuals that they were designing for and from. This grounding in the humanities was successful in challenging student designers to mediate between mindsets of making/doing and reflecting/enquiring.

Such an approach is critical to aiding students in navigating the post-normal times we live in, which Sardar (2010) argues is characterised by three Cs: complexity, chaos, and contradictions. These times are post-normal in the sense that we find ourselves in a transitional age, in which we are unable to return to a known past and are yet to carve out a known future of the kind that is desirable, valued, attainable or sustainable (Sardar, 2010). Hence, Tonkinwise (2017) argues that design practice in universities must speak outside of its discipline, articulating experiments broadly to stakeholders, and go against the insular tendencies of institutions in light of these post-normal transitions. As such, it is crucial to foster interdisciplinary classrooms and interdisciplinary practices for design pedagogy.

Interrogating systems through practice

A central idea we sought to communicate to students in the delivery of this unit is the relationship between social design practice and the interrogation of systems, as highlighted by Rittner (2020). This is not to say that we sought to dismantle in its entirety that which is pre-existing. Rather, we actively encouraged students to locate and address through design those systemic forces most problematic in light of their chosen SDGs.

It is one thing to talk about interrogating systems by design and another to do it. A challenge we faced in the delivery of this unit of study was creating an effective bridge between theory and practice, one from which students could digest and take actionable steps. In their end-of-semester Assessment 4: Reflective

Report, many students reported that “fear of not doing it right” was a significant challenge, as was resilience in the face of navigating complexities. Many of these students tried to tackle too much of their SDG at once, rather than focusing on a very specific aspect and stakeholder group to design for. As discussed, those students who were most successful were the ones who were able to be specific and focused in their design efforts, whilst simultaneously connecting to the bigger picture of how their designs would contribute to interrogating broader systemic forces.

A way in which we endeavoured to help students address the latter was through educating them about the practice of “design futuring”. The term “design futuring” is attributed to Fry (2009) and is a design epistemology he also refers to as “design in the medium of time”. Fry suggests that

> *“…To design in time is not to claim an ability to see into the future, rather it involves examining in detail what is likely to, or could shape future positive or negative possibilities and thereafter deciding what should, or should not be factored into design activity on a cautionary basis ...”*. (Fry, 2009, p. 58)

We encouraged students from the ideation phase right through to concept refinement to imagine the future and possible worlds in which their design contributes to social change, envisioning the role that it might play in this narrative. Students were introduced to methods of futuring practice from The University of Sydney, Design Lab’s textbook *Design Think Make Break Repeat,* 2nd edition (2021). Methods included: Backcasting (p. 26); Design timescapes (p. 62); Scenario-based thinking (p. 134); and Speculating preferred futures (p. 146) to facilitate their design practice in this space. Connecting this practice to their SDG was critical to student success. The most compelling design outcomes were those grounded in the narrative concerning the critical role design would play in re-shaping the future, catalysing transitions and redirecting systems.

The students who were most successful in their projects were those who were able to navigate the complexities of their chosen problem with critical depth. Most groups conducted semi-structured interviews as a primary method in their qualitative research, which supported the uncovering of “unmet needs” (Tonkinwise, 2019, p. 15). Successful students were also those who effectively negotiated between an understanding of system-wide forces associated with their SDGs and a narrow definition of the specific aspect of it they sought to design for. For example, many engaged in processes of system mapping introduced at the start of their projects to better understand their SDG problem space and followed this with a narrowing-down through research of the lived experiences of a particular stakeholder group within that system. Once a specific research question was defined, they did not let go of an understanding of how that question operates systemically in the space of their SDG. This entailed a negotiation between the systemic/narrow parallels and the global/local focus central to transition design (Irwin et. al., 2015), as discussed previously, in addition to the movement between divergent/convergent, constructive/ deconstructive styles of thinking in the design process. We argue that students who are most strongly disposed to the practice of social design are those who can effectively negotiate between broad-based and narrowed-down perspectives on the complex problems they address and switch between the two where necessary in their process. In future iterations of this unit of study, we will seek to continue to develop further methods of teaching that help to foster such negotiation of perspective.

We cannot mention the interrogation of systems by design without interrogating the systems through which we design. Most students entered this unit with a strong grounding in design thinking methods, taught as one of their core units of study for the design major. As such, we noticed in the 2020 offering of

the unit that many students gravitated towards a familiar process of designing without critical thought on why they were employing its methods. Concerned that students were not taking agency over their design processes, we sought to inform them of critical perspectives on design thinking, for instance, Janzer and Weinstein's (2014) argument that designers must be sensitive to the complex social and cultural cues of systemic problems or they risk contributing to a form of design neocolonialism, as previously discussed. Likewise, as Rittner (2020) argues, well-branded design frameworks such as that of IDEO are taken as gospel and "too often taught with credulity rather than criticality." This is not to say that these processes are wrong but rather that design education should seek to interrogate those systems through which designers produce and acquire knowledge. As such, the aim here was not dissuasion but rather encouraging critical agency over the students' design practice. It is a shift from branded methodology to critical pedagogy, as Rittner (2020) argues:

> *"… We cannot take this work lightly. The design curriculum frames the designer's ability not only to apply a set of tools for building things but also a set of principles for applying social values to the things they make. The 'thingness' of design does not exist absent of a social construct that is laden with values. Design is object and intention. It is our beliefs made manifest ..."*.
> (Rittner, 2020, p. 14)

The next iteration

There are elements of this unit of study which will be iterated upon in its continued delivery in 2022. A significant degree of these stem from the fact that we are still adapting to this 'next normal' of hybrid and online social design education, as discussed previously. Aside from this, some opportunities for iteration are as follows.

First, many students were challenged by the short time frame of their major design projects. Despite the unit running for a total of 12 weeks, the bulk of their project work was done in the latter half. This was overwhelming for some, as students have to juggle the commitments of other units of study alongside things like part-time work and study-work-life balance. This meant that some student projects were not as resolved or showing a level of depth that we would have hoped for. Some projects suffered from mismanagement of time with the bulk of student effort spent in one phase of their design process rather than another. In the future, we hope to explore ways of extending the time frame of their projects, perhaps by linking this first semester unit of study with a second semester sequel – Design for Transitions or Design for Futures, for example. Students could continue resolving their design concepts in response to the SDGs whilst simultaneously deepening their engagement with theory. It would also be interesting to explore with students what a future beyond the SDGs (targeted for 2030) might look like.

Second, we reflect that the title of this unit of study, Design for Social Impact, is no longer fitting. This is because the word 'impact' necessitates a force or exertion of power over another, reminiscent of Janzer and Weinstein's critique of design thinking as a neocolonial practice (2014), which is not the frame through which we wish to educate future designers. Rather, we propose Design for Social Change or Design for Social Value, the latter as proposed by Rittner (2020) as a preferred title for future iterations of this unit.

Third, the focus on participatory design in this unit resonated with students in theory, but they were often challenged to engage with this in practice. This was both due to the previously discussed issue of time constraints, in addition to students not having access or the courage to connect with relevant 'citizen experts' for whom they wished to design with and for. Moving forward, we do not seek to dissuade students from designing with and for communities but rather to continuously encourage them to be aware

of and navigate the complexities of their positionality as designers. It is necessary to remind students that this unit is simply a taster of what social design in their post-university journeys could look like.

Fourth, the notion of interrogating systems through practice leads the call for an increasingly interdisciplinary approach. In the next iteration, we seek to further explore and test what the pedagogy of interrogating systems through design practice might look like. We are especially interested in widening the community of Design for Social Impact, for example by engaging with students and academics from other disciplines such as sociology, philosophy and biological science either at The University of Sydney or other universities.

Overall, the unit of study aims to provide students with a glimpse into what designing beyond the market could look like and what ontologies and epistemologies of social design might underpin this. We provide students with the tools to design for the narratives of an ontological, redirective and sustainable future, grounded in the vision of the SDGs and beyond. Social design is a vessel through which we can move beyond the interrogation of systems through discussion and towards an interrogation through design action, underpinned by critical agency. We hope that as students venture beyond university and carve their design practice or contribute to the design practice of others, in whatever domain this may be, these lessons will stay with them well into the preferred futures they create.

Acknowledgements

We extend our thanks to Dr Leigh-Anne Hepburn for her initial drafting of the themes of the Design for Social Impact curricula. We also extend our thanks to our 2020 and 2021 student cohorts without whom this paper would not be possib

Appendix

***Design for Social Impact* assessment breakdown**

Assessment 1: Designer manifesto – what is design for social impact?
*20% of final grade

As designers, we are often called on to articulate what we do. This assessment asks you to write a 1000-word manifesto on the question "What is design for social impact?" The manifesto should reference academic sources and be cited using the APA system of referencing. You are permitted to present your manifesto in any written and visual format you think best communicates your thoughts.

Major Design Project

Assessment 2: Communicating research
*20% of final grade

PART 1: DESIGN RESEARCH
Pick a theme from the UN Sustainable Development Goals. Decide how you are going to define your theme. The choice you make underpins your entire research project so make sure it is something you can sustain –it needs to be broad enough but also pointed enough for you to create a designed response, outcome and/or intervention. Consider why this issue is important to you and how you are affected. Read widely and draw on relevant academic literature to determine the current state of play regarding your theme. Investigate the current social, economic, cultural and/or environmental impact/s of your theme. You can draw on popular literature, journalism and social media if you think they will help your understanding. However, their inclusions need to be Justified and supported by academic literature.

Investigate what kind of work has already been done by designers to challenge, address, or raise awareness and interest in this problem? Were there any outcomes; i.e. was there a response within society as a result of the design? Based on your research, devise a problem statement you will address in Part 2 of the Major Design Project.

Design a 10-minute presentation that clearly communicates your groups understanding of your chosen theme, its effects on people, places and things, and your problem statement.

PART 2: DESIGN IDEAS WITH A FUTURE FOCUS
Begin idea generation based on your Part 1 research and problem statement. Consider how you can draw on the idea generation skills learned over your previous years of study. What methods will help you develop your ideas? Narrow your ideas down to the best three. Choose a time frame –e.g.,1, year 5 years, 10 years, 20 years–you envisage your concepts will need to create social change. This will be basis of the futuring part of your project. Provide a detailed rationale for each concept based on your Part 1 research and problem statement and time frame. Consider what you would need to make your concepts work e.g.,would you need to work with specific organisations or funding bodies? Succinctly present and communicate your best three ideas to class for feedback. After feedback, collectively decide on the best idea to take forward into Part 3: Major Design Project.

Assessment 3: Report & presentation
*40% of final grade

PART 3: DESIGN MAKE
Develop, prototype, test and refine the selected idea to produce a design response, outcome and/or intervention. Again, consider how your design responds to your problem statement, research and the time frame you have chosen.

Produce a visual report of no more than 5000 words that shares your design response(outcome, response, intervention)and your design process. Your report should clearly articulate the ways in which your design responds to your UN Sustainable Development Goal and your social issue over a period of time of your choosing andanswers your problem statement. Deliver a succinct and creative 10-minute verbal or video presentation together with your group to present your design response. Indicate how you envisage your design will create social change over the time period you chose in part 2.

Reflective report
*20% of final grade

Design and write a 1500–2000 word reflective report that examines your personal response to your Major Design Project. You are required to move beyond describing your experiences, to critically reflect upon your understanding of those experiences.

Key questions to respond to are:
- What was your contribution to the project?
- What were the most successful and unsuccessful parts of project? Why?
- What where the unexpected parts of the project and how did you respond to them?
- How could the design concept be improved in the future?
- What are your suggestions for how a similar project could be improved on in the future?
- What have you learned about social design bt doing the project?

Keep in mind a well-craftedreflective report is a great way for a potential employee or stakeholder to see how you work individually and as part of a team. Consider how you are clearly and quickly communicating this information. Does all of it need to be text based?

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Involving or not the beneficiaries as role players in social initiative games: Analysis of case studies

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Involving or not the beneficiaries as role players in social initiative games: Analysis of case studies

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Abstract

Social inequalities are increasing the initiatives in which the provident state is requested to find solutions and tools to improve the social impact. In this perspective, the management and entrepreneurship fields assume a huge relevance in social innovation and social entrepreneurship. Manzini suggests (2015) that a more efficient model for fighting social inequalities within a vulnerable community is to involve the beneficiaries in the process when solving social problems through project development. With the focus on Manzini's (2015) proposal and having in mind the beneficiaries' involvement in this kind of initiative, a question emerged: What is the role of the beneficiaries' involvement as a critical success factor in the development of social innovation projects? A literature review was undertaken and guided the action of a case studies analysis matrix following these parameters: 1) business model; 2) public funding dependency; 3) beneficiaries' involvement levels and 4) business sustainability/longevity. Seven social entrepreneurship projects were analysed. The results and the discussion conclude that a correlation between longevity and the beneficiaries' involvement exists. When people are suffering from a lack of basic needs, their involvement in a project is affected. In such cases, the project's success is at risk. This being so, the design of social impact projects should consider the beneficiaries' involvement to positively influence their longevity. However, for this to happen, beneficiaries' basic needs should be assured.

Keywords: Beneficiaries' involvement, Design for social change, Social entrepreneurship, Social inequalities, Sustainable development

Introduction

Social impact projects have been growing, according to Bahmani et al. (2012). This increase is due to the ineffectiveness of social policies based on welfare models. These practices are focused on fighting social inequalities that are overcharging the national providence resources (Netto, 2013). As a social service mechanism, it involves donating goods or services directly to the beneficiaries without any level of involvement or commitment by them.

Welfare practices do not solve the existing root of the problem but rather the consequences. In this way, public and private project development agents keep being overwhelmed with problems that are not solved effectively.

In this context, management and social entrepreneurship began to have a huge relevance through the application of specific tools that provide efficiency and innovation, fight poverty and hunger and improve the health system, housing and education.

This article aims to understand how the beneficiaries' involvement directly affects the social impact of a project's success. As suggested by authors such as Manzini (2015), beneficiaries suffering from social inequalities may play a very important role in the development of a social impact solution through their involvement. This context can be measured using different levels of involvement as proposed by Manzini (2015, p. 107). Each level implies distinct project management approaches and beneficiary behaviour.

The study that will be presented in this article intends to answer the following research question: What is the role of the beneficiary's involvement as a critical success factor in the development of social innovation projects?

Literature review

Social impact projects are overloaded because social inequalities have increased. They aim to ensure the country's providence resources. The overloading scenario happens for various reasons: 1) human resources with low salaries or working as volunteers; 2) social organizations operating in the field without a strategic vision; 3) lack of management competencies (Franco, 2015); 4) a great dependence on public funding, but most of all; 5) by the fact that the structures that fight against social inequalities usually follow welfare practices and do not provide any investment in social policies to eradicate the main causes of this inequality (Netto, 2013).

The welfare state is a system that allows a country's government to assure social services to its population, such as public health, unemployment support, etc. For that, taxes are used. This path is essential in fighting inequalities, but the system becomes overwhelmed/overcharged. This happens because a great dependence on the system by its beneficiaries exists.

This scenario caught the attention of several entrepreneurs with a set of tools, techniques and models used in corporate entrepreneurship. These entrepreneurs developed individual or collective initiatives to fight against social inequalities generated by different actual contexts. Thus, the entrepreneurship and management fields assumed greater importance in social innovation and social entrepreneurship. The inclusion of these themes in different contexts, expressed by the need to make social initiatives financially self-sustainable, either by patrons' donations, strategic partnerships or the sale of their own products or initiatives. New business and collaboration models amongst partners seek these initiatives to become sustainable and increase their positive impact (Bahmani et al., 2012). Manzini (2015) defends a strategy where involving the beneficiaries in the production and management of a social entrepreneurship initiative is a key factor.

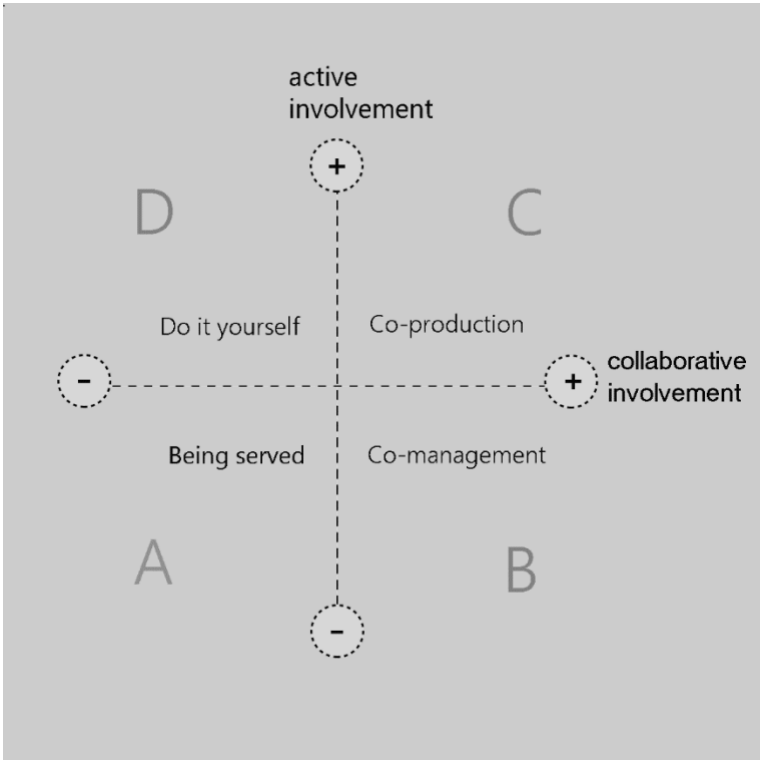

Figure 1: Beneficiaries' involvement quadrants in social innovation projects.
Source: Manzini (2015, p. 107), Fernando Vieira's illustration.

Manzini claims that last century was dominated by the concept of "If someone is hungry give them fast food or a tin of ready to eat (or, if they can afford it, give them a luxury restaurant)" (Manzini 2015, p.94). This assumption focuses on solving inequalities without any effort, thought or knowledge production developed by beneficiaries. This is the kind of approach Netto (2013) refers to. They neither improve the individual's conduct of systematic problem-solving nor seek effectiveness and longevity.

Social impact solutions that select beneficiaries as actors in the project development can add value to the project, as the beneficiaries invest their own time managing and operating the project. This is one of the most efficient ways to develop social impact, a long-lasting project and ensure the subsistence of the initiative. Manzini (2015) proposed levels that assume different parameters (Fig. 1):

1. Quadrant A: Beneficiaries show low levels of involvement in the activity. Manzini claims that this happens when the provider/designer only serves the final user. In this 'collaborative encounter', the condition of being involved does not reveal huge value through the project collaboration. This quadrant is found in welfare-based projects.
2. Quadrant B: Also represents beneficiaries' low levels of involvement. However, here, they are final users and involved in the project's design and management. The goal is to understand how the project can serve them efficiently. The path here is not directed towards the organization.
3. Quadrant C: The beneficiaries are intensively involved in the project's activities. There is co-production amongst the beneficiaries. Both providers and beneficiaries are co-producers and add value in a collaborative perspective.
4. Quadrant D: The beneficiaries have a strong connection. They are involved autonomously in project activities without the provider's intervention. All the social innovation operation is in the beneficiaries' charge, who become simultaneously the project providers and beneficiaries.

In more urgent operational contexts, such as agriculture and fighting poverty, beneficiaries' involvement is a key factor in designing, implementing and measuring the social initiative. Working with beneficiaries in a project allows them to recognise their weaknesses, and consequently, the project design will easily meet their needs (Foley et al., nd). Similarly, Thou (2012) argues that beneficiary involvement provides more sustainability in a project because the metrics that monitor it are used by the own project's beneficiaries. This scenario allows an efficient and effective adjustment of the project's strategy. In short, beneficiary involvement contributes to the activities' operationalization required by a social initiative and allows the development of more successful and reliable metrics, based on the beneficiaries' inclusion in their planning.

The opposite scenario also happens. In Africa, for example, many development programmes are planned and implemented without community inclusion, which led them to close. Another critical success factor is when a great dependence on communitarian funds for project development is used to fight the problem (Kinyata & Abiodun, 2020). In sum, the involvement of beneficiaries in a social initiative acts as a tool of empowerment. The beneficiaries acquire deeper knowledge about their problems, which allows them to identify real needs and design initiatives that are more likely to have an effective social impact. This means that the involved actors are articulating, working and managing more effective realistic project metrics.

Methods and materials

To answer the question set, two main methods were applied: First, a narrative literature review of communitarian intervention (Kinyata & Abiodun, 2020), design for social innovation (Manzini, 2015), social entrepreneurship (Patel & Mehta, 2011) and social service (Netto, 2013) with the main goal of understanding the importance for beneficiaries of being engaged in a social initiative. Second, we listed specific parameters to help the research team develop a qualitative analysis method to compare social entrepreneurship case studies. This critical empirical analysis aimed to comprehend different practices/models of management and functioning related to social entrepreneurship projects and identify the relevance of beneficiaries' involvement as a critical success factor.

Tool - case studies comparative table

With a list of parameters to figure out each social entrepreneurship case study's details, a comparative table was developed in two sections, as follows:

1. Identification: Based on the project's identity from the Portuguese Social Innovation and Entrepreneurship Map (MIES), the topics were: 1) goal of the project and excluded intervention areas; 2) identified problem; 3) entrepreneurs' identification; 4) function and impact on geographical area; 5) identification used, as they were not framed within the research goal. Parameters as a business model and longevity were added empirically aiming to establish a relationship amongst both. Manzini's beneficiary involvement scale (Manzini, 2015) correlates beneficiary involvement in a social initiative with the business model and consequently with longevity. By contrast, the topic of dependence on public funds was introduced because the researchers wanted to understand if there was a direct relationship between this and longevity.
2. Analysis: 1) business model, comprising a set of activities enabling a project's increase in social value in; 2) public funding dependency, i.e. how much these initiatives rely/depend on public funding to carry on their mission; 3) beneficiary involvement level, i.e. the involvement of the beneficiaries in the project, on distinct levels (Manzini, 2015); and 4) business sustainability/ longevity, representing the time the project remains active and its growth.

Sample selection

The inclusion criteria for the case studies were: 1) social entrepreneurship initiative and 2) involving activities from distinct intervention areas. These are justified because social entrepreneurship projects and profit-generatin entrepreneurship projects reveal natures from different contexts and several distinct actors, such as stakeholders, beneficiaries, cultures and developed solutions. A variety of social entrepreneurship projects enables more diverse analysis.

Table 1 presents the seven social entrepreneurship initiatives selected from MIES, the Portuguese platform that records in detail the spatial distribution of social innovation and entrepreneurship nationwide, and from selected social entrepreneurship literature.

Selected Project	Goal
A - Lijjat Sisters	To provide financial support empowering women who aim to achieve their independence and want to be integrated into the labour market.
B - Refood	To stimulate the fight against food waste through tracking restaurant leftovers.
C - Dress for Success	To integrate women socially and professionally by strengthening their self-esteem.
D - WOW – Word of Woman	To inspire others and spread experiences, histories, values and projects created by women.
E - Reklusa	To occupy, educate and reintegrate female inmates and former inmates socially and professionally.
F - Manicómio	To provide financial autonomy and break the stigma towards mentally ill patients.
G - A avó veio trabalhar	To fight against seniors' isolation and promote active senior ageing.

Table 1: Selected case study projects.

The case studies analysis is summarized through a table that includes details of the parameters, followed by critical reflection that cross-references the data collected with the literature review.

Case study analysis

Each case study includes a brief description of the project and an analysis of the business model, public funds dependency, beneficiaries' engagement level and business sustainability/ longevity (Tables 2–8). Figures 2–8 are infographics that explain how the business model works. Figures 9 and 10 compare the difference in the set parameters within the sample.

Case study A, the Lijjat Sisters project, recruits Indian women who, due to their low social status (Indian caste system), are unable to find a job to provide financially for their own families. Lijjat Sisters recruits and integrates them, providing a job; thus, the women end up being socially integrated and having the possibility of being financially autonomous.

In this project, every employee receives profits from the generated sales of the papad snack.

Case A: Lijjat Sisters	
Business model	Recruitment and professional involvement of Indian women, who are responsible for producing and selling traditional papad snacks. The profit from sales is distributed equally amongst all the collaborators no matter the tasks they perform within the project.
Public funding dependency	None.
Beneficiary involvement level	Quadrant D: extensive beneficiary participation in the management and production.
Business sustainability	The Lijjat Sisters began in 1959 with seven collaborators. After 50 years, this number increased to 42, and their turnover reached 111 million dollars. The value chain is considered the top reason for a business's longevity.

Table 2: Case Study A – Lijjat Sisters.

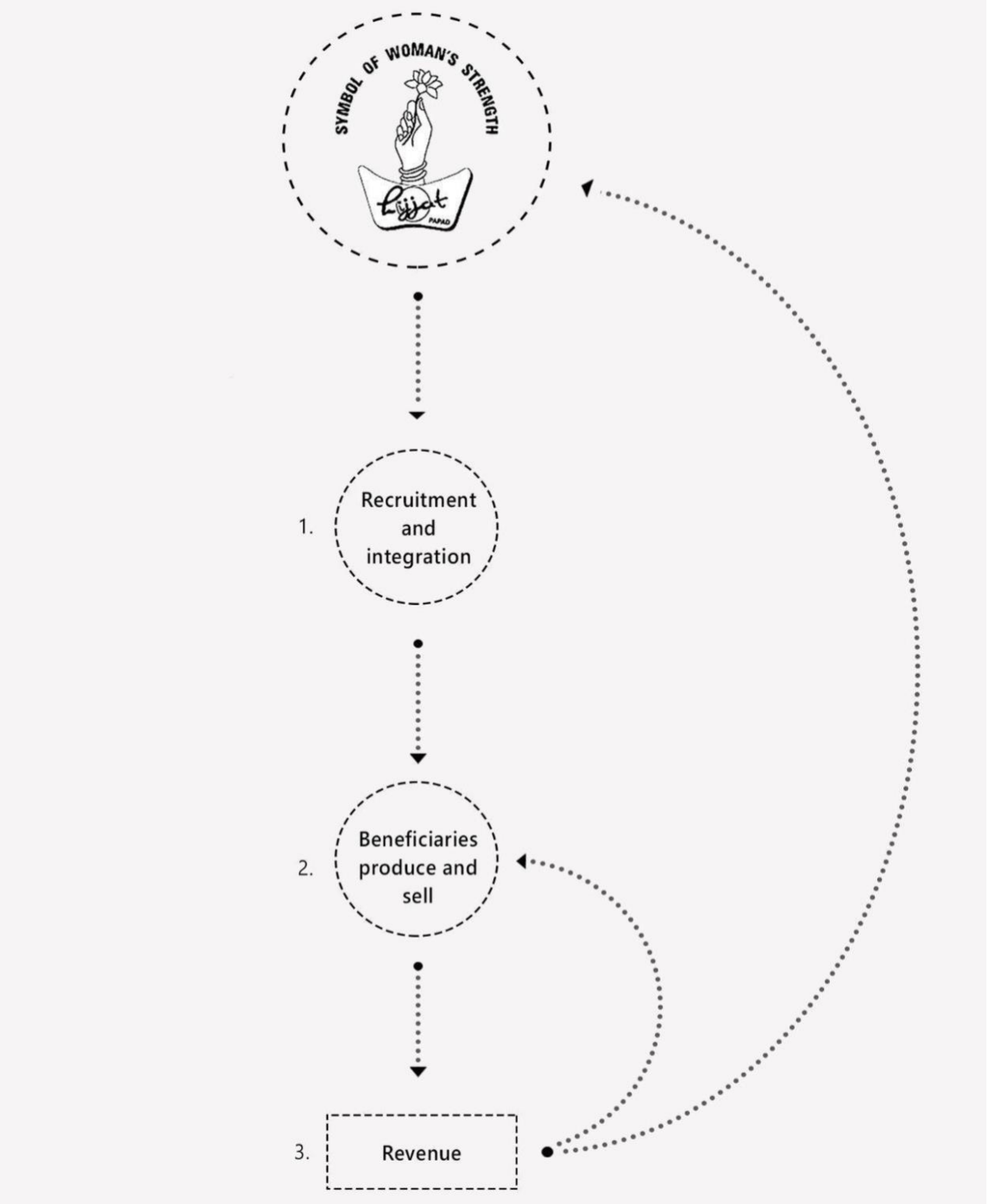

Figure 2: Lijjat Sisters' business model. Image credit: Fernando Vieira.

Refood fights food waste and directs meals from local restaurants to people in need through partnerships established between *Refood*, a chain of local Portuguese restaurants, and volunteers who distribute the meals in the cities where the project is active.

Case B: Refood	
Business model	Refood depends 100% on volunteers, does not generate any profit and is managed by an executive committee. The value chain is considered vulnerable because it depends on volunteers, government funding and donations. The switch of authority from the collecting units may compromise the project's quality and credibility. The business model is an example of how the use of different management tools, namely human resources, are capable of effectively fighting a problem.
Public funding dependency	Yes
Beneficiary involvement level	Quadrant A: based on social assistance, the beneficiaries are only served by the Social Initiative Project Manager; Quadrant: the beneficiaries are involved in the project concept and design.
Business sustainability	Refood has been growing since 2011. It started with one pickup for the shipping and distribution. In the beginning, it served 34 beneficiaries with only one volunteer. By 2020, this had increased to 25 pickup vans and 4000 volunteers.

Table 3: Case Study B – Refood.

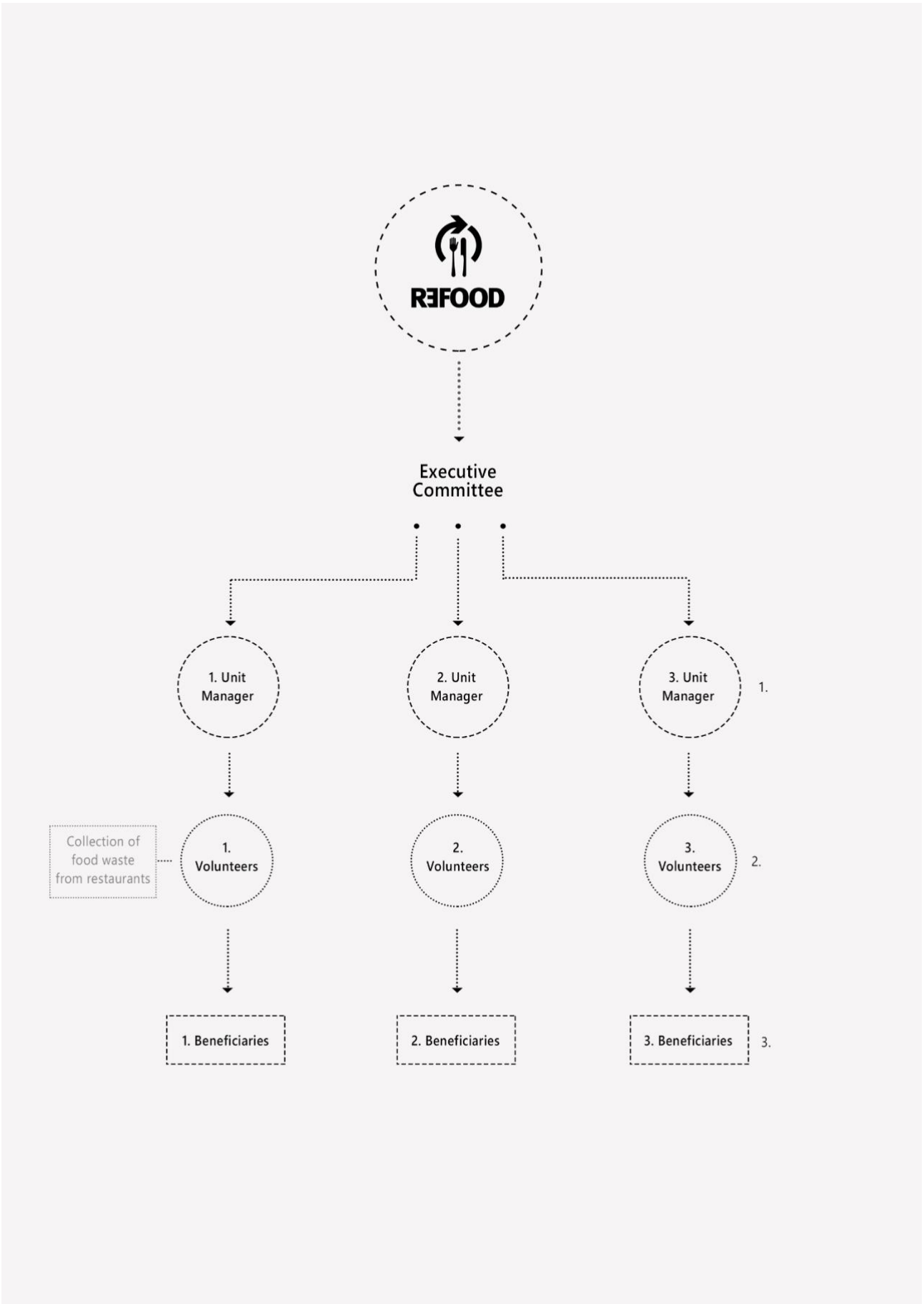

Figure 3: Refood's business model. Image credit: Fernando Vieira.

Dress for success empowers women to enable them to enter the job-hunting market by providing fashion advice and preparing women for job interviews.

Case C: Dress for Success	
Business model	The Dress for Success business model depends financially on patronage. Image consultants and professional agents develop their activities near to the beneficiary women identified by other institutions.
Public funding dependency	None.
Beneficiary involvement level	Quadrant A: based on welfare, the beneficiaries are only served by the project.
Business sustainability	This Portuguese case was founded in 2012 and is still active.

Table 4: Case Study C - Dress for Success.

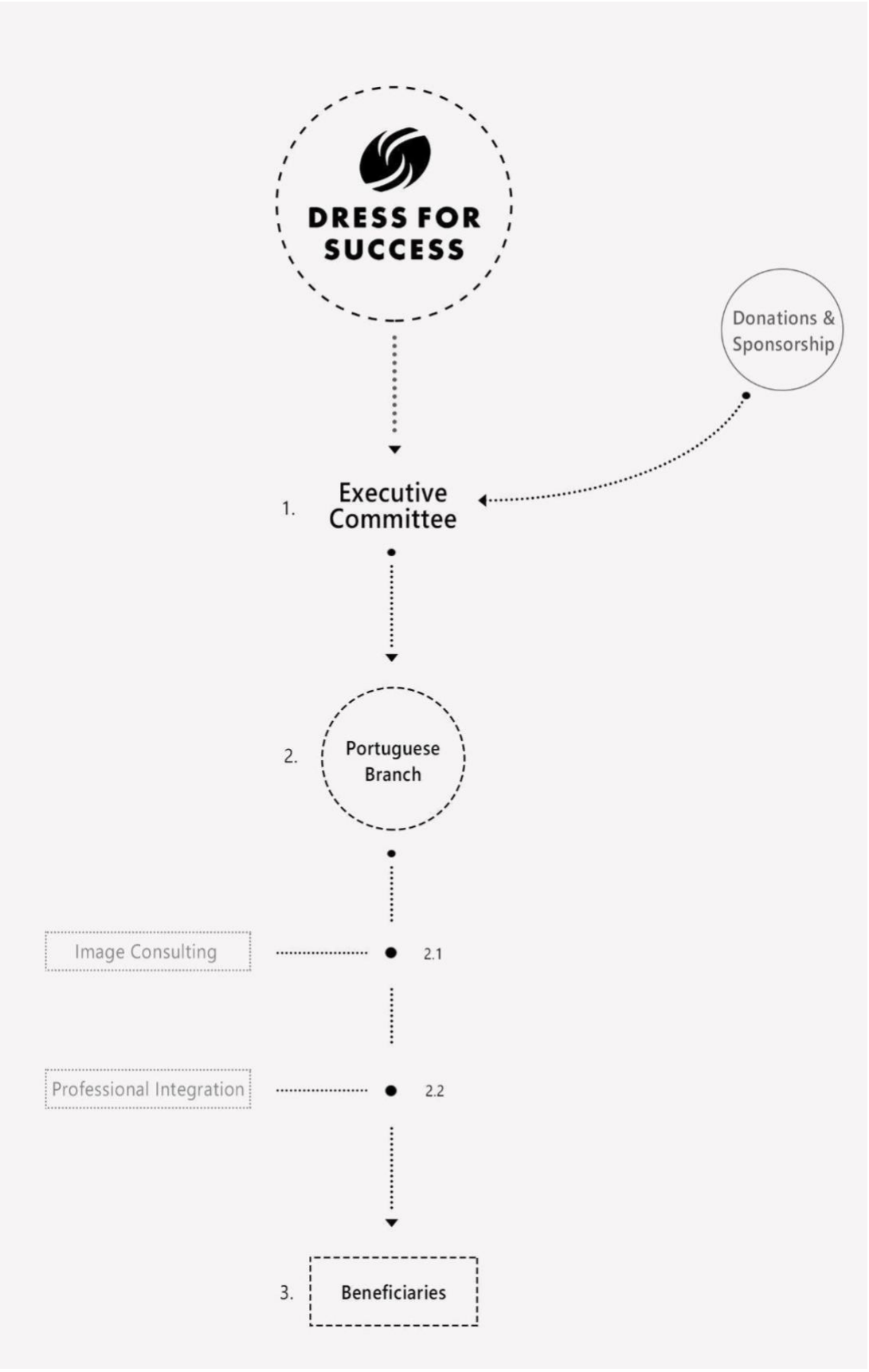

Figure 4: Dress for Success business' model. Image credit: Fernando Vieira.

Word of Woman provides marketing and management consulting services to women entrepreneurs. They work directly with women in order to boost their entrepreneurial capacities.

Case D: Word of Woman	
Business model	WOW works directly with their beneficiaries, providing marketing and communication services. To keep the business model active and robust, WOW depends only on its collaborators.
Public funding dependency	None.
Beneficiary involvement level	Quadrant A: based on welfare, the beneficiaries are only served by the project manager.
Business sustainability	Active since 2013.

Table 5: Case Study D – WOW

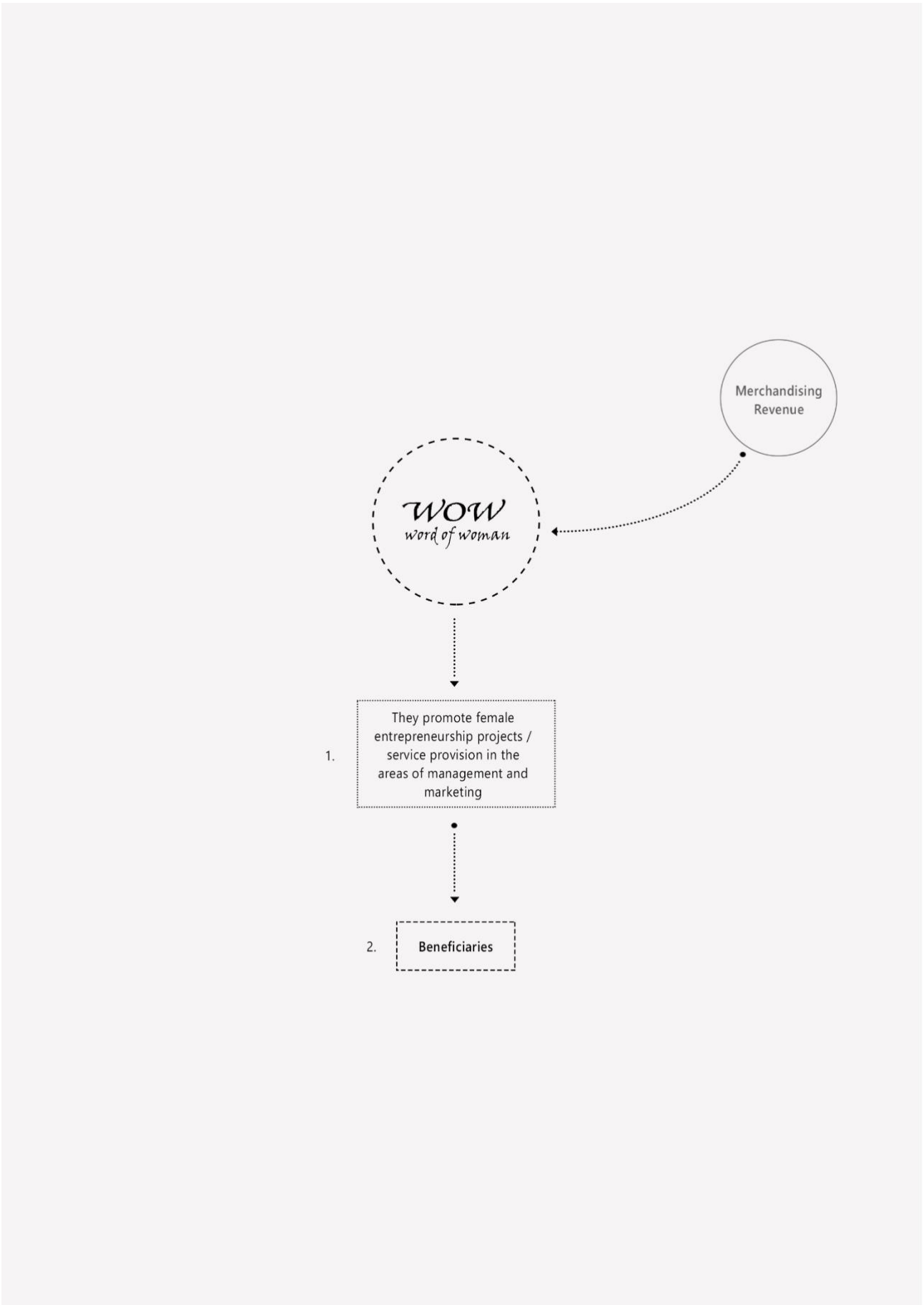

Figure 5: WOW's business model. Image credit: Fernando Vieira.

The *Reklusa* project aims to provide female prison inmates with craft skills, financial income and social integration after prison time. Through partnerships with designers, jewellery pieces and fashion accessories are developed and produced in a partnership with Tires prison. A percentage of the product sales is allocated to the inmates. After they leave the prison, they assume functions within the project, such as sales or manufacturing.

Case E: Reklusa	
Business model	Reklusa's business model is based on a partnership with Tires prison. The product design is developed outside the prison and then sent to the prison to be developed manually by the inmates. The final products are sold at the Reklusa shop. A percentage of sales is collected to be included in a financial fund for the prisoners. The remaining amount is for the trademark.
Public funding dependency	None.
Beneficiary involvement level	Quadrant C: This involves co-production of the project's gathering value. The beneficiaries dedicate their time and knowledge towards the project.
Business sustainability	The project started in 2013. The lack of government support and no involvement by other associated partners, such as Tires Prison, caused its end in 2018. The project is no longer active.

Table 6: Case Study E – Reklusa.

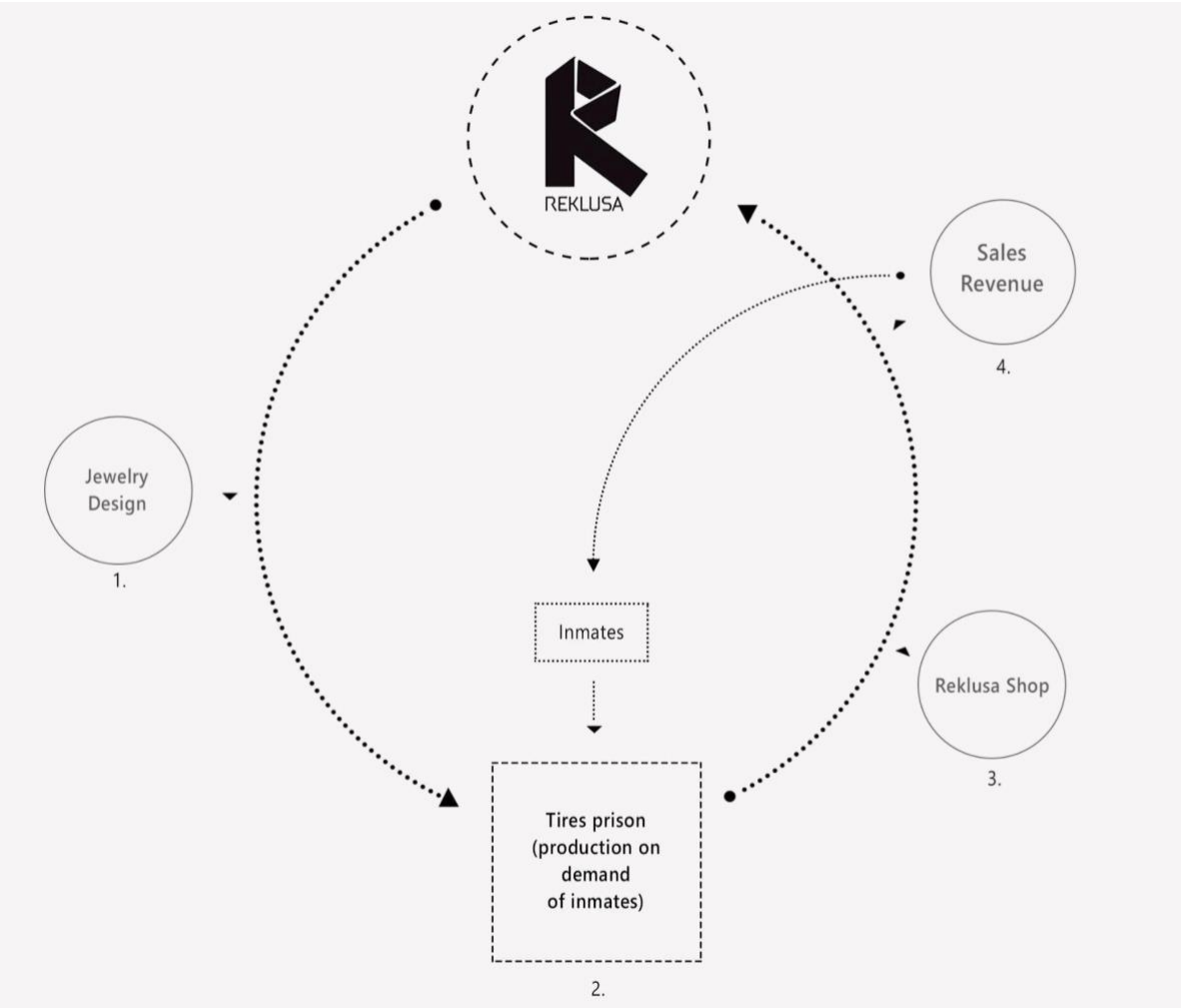

Figure 6: Reklusa's business model.

Image credit: Fernando Vieira.

Manicómio provides a space for individuals with diagnosed mental illness to express themselves through art. *Manicómio* offers a scholarship for the beneficiaries and acts as an intermediary with national and international art dealers. A percentage of the sales goes to the resident artists. They have also held art workshops for members of the public who are interested in learning different types of arts and crafts. A percentage of the workshop revenue also goes to the resident artists.

Case F: Manicómio	
Business model	Manicómio is based in an art gallery space that actively encourages artistic work by people diagnosed with mental illness. Two founders guarantee to assure the project's management. All the created work is developed by the beneficiaries. They are supported by sponsorship, which includes meals, transport and a salary. In addition, the peoples' salaries come from 70% of their artwork sales and 90% from the workshops promoted by them. Sometimes, partnerships with well-known designers contribute with private-label products for Manicómio's clients. In this case, the income amount is shared amongst the project and the involved artists. Medical clinics are also involved partners for the artists as an income source near the community that provides low-cost medical services in their space.
Public funding dependency	Yes.
Beneficiary involvement level	Quadrant C: there is co-production from the value achieved. The beneficiaries dedicate their time and knowledge towards the project.
Business sustainability	Active since 2019.

Table 7: Manicómio case study.

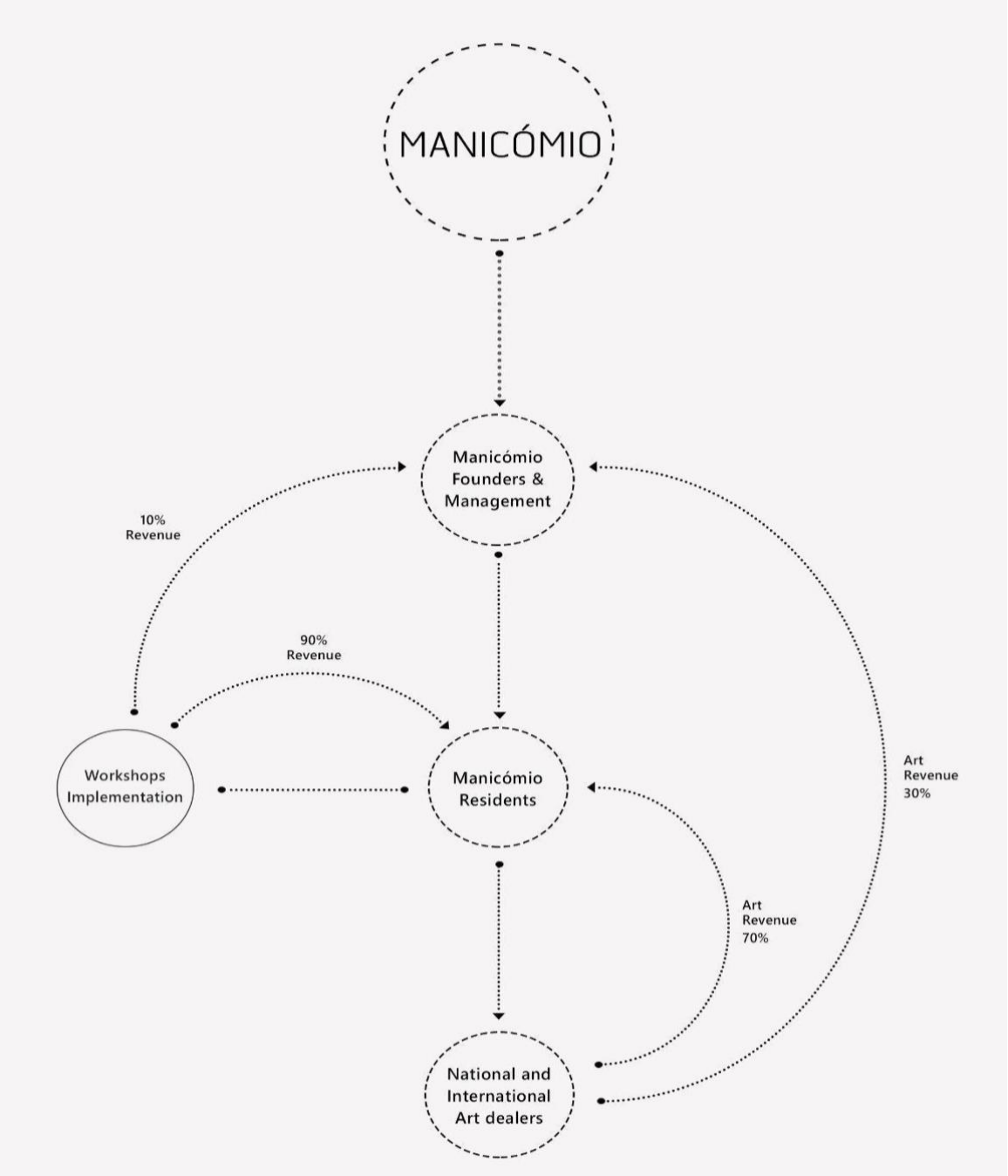

Figure 7: Manicómio 's Business Model.
Illustrated by Fernando Vieira.

A avó veio trabalhar is a project that fights senior isolation by providing a communal space for elderly to develop work in sewing workshops, knitting and embroidery. They also participate in video clips and photo sessions. The revenue from sales and other activities goes to the project itself and is allocated to buy experiences for the elderly people, such as travelling or attending cultural events.

Case G: A Avó veio trabalhar	
Business model	The project's goal is to fight against senior isolation by promoting an active senior age. It provides services to trademarks, partners and individuals. The income is reinvested in the project and in the 'grannies' community', offering them travel and other unique experiences. The project management is guaranteed by the two founders. However, the grannies are always consulted before any decision is taken. The grannies' services are diverse: sewing workshops, knitting and embroidery, they also participate in video clips, photo sessions, develop pieces for trademarks, partners and artists, and develop objects for their mark selling.
Public funding dependency	None.
Beneficiary involvement level	Quadrant C: there is co-production of the value achieved by the project. The beneficiaries dedicate their time and knowledge towards the project.
Business sustainability	Active since 2014.

Table 8: A Avó Veio Trabalhar case study.

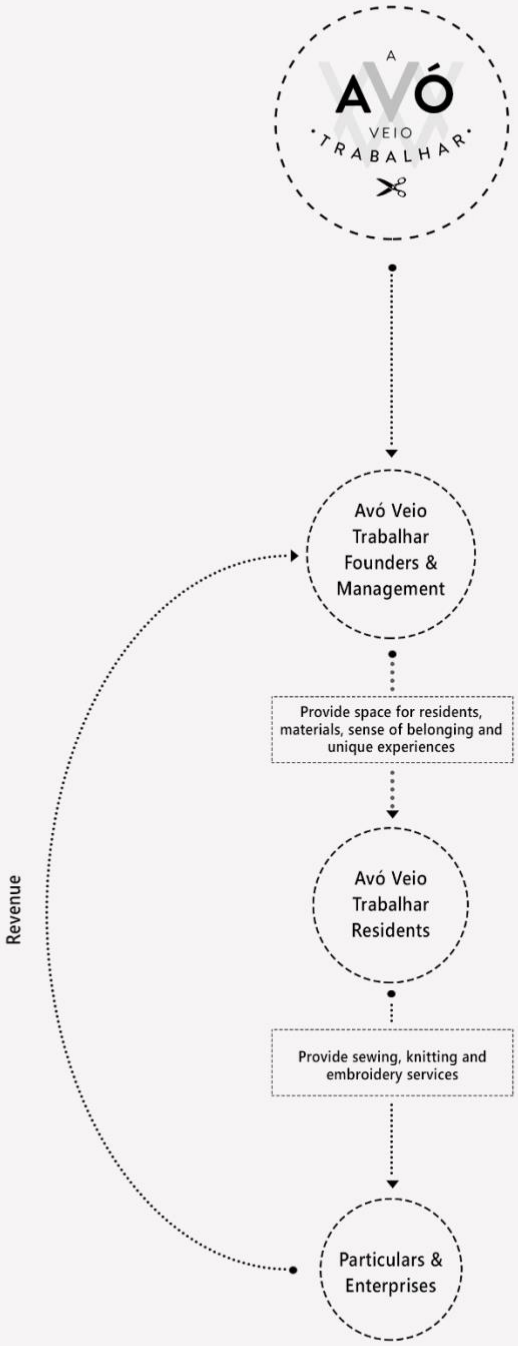

Figure 8: A Avó veio trabalhar business model. Fernando Vieira's Illustration.

Results and discussion

Business model

The case studies presented in this article reveals distinct levels of complexity in how they plan to earn money or generate value with their product and customer base in a specific market. The Lijjat Sisters, Reklusa, Manicómio and Refood projects, for example, are those businesses whose models reveal issues of great complexity. The first seems to be the most solid. The success factors involved a debate about where they needed a generalized workforce and affordable production tools. The project is based on an entrepreneurial activity that generates income for all the involved collaborators. This is a flexible way for beneficiaries to constantly achieve financial autonomy.

If we compare this action with the remaining sample projects, it seems like how a commercial enterprise works. The second one, Reklusa, had a business model like Lijjat Sisters'. They used human resources in vulnerable scenarios. It is considered social inclusion because it generated an income source for people recruited through a partnership with Tires prison that, however, lacked support and consolidation. Compared to the Lijjat Sisters' case, Reklusa had the disadvantage of not owning the production tools. In the Lijjat Sisters' case, as Thou (2012) claims, the beneficiaries became a crucial factor regarding the project's sustainability. This is due to their engagement and how they are involved in establishing new strategies, goal metrics and even the total operationalization of the project. These factors contribute towards efficient monitoring and consequently towards the initiative's sustainability.

Manicómio has a business model based on the free provision of space where art pieces are created. It acts as an intermediary for art pieces nationally and internationally and is considered to have a complex business model due to the number of agents and partnerships involved.

Refood's business model is not easy to understand due to its organization. It has an executive committee that establishes the rules and goals for the existing units. Each unit is managed by a person who manages the volunteers, answering to their local beneficiaries' demands. Unlike the other case studies, Refood's business model can be implemented in other regions following its standard model. This approach is considered a success factor. However, their growth may also represent a higher dependence on private patrons, government funds and volunteers, which makes the project's position more susceptible to political cycles. Although its business model is quite complex, it is also financially very vulnerable. This model is not sustained by Netto (2013), who claims that a kind of welfare-based model does not contribute to the eradication of inequalities, as it does not solve the structural problem of inequality but rather fights the immediate consequences of hunger.

Dress for Success, Word of Woman and A avó veio trabalhar are the case studies that present the simplest business model. Dress for Success's model depends on private patrons, partnerships and welfare practices. Its success factor directly links to an international network with plenty of organizations who provide financial support and partners. This allows the project to develop with few sustainability concerns. Compared to the other case studies, Dress for Success is the only project linked to a worldwide structure. The WOW network bases its business model on selling services and merchandising. It is independent of external partners for its activity development, operating only with its team's knowledge. This can be recognised as a success factor. The WOW network similar to Dress for Success in that the approach level gives autonomy to the beneficiaries through supplying services. Dress for Success, WOW and A Avó veio Trabalhar, as models based on services, allow free income from outside, which differs to Lijjat Sisters, where all the resources are invested into the project and not distributed amongst the beneficiaries.

In both A Avó veio Trabalhar and Manicómio, one considers a success factor to be hosting the beneficiaries in a structure that develops manual work.

Involvement level

The case studies of Lijjat Sisters, Reklusa, Manicomio and A Avó veio Trabalhar present high levels of beneficiary involvement. Lijjat Sisters presents the highest involvement level from the projects' beneficiaries (Quadrant D). This project works as a closed group, where entrepreneurs/ beneficiaries are those who decide on the business, and their production tools allow more efficient control of the value chain. This involvement level provides higher autonomy and financial sustainability to the beneficiaries involved. Within the sample, this is the only project where beneficiaries are autonomous towards the project management. According to Manzini (2015), this quadrant shows intense involvement from beneficiaries.

Quadrant C is found in the Reklusa, Manicómio and A Avó veio Trabalhar case studies, where the beneficiaries participate actively. From this group, A Avó veio Trabalhar is the only one where people co-produce value within the project, but they do not receive any financial income. Curiously, those cases which present the highest involvement level frequently have their beneficiaries doing manual work, such as artwork, sewing, embroidery or cooking.

The cases with the lowest involvement level are Refood, Dress for Success and Word of Woman. Refood's beneficiaries have a low involvement level towards the initiative. They only serve and work as a consultant regarding the project's implementation. In this case, the involvement quadrant is between A and B.

Dress for Success represents an involvement condition from Quadrant A, i.e. low beneficiary participation in the project. This may be due to the level of fashion expertise and knowledge needed for managing and operating within the initiative. Quadrant A represents the lowest involvement level from the beneficiary perspective. Dress for Success and Refood provide a service that contributes directly to the beneficiaries' wellbeing and autonomy. The Word of Woman project also reveals a similar scenario to Dress for Success: both depend on expertise for the mission's development.

Public funding

From the studied sample, Refood and Manicómio are those with the highest dependence on public funding. Refood depends on public funding for its ongoing initiatives. Therefore, this project is more vulnerable to political and economic cycles that may put at risk the beneficiaries who depend on the project. This approach reinforces the importance of choosing strategies that better involve beneficiaries' life situations instead of following welfare practices (Thou, 2012).

Manicómio depends on public funding for its development, which is justified by its target public – people diagnosed with mental illness. From the case studies presented, this is the only one where public funds focus only on the beneficiaries, who receive an income from their activities.

With no reliance on public funds, Word of Woman, A Avó veio Trabalhar and Lijjat Sisters follow a different strategy. The WOW network and A Avó veio Trabalhar are determined only by the services they provide. Lijjat Sisters does not need any public funding, as the whole operation depends on the production and sale of papad snacks. Their independence in relation to the obtained incomes is suitable for a less vulnerable project.

From the studied sample, two cases differ from the remaining ones: Dress for Success and Reklusa. Dress for Success does not depend on public funding, as it belongs to a worldwide organization, thus ensuring the project's subsistence. Reklusa did not depend on public funding but depended on a partnership with a public institution, Tires prison. This is why the project ended.

Business sustainability/longevity

The previously analysed parameters directly influence the project's longevity. From the studied sample, Lijjat Sisters, Refood, Dress for Success, WOW, Manicómio, and A Avó veio Trabalhar are still active. Lijjat Sisters' business model is the most robust, since this initiative has been active since 1959. Refood has been working and growing since 2010. During the COVID-19 pandemic, they were closed. Their dependence on restaurant network partnerships puts them at serious risk. Nevertheless, Refood is still active. Dress for Success (Portuguese branch) has the highest financial support, as the connection to the Dress for Success headquarters strengthens its longevity (Table 4). WOW has been active since 2013, and like Lijjat Sisters has its production tools. Both are cases with specialized knowledge that contributes towards more autonomy. Manicómio and A Avó veio Trabalhar are the most recent cases. They have been active since, 2019 and 2014, respectively.

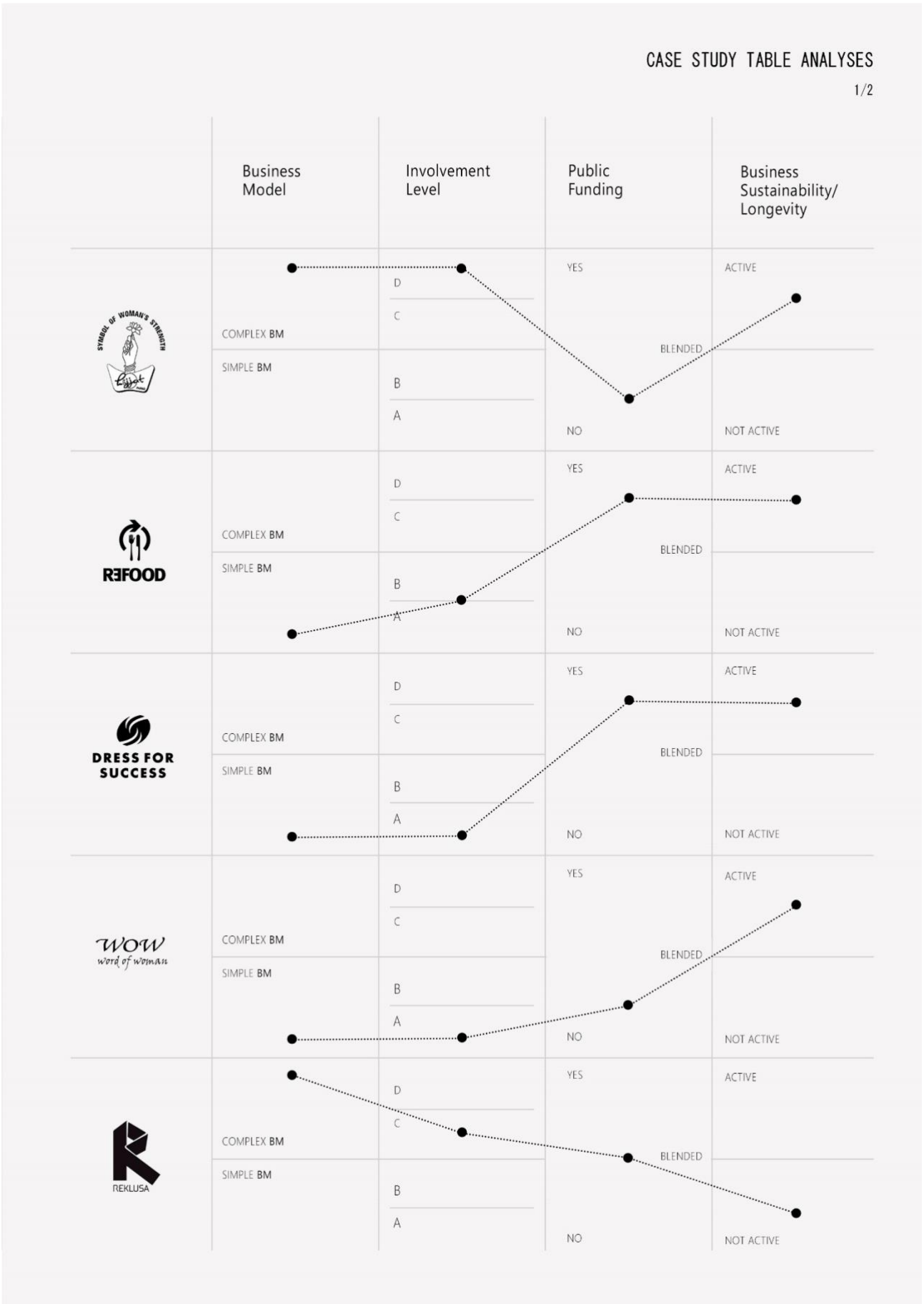

Figure 9: Case study comparative analysis 1/2. Image credit: Fernando Vieira.

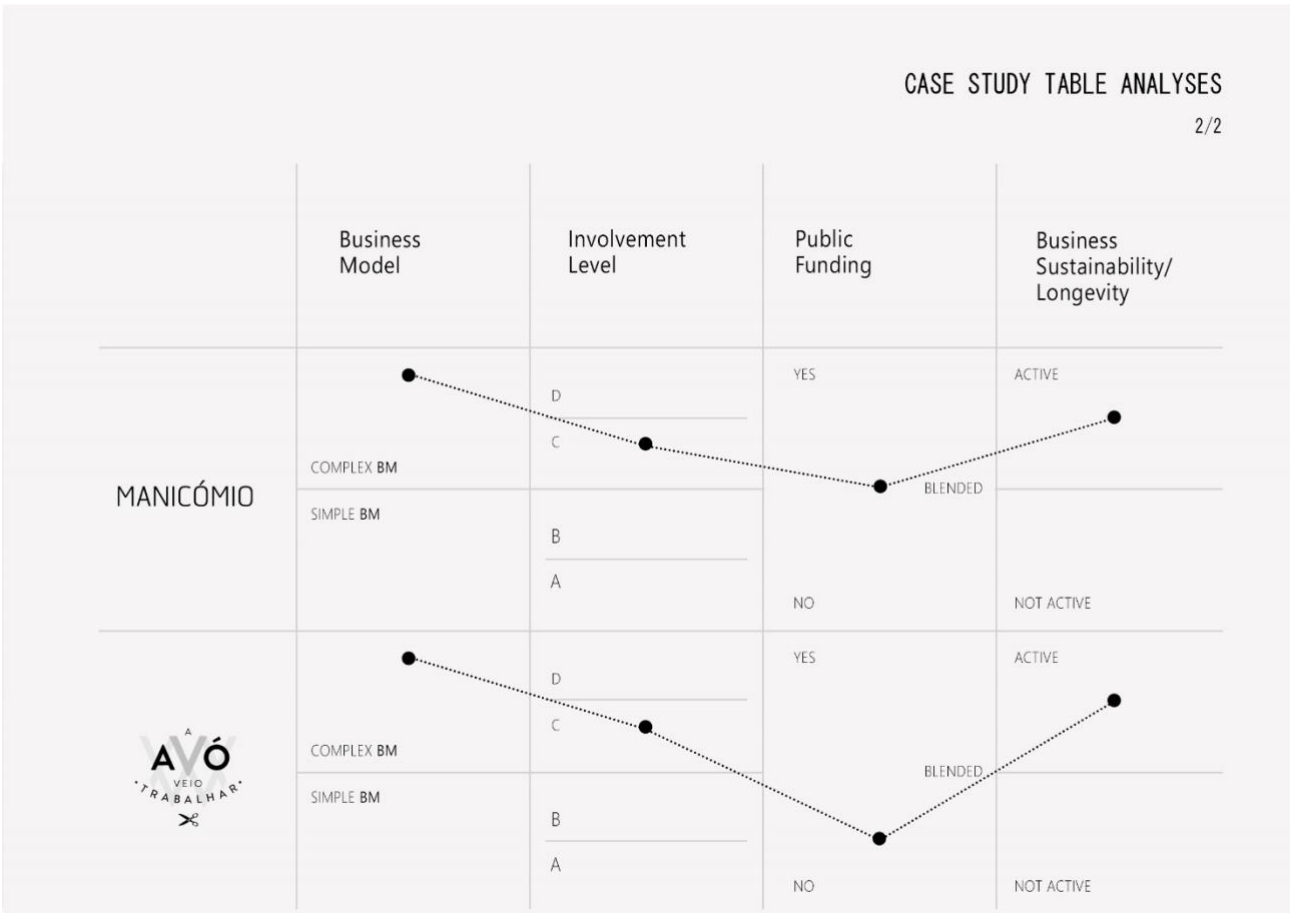

Figure 10: Case study comparative analysis 2/2. Image credit: Fernando Vieira.

Conclusions

The current context, particularly affected by the Covid-19 pandemic, has left exposed a set of communities disadvantaged in relation to health care access, food and housing, amongst others. This scenario has aggravated the overcharging of tools that assure a country's welfare state. The subjects of management and entrepreneurship have become imperative to operate those tools more efficiently to fight against social inequalities.

In answer to the question, What is the role of the beneficiary's involvement as a critical success factor in the development of social innovation projects?, the literature review demonstrated the urgency in developing new intervention strategies without involving welfare practices. Otherwise, stimulating beneficiaries' autonomy and financial independence lead us to conclude that beneficiary involvement is a key factor establishing efficient and long-term strategies (Foley et al., n.d). Considering that, and reinforced by Netto (2013), the case studies demonstrated the importance of beneficiary involvement as a contribution towards decreasing social inequalities.

However, according to the analysis of the sample, it is notable that in some initiatives, beneficiaries' high involvement did not achieve the result of a planned social impact or even a situational change for the beneficiaries. Lijjat Sisters is the only studied initiative where the beneficiary is involved in the project and generates income directly for herself. In Reklusa and Manicómio, for example, there is also that possibility, although the generated incomes may not be enough for an individual to achieve financial autonomy. Interestingly, the A Avó veio Trabalhar project has an intense involvement level (Quadrant C), and its sustainability is assured by the active participation of the beneficiaries. They do not receive any sort of financial income, leading us to assume their financial situation allows that context. In this case, the social initiative aims to fight against elderly loneliness and social exclusion, and the beneficiaries' financial situation is not an issue. In the case of Manicómio, although the beneficiaries have an income, they depend on sponsorship enabling them to focus on their artistic work. Once again, the involvement level is high and the beneficiaries co-produce value in the project. All of them depend on the welfare state mechanism to participate in the project.

Manzini's involvement framework assumes high importance in this study. He argues that an intense level of involvement shows greater benefits for social impact projects and therefore for beneficiaries (Manzini, 2015). For the authors of this article, Manzini's premise is not so linear, however. As seen in some of the case studies, such as Manicómio, A Avó veio trabalhar and Reklusa, a higher involvement level of the beneficiary does not result in a life-changing situation for the beneficiaries. Manicómio and Reklusa still rely on public funding to fight against social inequalities. A Avó veio trabalhar allows an intense level of involvement because there are socio-economic factors that contribute to this situation. This means that the articulation between intensive involvement where value to the project is co-produced and public funding supporting the cost of the projects allows their self-sufficiency and results in great benefit for the beneficiaries.

The opposite scenario of Manzini's discourse is apparent in the Refood initiative, which presents a very low level of involvement from the beneficiaries, which is not advocated by Manzini (2015) or Netto (2013). It entails welfare, which according to Netto (2013) is a practice that does not contribute to the eradication of the social problem. However, the work they do is pertinent and urgent, due to the beneficiaries' precarious situation. These two cases demonstrate that a more intense involvement level may not always occur. Autonomy and financial independence may not always happen, no matter the involvement level.

The welfare state is a way of protecting beneficiaries. They do not have any financial subsistence in an assumption labelled by market economies. Lijjat Sisters refers to fighting social inequalities. However, it is focused on an enterprise initiative or cooperative entrepreneurship. The social impact occurs during business development. The Reklusa case study demonstrated a business model based on a public partnership, intending to integrate and educate inmates. The literature review showed that the taxes which are tools of a welfare state demand the adoption of new approaches since welfare practices do not work (Netto, 2013). Initiatives like Manicómio show that beneficiaries' autonomy can be achieved, starting from a point of view where financial independence exists through sponsorship income, demonstrating that in some cases it is necessary to adopt welfare practices.

The reflections in this conclusion lead to the following questions: the first relatesto the beneficiaries' involvement and the second to model development to effectively integrate different actors in a successful social initiative: 1) How can one profit better from beneficiaries' competencies and capacity contributing positively towards a more successful social impact project? 2) What characteristics must a social entrepreneurship model have to effectively identify beneficiaries' needs, involved contexts and their development models? This last question comes as a clue for future thinking/development, hoping to contribute towards successful social initiatives and respective beneficiaries.

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Rethinking social and sustainable innovations through prospective co-design and project-grounded research

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Rethinking social and sustainable innovations through prospective co-design and project-grounded research

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Abstract

How can project-grounded research in social design make it possible to question the creation of social relations and the emergence of forms of solidarity? Our article aims to articulate in social and sustainable innovation the contribution of prospective co-design, foresight and societal fiction to offer new imaginaries of territories. We also explain how the evolution of Project-Grounded Research (PGR) in social design can widen through design fiction by solidarity economy. We develop our subject in five parts to explain how social design could invest in sustainable development and the social and solidarity economy (SSE). First, we present PGR in social design to precisely delineate its theoretical roots. Second, we explain how we can cross design fiction and social design through a reflexive analysis of PGR in social design, focusing on two different topics that are both related to comparative and comparable purposes for mobilizing prospectively for sustainability issues. Third, we present a synthesis of the reflective analysis on relating participatory and prospective design. This leads us to reframe the SSE, communities and commons prospectively in the fourth part. Finally, we open the reflection on the necessity of third places and actions and propose our approach as a prospective solidarity design.

Keywords: Social design, Project-grounded research (PGR), Prospective co-design, Sustainability, Social and solidarity economy (SSE)

Introduction

Project-grounded research (PGR) in social design is presented as a form of research at the crossroads of action research, participatory research and research and development, driven by the desire to transform society and promote social change (Catoir-Brisson & Watkin, 2021; Findeli, 2003). This research approach questions through social design the economic forms and social relations of social innovation embedded in the social and solidarity economy (SSE). Shaken by the imperatives of sustainability, social innovations seek through social design a more harmonious and ecological relationship with the environment. The participatory dynamic of social design becomes a vector of social innovation and sustainable development. How can PGR in social design and prospective co-design make social and sustainable innovations possible? How can prospective and future-focused fiction help redefine innovation in social design for sustainability?

Several themes can be considered to deal with this issue, such as sustainability and project timeframes on the one hand and user appropriation modes on the other. We propose to question how PGR in social design makes it possible to question the creation of social relations and the emergence of forms of solidarity by relying on collaboration and participation. Thus, it questions “the habitability of the world” from a theoretical perspective aiming to study “generalized human ecology” (Findeli, 2015). Social design is also close to social innovation through design, which concerns “everything that designers can do to activate and support processes of social change” (Manzini, 2015). It makes it possible to study, propose and put into action not only intentions and desires but also diverging points of view to create a debate to better understand the needs concerning our environment.

Social design and innovations raise topical issues of sustainability and development to imagine different ways of living and inhabiting the world. Indeed, innovation in itself is a paradox because it does not exist over time (Schumpeter & Fain, 1951) despite the desire to pursue a social aim. What kind of role should be given to research and the researcher in the project-driven process to move the lines and paradigms of society and trace new ones over the long term?

Our article aims to articulate in social and sustainable innovation the contribution of prospective co-design, foresight and societal fiction, to offer new imaginaries of the territories. We propose to develop our subject in five parts. First, we present PGR in social design to precisely define our theoretical roots. Second, we explain how we can cross design fiction and social design through the reflexive analysis of two PGR actions in social design, focusing on two different topics and both related to comparative and comparable purposes on mobilizing prospectively for sustainability issues. Third, we present a synthesis of the reflective analysis on relating participatory and prospective design. This leads us to reframe the SSE, communities and commons prospectively in the fourth part. Finally, we open the reflection on the necessity of third places and actions and propose our approach as a prospective solidarity design.

Project-grounded research in social design

PGR (Findeli, 2003, 2005, 2015) is an extension of action research that follows some principles of grounded theory (Strauss & Corbin, 1994). It is also an updated form of participatory research through the improvement of the research participants' experience (Findeli, 2005). The participants are involved in finding the solutions that best suit their needs and aspirations. The scientific knowledge principle of producing through action is the basis of PGR. As research through design is "active, situated and engaged in the field of a design project" (Findeli, 2015), the designer-researcher must "draw methodological rigour" from the many theories resulting from the human and social sciences. A double problem leads the designer-researcher to ask a research question as a question of design. Beyond a singular experience and a problem of use, design focuses on "fundamental questions relating to the human experience in the world" (Findeli, 2015).

The contribution of PGR in action research implies an iterative, process-based approach, which involves action about a research question. The creative methods coming from design renew both project practice and traditional project management methods but also action research, since design contributes to developing new methods of producing, collecting and processing ethnographic data. These deliverables produced through the various project iterations are also research evidence. PGR is also an approach to innovation open to exploration, prototyping of ideas and iterative learning. This form of abductive research makes it possible for the actors themselves to bring out societal issues as they carry these issues throughout the participatory design process. To innovate is to start from the tensions that appear between the actors and make them express themselves during the co-design process to identify them and imagine solutions to resolve them. This specific PGR approach leads us to take an interest in social innovation through design in public policies.

This line of research integrates social design more than other design practices because it has participatory techniques. Other design strategies such as speculative design, critical design and strategic design engage participants with others in various participatory forms. Nevertheless, social design is essential in this paradigm offered by PGR, because it adds to the act of projecting design in a context of interaction of plural communication between actors, partners, stakeholders in the project. Therefore, it renews research in human and social sciences by providing researchers with tools for their investigations (Catoir-Brisson

& Watkin, 2021). This relationship between the researcher and the social design approach foreshadows innovative and experimental forms of ways of working, producing and interacting with others. In this way, carrying out PGR stimulates for research or the project an interest in forms of cooperation and collaboration.

PGR involving social design ultimately questions the project's sustainability. This sustainability, through its social dimension, grows through participatory techniques, and the emerging forms of social and economic organizations (the SSE for instance) are the basis for sustainable societal and environmental development.

It is also interesting to observe the links between the purposes and values of PGR in social design and action research in the SSE, for example, the topics of social transformation's sustainability at different scales of a territory, the posture of the researcher engaged in forms of co-construction of knowledge with this territory's local actors and building the complex ecosystem of skills, expertise and knowledge that need to be articulated in a project situation. Co-construction is based on the co-production of data and contents able to engage participants to revisit their role and posture in contact with others. It is organized "with the intention of neutralizing social hierarchies and power regimes between actors; co-production and the collective intelligence can reverse established roles. Playful dynamics, the use of emotion, and collective communication devices participate in these modifications" (Catoir-Brisson & Watkin, 2021).

In addition, we can specify how social design and the SSE mobilize forward-looking approaches, such as prospective co-design (Lavoie et al., 2018), to imagine alternative solutions to existing ones in terms of social innovation. Indeed, the common trajectories of design and the SSE have already been considered based on the capacity of design to materialize utopias (Béchet et al., 2015). Design fiction seems able "to promote the expression of a pluralism of visions which is imperative in the design of public policies" (Kerspern et al., 2017).

We rely on two reflexive analyses of participatory and forward-looking design mobilized in the field of public policies at the level of a metropolis and the field of heatwave risk at the department level. These two projects were designed for comparative and comparable purposes as prospective devices to imagine solutions with the inhabitants of a territory. They are analyzed to explain how social design in project research is participatory and forward-looking.

Crossing fiction and social design: Reflexive analysis in social design

How can PGR in social design and prospective co-design make social and sustainable innovations possible? How can prospective and future-focused fiction help to redefine innovation in social design for sustainability? To answer, we propose a reflexive analysis of two PGR actions: the analysis is focused on the collaboration's mechanisms triggered by fiction within social design.

POPSU: The frieze of metropolitan futures

In this collaborative research observation of projects and the metropolization of Montpellier (POPSU Métropoles), we developed a prospective tool for the territory to better analyze and co-design avenues of reflection, ideas or recommendations. Plateforme d'Observation des Projets et Stratégies Urbaines (POPSU) is a major national research effort financed by the Plan Urbanisme Construction Architecture, involving more than 100 researchers nationally. This programme bridges and coordinates universities and local governments of each metropolis to facilitate collaboration to study metropolitan urban projects and processes. Each metropolis, such as Montpellier, constitutes its own network and partnership. This

forward-looking tool aimed at thinking about and stimulating collective reflection on territories has been the subject of several iterations while adapting to contexts and situations. First initiated during the POPSU PGR research during a large workshop with multiple stakeholders in the metropolis (Watkin & Redondo, 2019), this prospective tool was later applied and improved during other workshops, including the conference of the OPDE (Tools for Deciding Together) and PSDR (For and On Regional Development) network in October 2019 (Redondo & Watkin, 2020) and one for a more project-driven initiative with a Mexican private design firm designing the future of the public space strip along the seashore of Tulum (a major somehow hidden tourist site on the Yucatan Peninsula) (Watkin et al., 2019). This first POPSU workshop initiated a triple helix relationship between actors of the metropolis by integrating non-for-profit organizations and private companies involved in social entrepreneurship amongst the public agents from the municipalities and the academics of the Montpellier local universities. The SSE was at this stage suggested by this interrelation between actors.

The other two workshops mentioned also considered this third sector part of collaborative experience to seek another viewpoint on future scenarios. In this context, it was intended in the case of the workshop of the OPDE conference to invite local actors of Grand Clermont and the PNR Livradois-Forez to use this design assistance tool to make visible and broaden the spectrum of possibilities in the Clermont-Ferrand region through a participatory approach on visual representations. Here, the prospective tool is part of design practice in the sense that it materializes in a tangible medium prepared and then creatively manipulated by the participants. In that sense, it is assimilated to social design because it responds to its own social and territorial dynamics. It borrows and draws inspiration from speculative design and more specifically from the scheme popularized by what the designers Dunne and Raby (2013) call the “cone of speculative futures”. The diagram illustrates the amplitude between feasible, possible and probable futures (Fig. 1). This dialectic perspective for thinking and imagining territories by and with the actors articulates the participatory approach of social design with the more strategic aim of foresight (Abrassart et al., 2017). Finally, the sustainability dimension of this frieze is not reduced to its participatory, engaging and communication dynamic by proposing for its realization to consider the three pillars of sustainable development to structure collective reflection and proposals. The frieze consists of a triptych corresponding to the proposed futures.

Figure 1: Frieze of territorial futures: Co-designing prospective scenarios in Clermont.

Images and visual representations of each chosen territory are prepared and selected in advance to constitute a database used during the workshop to make the visual frieze for a collective and discussed narrative. The participants undertake to debate and choose images catalogued and preselected by the organizers adapted to the problem and the territory. This contextual visual database constitutes the main material to build this collective debate and narrative. The participatory dynamic is organized in the form of 'turning tables'. Discussion is also activated by organizing the composition of the participants at each table. Distributing diversity and anticipating representation is therefore, necessary to boost discussion, friction, empathy and power relations. The result is a visual frieze for discussing the future of the territory and making people understand the importance of the probable future and lead to a cross-examination based on the pillars of sustainable development. This experience and prototype in making this visual tool for prospective views on territory is intended to be produced in third spaces to favour the presence of third actors. In this case, the SSE presents a diversity of actors. We think it can enhance the objective of and capacity given to such a visual tool of the frieze of territorial futures.

OPRIC: A helmet for a prospective journey facing a heatwave risk

OPRIC is part of the national programme ANR Inplic (Initiatives des Populations Locales et Intégration dans la Conduite de crise) carried out by the DICEN laboratory of CNAM Paris, UTT-ICD (the University of Technology of Troyes - Charles Delaunay Institute) and the Projekt laboratory of the University of Nîmes and financed by the National Research Agency (ANR). In 2020, it gave rise to a heatwave risk observatory, OPRIC. In the context of climate change, the aims of the project are as follows: 1) to sustain the development of a risk culture by gathering and making visible inhabitants' initiatives to cope with heatwaves; 2) to build collective and individual memories to be able to use it in a crisis context; 3) to co-design some solutions with participants by opening the collective imaginaries.

This research is based on social design PGR, especially to sustain the inhabitants' initiatives. However, from the very beginning of the project, we decided to mobilize fiction to prototype future situations related to natural risks and help participants plan and act by experimenting with solutions. The need to develop forward-looking approaches in the field of risks has led us to take an interest in the contribution of fiction to design to urgently respond to an imperative of broadening imaginaries and design paradigms in the face of the environmental crisis. We can underline the importance of working with fiction when we deal with situations that do not exist yet: fiction is useful to project the participants into some crisis situations to stimulate their creativity in a collective and collaborative mode.

The first step consisted of carrying out field trips with residents of Nîmes and nearby (May–June 2020). At the same time, interviews were carried out with professionals (firefighters, local authorities and the prefecture), and a synthesis of initiatives related to risk was carried out. Given the Spring 2020 period (pandemic context and lockdowns), digital networks were used in a logic of participatory sciences based on contributory platforms (Chupin, 2016; Severo & Filipponi, 2021) for collecting information and exchanging information with residents and interested persons. The second step was the organization of three workshops (in September 2020, April 2021 and August 2021) with different participants depending on each one's objectives.

To explain how fiction has been used in social design, we focus on a specific activity we proposed in the first workshop with the inhabitants, "Heatwave and collective imaginaries" (Zacklad et al, 2020). The workshop was organized in a third place, to be more precise in a local FabLab. We decided to create and test a specific device, close to prospective co-design, to imagine solutions to the risk of heatwaves located in the

Occitan region, in particular the Gard department, by projecting oneself into a possible future over 20 years away, “like an imaginary detour to then think differently about the present” (Abrassart et al., 2017).
The purpose of the device designed for the workshop was to respond to scenarios of crises through design fiction. To do this, a forward-looking travel helmet was used in a dedicated workshop to help participants in this collaborative activity shortly project themselves into an unknown situation (Fig. 2). The participants, accompanied by a facilitator, could play four roles: traveller (who wears the helmet), shaman (who guides the trip), scribe (who takes note of the exchanges on a dedicated board) and journalist (who asks questions).

Figure 2: The forward-looking travel helmet experience to co-design the future.

The result of this workshop was a series of co-creation sessions on diverse themes, such as cooling fabrics by a group of makers and engineers at the service of the common good or even support systems for the homes of elderly or isolated people in a heatwave situation, etc. This entertaining and forward-looking device is particularly suited to the question of risk, which requires planning to anticipate and imagine alternatives to the existing one. In a context of tangled domino-effect crises, anticipation, co-construction and agility are useful for questioning paradigms of thought and accepting life with uncertainties (Lagadec, 2015). Design seems to be a relevant avenue to explore, in dialogue with the other disciplines called upon by each risk, in a transversal manner to adopt a different perspective and experiment with exploratory methods engaged in participatory research. An invitation to social innovation through design makes it less possible to apply tools or a list of recommendations than to develop a management capacity to quickly redefine an organizational vision, identify the best initiatives, anticipate and practise creativity (Lagadec, 2015).

Relating participatory with prospective design

These two forward-looking devices are examples that demonstrate the relevance of mobilizing forward-looking co-design as a process of co-creation of forward-looking solutions with the inhabitants to embody situations in stories in which we can project ourselves thanks to the force of the story and storytelling. These two examples demonstrate the desire to include the prospective approach in a social design approach so that the solutions imagined contribute to the support of the local initiatives of the inhabitants by coordinating them with other actors of the territory.

It is in this perspective that participatory and forward-looking design can encompass dimensions of sustainable development and the SSE. In particular, it makes it possible to project oneself into imaginaries of the resilience of territories in a forward-looking dynamic and to support sustainable transformations at three levels (ethical, social and environmental). Thus, the prospective design complements the participatory, socializing and socialized approach of social design because it mobilizes imaginaries and summons both dystopia and utopia to project oneself towards an ideal of habitability, which encompasses the dimensions of sustainable development and the SSE in addition to social innovation.

To deepen the reflexive analysis of our two projects, we can explain the link between prospective and participatory design. The commitment of stakeholders, beneficiaries, users and all participants in creative dynamics is stimulated when the objective or question of the project goes beyond the strategic or anticipatory dimension. The prospective aim of design through speculative and fictional dimensions enriches the participatory process. Our approach is close to the co-design approach (Abrassart et al., 2017), mobilized in different fields of intervention, those of social action and public policies (Kerspern et al., 2017). This approach "is based on several principles, at the intersection of design, participation, and foresight: the mobilization of scenarios of uses and unknown prototypes as vehicles of discovery and exploration (the ' design' dimension); a collective creativity process with participants from local communities and various experts" (Abrassart et al., 2017). It thus renews the dimension and the tools of classic foresight usually engaged in a strategic perspective, using creative and participatory activities mobilizing stakeholders' imaginaries. Design fiction can be a tool for the representation of futures at the same time as science fiction authors have influenced collective imaginaries and forward-thinking (Minvielle & Wathelet, 2017). Through the project practice and relying on user experience and prospective storytelling, social design can help participants project in a diegetic space with a view to sustainability. In this perspective, social design mobilizes representations of the future through fiction. In addition, these representations can be supports for participatory design and support the capacity of participants to act.

The view given by speculative design and fiction proposes a post-modern perspective of future actions and prospective by offering a narrative of opposition. Speculation in design needs in-between steps to get to this stage from a traditional design perspective by engaging and integrating discursive and critical design practice (Mitrovic, 2015). These in-between practices participate in structuring scenarios to fictions and discourses to speculations. Speculative design can therefore push forward participatory methods and engagement in this array of experiences given and proposed to participants and any stakeholders. For this reason, our interest in prospective co-design, as developed by Christophe Abrassart (2017), can be enriched through the lens of speculative design. It becomes as much a useful tool as a critical mindset on social and sustainable ideas, leading to innovations.

Rethinking social solidarity economy, communities and commons through prospective design

Our experience in foresight through participatory design leads us to reconceive the collaborations and solidarities between actors and participants driven by a social aim and project. In this respect, we would like to argue in this section how prospective co-design can reshape our understanding of the SSE as a major element of social innovation. For this, we will explain first how social design participates in building commons and activating the SSE.

Social design offers an alternative path to the project for the implementation of this ideal and societal aspiration activated by the values of the SSE. The sense of community identity is the result of a subjective

feeling of belonging or the object of a structured relation made through an organization, such as a community of interest.

The notion of creative communities developed in the field of design (Manzini, 2015; Meroni, 2007) thus joins the notion of the creative city (Florida, 2005; Vivant, 2009) to the emergence of communities. Without defining the notion of creativity, this notion is seen as a solution that participates in the collective imagination and is illustrated by a multiplicity of projects, initiatives and social and solidarity actions. Social innovation led by local communities takes off through these creative communities as well as through collaborative networks, local action and tools of governance and collective decision-making (Manzini, 2015). These communities are therefore the subject and object of social design. Sometimes, they can also be activated by new economies (collaborative, self-initiated or even self-managed) for which design is also mobilized to guarantee their sustainability. Forms of communities linked to sustainable consumption evoke these initiatives of social and solidarity economies through the creation of cooperatives, systems of goods exchange and services such as community-supported agriculture sharing and/or repair of goods within a local territory.

Social design participates in the creation of these new services and in the establishment of the communities associated with them, whose objectives direct collective action towards a committed and protesting horizon (Dubuisson-Quellier, 2009). In itself, it joins utopia and the societal ideal by putting forward the social economy and associationism. This economy and social organization of collective organization constitutes a founding element of social innovation and a vector of new economic and social practices, regulated and emancipatory (Laville, 2016). Design also intervenes to rebuild capitalism through the collaborative economy or social and economic innovations by responding to the imperatives of sustainability. Community construction then takes shape through these economic exchanges of local and decentralized capital (resilient and resistant) stimulated by design practices (service design and strategic design) and supported by social design (Bauwens, 2015). The social relations created by this action indicate the aim of disseminating common use value and distributing exchange value. It is illustrated by the social and solidarity systems of good economic practices, such as sharing land and implementation of commons. The collective imagination and the participatory project help through social design to make these collaborations a reality.

Beyond social design, support for the creation of communities is also manifested by the articulation between different scales of action, both local and global levels. This articulation between these two scales can contribute to the sustainability of the initiatives put in place by perpetuating them in one territory or by deploying them in other territories with similar social, cultural and political issues. Indeed, this articulation of local and global scales, as well as the value of communities and their power of action, are also at the heart of the six principles of systemic design (Design Council, 2021). One of them is precisely the back and forth between the micro and macro analysis, referred to as “zoom in and out”. The other three involve inclusion and the building of collaborative, connected, circular and regenerative communities that involve humans but also the planetary environment, as shown in the diagram below (Fig. 3).

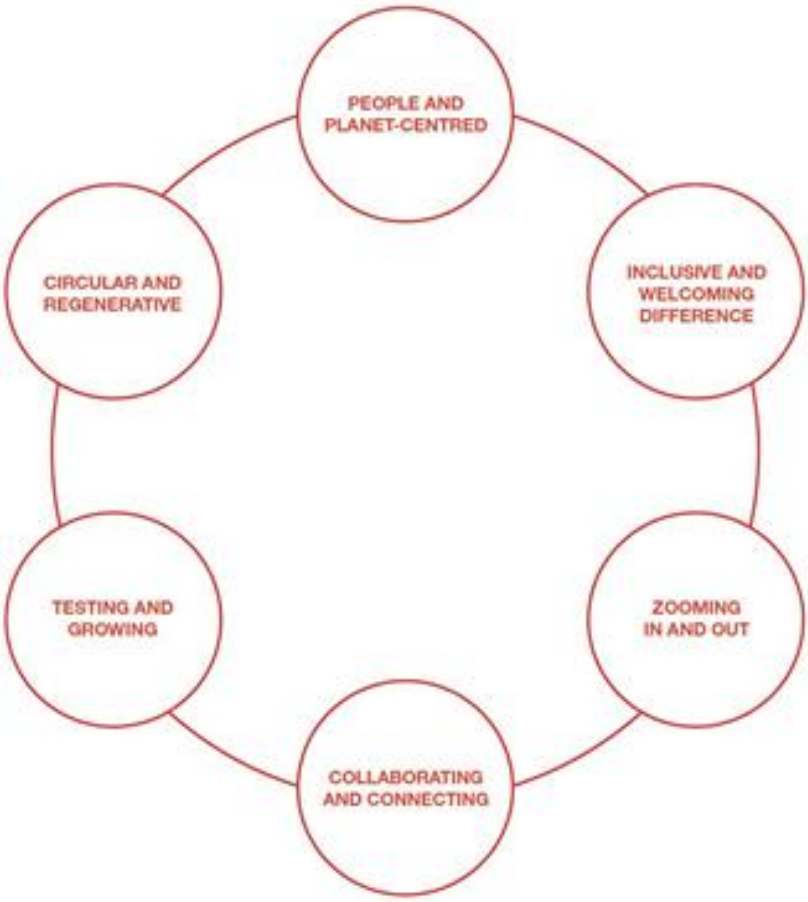

Figure 3: Six principles for systemic design.
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Design methods, skills and tools can be used to sustain social and sustainable innovations. Durability also challenges design to find assets instead of problems to face the situation to cope with. Asset-based community development (also called ABCD) argues for a renewed perspective of community development (Kretzmann & McKnight, 1993). Instead, ABCD offers an asset-driven action as a strategy for community development usually driven by issues and problems. This community-building approach can inspire social design action and discourse. The focus moves from problem-solving to solutions generated with the participants as well as sustainability, which implies combining strategic design and design fiction. The current development of the SSE and durability engages design in other orientations and narratives, especially fiction.

The communities organized and supported by the approaches of social innovation through design have common characteristics with those initiated in the field of communication for social change (Gumucio-Dragon & Tufte, 2006), in which the role of communication is to "solve collective social problems" by considering it as a praxis, i.e. "a reflection in the action of human beings on the world to transform it" (Freire, 1970). In this perspective, communities are at the heart of communication for social change with the objective of "stimulating processes of transformation, in which, from the articulation between citizenship and social networks, communication strategies based on more horizontal and participatory models and styles are carried out to anticipate other ways of living and lead to the transformation of dominant economic and political structures" (Tufte, 2015). Then, communities can have a power of action and design in the co-creation of counter-hegemonic media supports that give visibility and legitimacy to

these communities. The production and dissemination of communication devices also participate in the creation of social ties and the involvement of participants in the communities of interest created.

Communication for social change and co-design approaches have in common this role attributed to communities to transform their environment by stimulating action at local and global levels. This also refers to cosmopolitan localism (Manzini, 2015) and to a design that takes a systemic interest in the relationships between humans and their environments by integrating ethical, social and environmental imperatives: " […] it is possible to sketch out a design scenario to build a culture uniting the local and global (cosmopolitan localism) and a resilient infrastructure capable of requalifying work and bringing production and consumption closer together (distributed system)" (Manzini, 2015).

Finally, social design anticipates and rethinks community building by communities, but also by the constitution of commons. Forms of cooperative and local economies make it possible to put the commons back at the centre of society's ecological and sustainable proposals. Social design through PGR finds in associationism and the structuring of social links a democratic societal and environmental ideal stimulated by the collective and shared resources of the commons. Benjamin Coriat thus offers fruitful avenues for this construction of the commons which fit in well with the project advanced by social design, in particular by putting nature at the centre as an object of law or even associating goods and services with fundamental goods organized in the form of commons (Coriat, 2017).

Thus, there is an interest in social design in questioning environmental transitions and therefore resources and natural environments. Here, so-called participatory and forward-looking design in the service of social design would make it possible to orient design practices towards a new paradigm of action. This design of transitions (transition design) opens up, as we will explain later, new avenues of reflection for research (Irwin, 2015). It seems to us favourable to articulate it with a prospective aim based on fiction, which makes it possible to experiment with other ways of building durable territorial solidarities. In this regard, in the following section, we set out avenues for research where prospective design is part of social design to imagine supportive and lasting relationships in the territories.

That is why we propose to open the discussion on the links between the SSE and social innovation through social design and foresight. As we explained, sustainability in social innovation can take place in third spaces and activities. Therefore, prospective solidarity design implies merging social design and design fiction to generate social and sustainable innovation. Moreover, this prospective solidarity design-driven research seeks third spaces to open the relation with the SSE for the common goods. This new paradigm on design and the SSE can be conceptualized with a scheme to visualize how this prospective solidarity design is nourished by other emergent approaches (Fig. 4).

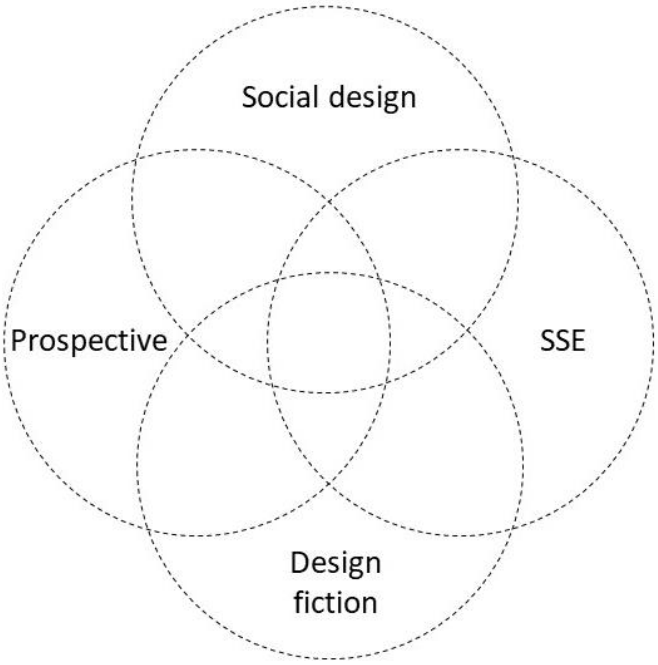

Figure 4: Prospective solidarity design at the crossroads of emerging approaches.

Discussion and conclusion

Finally, social design is emerging as solidarity design that builds and maintains economic and territorial solidarities. And social sustainability refers to the ability of project actors to maintain the engagement of participants, who create transformations beyond the research project in organizations and territories. This solidarity design would thus constitute a particular dynamic of research aimed at creating and stimulating economic and social actions to activate solidarities and social ties through structured forms of emancipatory organization (Escobar, 2020). Therefore, social design focuses on sustainable development and the SSE and also enters into a dialogue with other approaches such as transition design (Irwin, 2015) and autonomous design (Escobar, 2020), while re-defining its specificities. Emerging approaches in design are raising this topical issue of sustainability (such as transition design), and some research methods are being renewed (such as PGR). Findeli (2021) argues for an expansion of PGR by relating it today to these new emerging trends in social design facing uncertainty and the ecological collapse of the world but also the design itself. It is very important to deal with both at the same time with sustainability and social issues instead of opposing them. In this perspective, the emergence of transition design does not invalidate the approaches that have been developed before, such as social design. Instead of building walls between humans and non-humans, design can build bridges and be handled with a mix of approaches (co-design, transition design, prospective, etc.) to cope with current issues.

Thus, it could be useful to deepen the analysis of the way sustainability raises questions for design as practice and research through the diversity of the tools and perspectives combined. This situation is a wonderful opportunity for design to find complementarities and play a significant role in interdisciplinarity with other fields.

Before identifying the contributions of prospective social design to the fields of sustainable development and the SSE, we can identify the limits of this work. On the one hand, it would be relevant to study other

research projects in these two disciplinary fields to see how the links between social sustainability and the SSE are woven, both semantically and methodologically, in particular through prospective co-design. This reflection on a larger corpus of projects could also extend to an epistemological perspective based on a systematic literature review, which could be the subject of dedicated research. This inspiring horizon of transition in design is also challenging the evolution of the methods and tools in design to cope with emerging sustainability issues, such as risks and instability.

However, at the end of this article, we have also shown how PGR in social design could initiate a participatory process in the SSE in a united manner. We explained how social design could invest in sustainable development and the SSE by taking the example of commons and community building. Finally, we opened social design with a sustainable and united aim through the prospective approach illustrated by two case studies engaging prospective co-design for sustainability and, to a lesser extent, SSE.

PGR in social innovation through design is also redefined by the fields of reflection and intervention relating to transition, such as the design transition (Irwin, 2015) which is characterized by a new paradigm of research and design, which pushes the aim of social design and social innovation through design to take into account as many natural ecosystems and environmental parameters as possible to think and produce differently for a more habitable life, living ecologies and sustainable exchange systems.

It therefore seems relevant to question the links between the processes of innovation, transformation and transition and how they are mobilized at different, sometimes simultaneous, stages of a PGR in social design. The analysis we have proposed has shown how prospective co-design devices can put research into action with a view to the sustainability of social innovation.

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