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From good to great: using cultural codes to improve the design and value proposition of sustainable product-service system innovations

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From Good to Great: Using Cultural Codes
to Improve the Design and Value Proposition
of Sustainable Product-Service System
Innovations

by

Laura Santamaria

*A Doctoral Thesis submitted in partial fulfilment of the requirements for the
award of Doctor of Philosophy of Loughborough University*

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Abstract

Modern lifestyles in the developed regions of the world operate beyond our planet's resource capacity. Overconsumption has not only proven detrimental for the environment, but has also undermined our capacity to achieve deep life satisfaction and societal well-being. Embracing more sustainable ways of consuming and producing is key in order to foster the conditions for humanity to flourish. Strategies for disrupting the dominant consumption patterns lie within the next challenges, as adoption of sustainable innovation is still disappointingly low and needs to be accelerated. Design for Sustainability has contributed important technological advances to improve production and life cycle efficiency (i.e. eco design, cradle to cradle). However, it is increasingly recognised that sustainability is not just a technical matter, but ultimately a cultural issue. One of the problems is that people perceive sustainability as a loss, rather than a gain. Therefore, to drive demand, there is urgency to better understand users' aspirations and expectations, i.e. the cultural and socio-symbolic aspects of consumption that influence decision-making. This thesis argues that the perceived value of sustainable innovations can be enhanced by paying more attention to the elaboration of meanings – or symbolic value – they bring to bear for the user, which can be achieved by strategically framing innovations using high-value contextual signifiers (cultural codes). Drawing on cognitive science, cultural studies and applied semiotics, this research contributes a theoretical framework and case studies of how these theories can support the design process in mapping sociocultural contexts, in order to elaborate sustainable innovations that are perceived as aspirational and relevant. The theory is applied to the case of sustainable Product-Service Systems (PPS – bottom-up social innovations) due to the opportunities these pose for systemic disruption, and the cultural barriers for adoption. Through a series of Participatory Action Research interventions, the investigation developed three case studies of how of the framework may benefit sustainable PSS value proposition framing and design, with one application in the context of design education to support the development of designers' critical and sociocultural deconstruction capacity and skills. Finally, in exploring the potential that cultural codes offer to improve the design and value proposition of sustainable innovations, this thesis contributes and advances a new perspective for understanding symbolic aspects of consumption, and highlights opportunities for sustainable design to have greater influence in societal transformation.

Acknowledgements

This thesis encapsulates the values, motivation and direction underpinning my life and my work – values that I owe to my dearest late father, Mr Ruben Dario Lezano, who had a deep passion for social justice, and taught me to use privilege to stand by the weak, the voiceless, the oppressed, the poor.

I therefore dedicate this work to him, my biggest ‘fan’. Always tirelessly supportive and proud of his daughter, he was eagerly waiting to attend my PhD graduation but, as much as he tried to hold onto life, he departed on 7 July 2015. Knowing him, he must be much annoyed by the circumstances . . .

‘Dad, it’s OK. Here’s another one to celebrate together. You’ve never failed me and you are as much with me today as you’ve always been. *Te amo.*’

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Santamaria, L., and Santamaria, D. (2017). A Journey Towards *Sublime*. In T. Triggs and L. Atzmon (Eds.), *Graphic Design Reader*. London: Bloomsbury Academic (in print).

Santamaria, L., Escobar-Tello, C., Ross, T., and Bohemia, E. (2017). Cultural Context and Service Design: developing critical and meaning-making capacity. In E. Bohemia (Ed.), *DMA, Research Perspectives on Creative Intersections*. Hong Kong.

Santamaria, L., Escobar-Tello, C., and Ross, T. (2016). Switch the channel: using cultural codes for designing and positioning sustainable products and services for mainstream audiences. *Journal of Cleaner Production*, 123, 16–27.

Santamaria, L., Escobar-tello, M. C., and Ross, T. (2015). Planet or People? Redefining the Ideological Position of Sustainable Design. In EAD 11, *The Value of Design Research*. Paris.

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Chapter I – Introduction

This chapter sets up the context and background to the research problem, and provides an overview of the structure of the research (aim, objectives, research questions and scope).

I.1 Personal Motivations for Entering Inquiry

Through practice we produce the world, both the world of objects and our knowledge about this world. Practice is both action and reflection. But practice is also a social activity; it is produced in cooperation with others. However, this reduction of the world and our understanding of it takes place in an already existing world. The world is also a product of former practice. Hence, as part of practice, knowledge has to be understood socially – as producing or reproducing social processes and structures as well as being the product of them (Ehn, 1993; p. 63)

Working in innovation involves engaging with others in crafting versions of the future (Mazé, 2014). Inevitably, the past and present constitute the foundations for innovation, as creating new realities implies ‘redesigning the system within the system’. Action, revision, reflection and feeding learning back into strategies for sparking and activating change are characteristics in this task. The thesis at the core of this research project springs from experimentation, observations and tacit knowledge which are the product of the author’s interaction with clients, colleagues, collaborators, opponents and ‘competitors’ throughout twenty years of professional practice.

After obtaining a degree in Design and Visual Communication and an MA in Branding and Packaging, the author worked in the field of brand strategy and new product/service innovation. This professional experience was gained both in agency settings and as a freelance consultant engaging with clients ranging from multinational companies to charities and small start-ups. Further to her design practice, in 2007 the author co-founded the pioneering sustainable lifestyle publication, *Sublime Magazine*, for which she still acts as editor-in-chief. The publication has influenced and inspired individuals, businesses and academics with its fresh outlook, contemporary and positive framing of sustainability as a smart, intelligent lifestyle choice. This was achieved by reframing the values of the environmentalists of the 1960s and 1970s (arguing for an interdependent, resilient, sustainable and egalitarian model of society) by appropriating the graphic language and

cultural codes of contemporary glossy mainstream lifestyle magazines (Figure 1.1). Preconceptions and ideological barriers were bridged through aesthetic appeal so that the values underpinning social, cultural and environmental sustainability could be rediscovered and reinterpreted in the contemporary context and perspective of a post-consumerist generation (Santamaria & Santamaria, 2017).



Figure 1.1 – Sublime Issue 7 – New Energy, January 2008. Source: www.sublimemagazine.com

The success of the publication, which the author conceived as a ‘critical aesthetics’ design innovation artefact, sparked her interest to further investigate the role that cultural codes play in the sociocultural legitimisation of radical innovation and societal change, and the methods employed to do so (i.e. framing and meaning-making practices). The researcher’s intention was to consolidate tacit, experiential knowledge into more formal, transferable knowledge that could benefit other areas of professional practice and education. In particular, the researcher’s motivation was to contribute to the discipline of Design for Sustainability, as practitioners and educators working in this field seek societal well-being and transformation through citizen empowerment and emancipation from a dominant – and damaging – consumer culture.

1.2 Research Background

An important step towards achieving sustainability is to encourage a wider uptake of more sustainable production and consumption patterns. The urgency and complexity of this societal transformation require the commitment of different stakeholders (i.e. government, businesses and consumers) to implement deep systemic changes at various levels of society (Cohen et al., 2013).

Many disciplines are calling for a cultural transformation of the values that underpin society, shaping people's goals, aspirations and consequent behaviours to transition society to a new socio-economic paradigm. This research explored the role of design as a cultural intermediary and meaning-making practice in legitimising bottom-up sustainable innovation (in terms of product, services and practices) in their sociocultural contexts.

1.2.1 Sustainable Consumption and Design

The field of Design for Sustainability (DfS) started as a concern focused on alleviating issues related to the environmental impact of *production*, such as resource use and waste reduction (i.e. eco design, cradle to cradle, upcycling). A wide range of approaches have been developed within the discipline to address social and environmental concerns (Manzini, 1999; Melles et al., 2011; Papanek, 1971). Progressively, the scope of DfS has widened from a remedial to a prevention approach (Vezzoli et al., 2014) but, more interestingly, as the economy moves away from creating value through manufacturing physical products towards value creation through services and experiences, DfS has started to engage with issues related to consumption (Figure 1.2).



Figure 1.2 – Design for Sustainability disciplinary scope, summarised from Vezzoli et al. (2014)

However, research on the *consumption* end of the production–consumption spectrum has only attracted attention relatively recently (Mylan, 2015; Vergragt et al., 2014). Much remains to be explored in terms of diffusion and adoption of sustainable design output, where evidence shows that sustainable products, services and lifestyle practices are still

perceived as niche by the largest sectors of society (Cohen et al., 2013). Thus, modes for disrupting the dominant forms of *consumption* lie within the next challenges for DfS (Mylan, 2014; Vergragt et al., 2014), but also pose new opportunities for the discipline to increase its role of influence.

Changing user's existing habits, beliefs and activities and creating new ones for sustainability requires a deep cultural transformation – a 'transition of minds' rather than purely technological innovations (Lakoff, 2010), where what is normally considered as valuable is redefined. Design intervention strategies such as Design for Sustainable Behaviour (Bhamra et al., 2011) and Design with Intent (Lockton et al., 2010) are already well-established research fields that investigate how to influence people's everyday activities and reduce their environmental burden through the design of products. Similarly, approaches such as Design for Well-being (Dorrestijn & Verbeek, 2013) and Design for Happiness and Sustainable Lifestyles (Escobar-Tello, 2016) build on knowledge from Positive Psychology to better support users in their intrinsic pursuit of happiness and well-being by design. Although these research areas consider systemic change to a certain extent, they focus on shifting the individual's own values and behaviours. However, it has been evidenced that it is the underlying cultural *values* that drive certain individual *attitudes* and *behaviours* towards sustainability or away from it (Barber, 2010; Hurst et al., 2013; Vergragt et al., 2014; Wolsko et al., 2016). This means in order to influence a sociocultural paradigm shift, DfS may need to further broaden its scope from a *user-centred* to a '*context-centred*' approach, focusing more on strategic design action to shift values at sociocultural level rather than just at individual level.

As public interest in the redefinition of 'the good life' rises (H. Brown & Vergragt, 2015) and great social changes gain momentum, designers are challenged to support systemic change by developing sustainable products and services that improve current environmental conditions, but also the users' quality of life by fulfilling their expectations, personal aspirations and social identification needs (Gilbert-Jones, 2013).

1.2.2 Perception and Representation in the Diffusion of Innovations

As the economy dematerialises, the design area of concern is shifting focus from tangible objects (as outcomes of industrial and product design) to intangible offerings such as product-service systems, service design, information design, business model design and

system design (Vezzoli et al., 2014; Zurlo & Cautela, 2014). In fact, in developing a product-service system, the designer is required not only to identify and organise each component, but also to link the tangible and intangible parts that create value for the user (Rajkumar Roy & Baxter, 2009; Zurlo & Cautela, 2014). The intangible offerings not only include the use of the product, but also aspects related to brand awareness, product access and availability, purchase experience and connections to other services and offerings.

The integration of tangible and intangible components of the offering into a coherent, pleasurable experience is becoming an important area for design (Vargo & Lusch, 2004), because achieving a coherent, pleasurable experience directly affects user's perception of value. The way in which an artefact is perceived affects the predispositions it generates in potential users, drawing them towards or away from new value propositions. Therefore, perception has a direct effect on the adoption of innovations (Rogers, 2003).

Rogers' (2003) theory of Diffusion of Innovations differentiates five stages in the decision-making process than an individual undergoes to adopt or reject an innovation or change:

1. *Knowledge* – occurs when an individual is exposed to an innovation's existence and gains an understanding of how it functions.
2. *Persuasion* – occurs when an individual forms a favourable or an unfavourable attitude towards the innovation.
3. *Decision* – takes place when an individual engages in activities that lead to a choice to adopt or reject the innovation.
4. *Implementation* – occurs when an individual puts a new idea into use.
5. *Confirmation* – takes place when an individual seeks reinforcement of an innovation decision already made, but he or she may reverse this previous decision if exposed to conflicting messages about the innovation.

Similarly, Conner and Patterson (1982) propose a total of eight stages for an organisation or a person to go through when becoming committed to a change goal (Figure 1.3), grouped under three main phases: Preparation, Acceptance and Commitment.

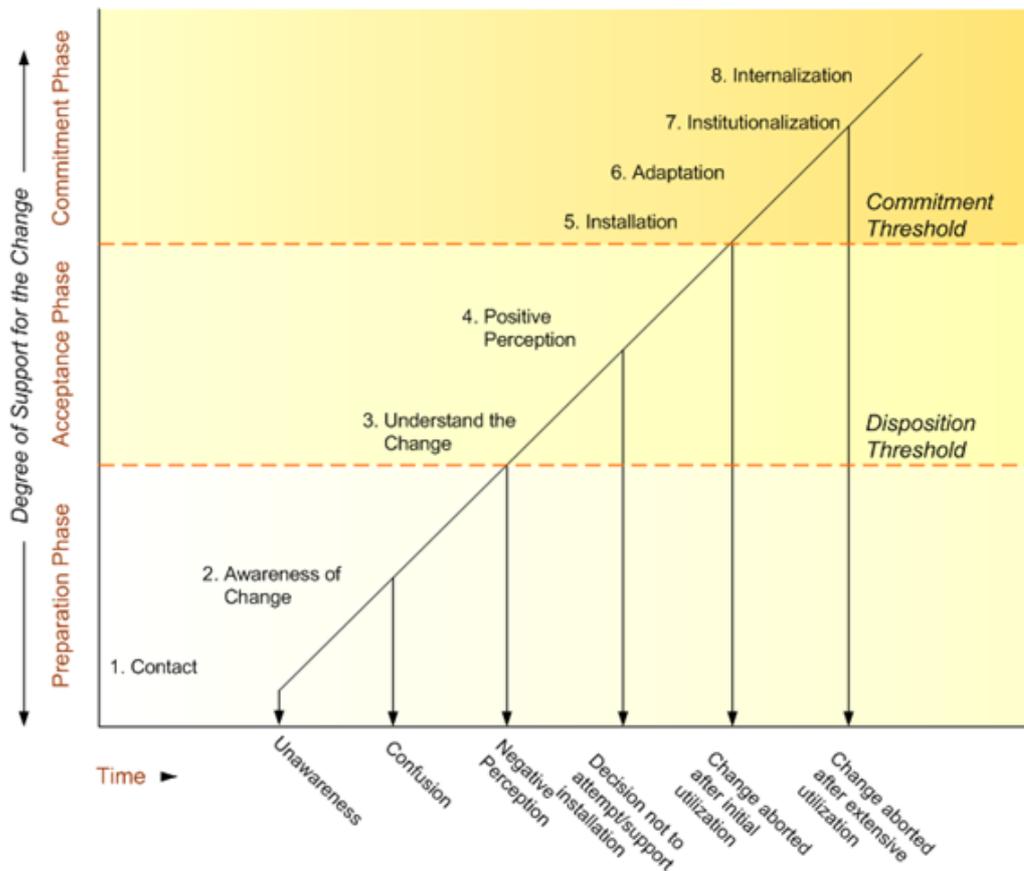


Figure 1.3 – Eight stages to change (Conner & Patterson, 1982)

Each stage indicates a critical juncture in which commitment can be threatened. If a stage is completed successfully, advancement to the next stage is possible. If not, the downward arrows indicate the result.

Both approaches demonstrate the direct relationship between perception and decision-making, and highlight that awareness, perception and initial experiences of the proposition are key to encourage individuals along the journey of adoption of innovations – new products and services, but also the internalisation of new practices, values and behaviours.

1.2.1 Symbolic Value and PSS Design

Currently, sustainable products and services are introduced in the market on the basis of personal choice (i.e. there is no legislation that regulates *what* we consume and *how much* of it; this is left up to each individual to decide). In this scenario, sustainable innovations must be regarded by potential users as better options than ‘non-sustainable’ counterparts – they need to be perceived as delivering higher value than competing options (Ceschin et

al., 2014). Essentially, they need to be designed and ‘positioned’ in the market in such a way that satisfies and supersedes customers’ expectations. These expectations are functional but also symbolic (Tukker, 2004), especially under the ‘market society’ system, in which the ownership of products has become part of the users’ process of construction of their social identity and differentiation (Hamilton, 2010; Zurlo & Cautela, 2014).

However, dealing with intangible characteristics (i.e. cultural, symbolic perceived value) is still a relatively new aspect for designers, and stretches their traditional skills beyond the technical and organisational aspects, such as usability features, into new dimensions such as meaning-making, which imply the formulation and translation of value propositions into meaningful user experiences (Diehl & Christiaans, 2015; Morelli, 2003; Zurlo & Cautela, 2014). Within this context, new theories and tools are required to equip designers and support them in developing the necessary skills and capacities to develop relevant and aspirational value propositions rooted in their cultural context (Light & Miskelly, 2014; Manzini & Vezzoli, 2003; Wong, 2004), making sustainable innovation meaningful and appealing to users (Morelli, 2003).

1.3 Research Overview

This section outlines the aim, objectives, scope and direction of the research.

1.3.1 Research problem

Within Design for Sustainability approaches, sustainable Product-Service Systems (hereafter also referred to as sPSS) – a mix of products and services conceived to fulfil a customer’s need (for example, commuting to work) – present promising opportunities for introducing more sustainable consumption practices as well as supporting greater social cohesion (Manzini, 2014; Vezzoli et al., 2014). It is argued that sPSS can significantly reduce environmental impacts by decoupling the creation of value from resource consumption (Mont, 2002), but also, unlike products, they incorporate a set of *relationships, practices* and *processes*, that design can orientate to support underpinning values of social and environmental sustainability (Escobar-Tello, 2016). However, as with all radical innovations, sPSS face cultural barriers for adoption, such as users’ preferences for having their needs met by *owning* products rather than by *using* a service (Ceschin, 2010; UNEP, 2002). Therefore, many sPSS value propositions (e.g. subscribing to organic veg box schemes,

car-sharing, bike-renting schemes) are not widely considered, in general terms, to be symbols of social position, identification and status as other traditional options are (for example, owning your own car).

Evidence suggests that sPSS are less appealing than products because they lack the 'symbolic features' that allow for social differentiation and identity within the sociocultural context of the user (Tukker & Tischner, 2006). This means in order to become more appealing to users, sPSS innovations need to satisfy socio-psychological needs, beyond delivering utilitarian and functional value for users (Ceschin et al., 2014).

Nevertheless, many service innovations designed in the corporate sector are positioned successfully in the marketplace by deploying traditional top-down approaches to new product development. The 'Drive Now' car-sharing system (by BMWi, Mini Cooper and Sixt rent-a-car) is a good example, where market research, branding strategies, professional design and healthy advertising budgets have been deployed to ensure its successful market insertion and acceptance. But not all such PSS innovations can claim to be sustainable, resource-efficient or to deliver social value. Many ideas that have the potential to be sustainable, may be discarded for not being profitable enough (Tukker & Tischner, 2006). This lack of trust in PSS environmental benefits results in a clear separation of the PSS research field, which is reflected in the terminology, focus of research, theoretical bases and frameworks used in the extant body of knowledge (Annarelli et al., 2016).

Increasingly, PSS innovations focused on delivering social and environmental sustainability are being associated with social enterprise ventures – i.e. deliberate interventions that spring from bottom-up contexts as alternatives to dominant (or mainstream) modes of consumption and production. Some typical examples include car-, bike- and other resource-sharing systems that tend to engage users in lifestyles of greater sustainability, well-being and social cohesion (Seyfang & Smith, 2007). Generally speaking, these social enterprise types of innovations face challenges with diffusion and upscaling (Smith et al., 2014).

A great number of start-ups cannot compete effectively with the myriad of other 'streamlined' products and services developed by status quo businesses, due to a lack of resources for legitimising these value propositions in the eyes of users and investors.

There is a need for further investigating how design can contribute to 'amplify voices', to enhance the quality of the offer and strengthen the legitimacy of bottom-up sPSS

innovations (Manzini, 2015; Staszowski, 2010; Tie et al., 2014). Within the many factors this may involve, the need for understanding users' expectations, especially users as social beings within communities, has been recognised (Vezzoli et al., 2015). However, development of tools, skills and capacities to support designers engaging with grassroots innovation – i.e. critical reflection, meaning-making and sociocultural aspects of context – are needed (Morelli, 2003; Valencia et al., 2015; Vezzoli et al., 2015).

1.3.2 Aim and Objectives

The overarching aim of this research was to improve the design and value proposition formulation of sPSS (as cases of bottom-up sustainable innovation), as a strategy to support a societal transition towards greater sustainability, happiness and well-being. In line with this aim, this research focused on investigating effective means to introduce a sociocultural lens to the design process, which can support the identification of cultural aspects that affect the perceived value (i.e. relevance and appeal) of sPSS innovations.

To achieve this aim, the following objectives were set:

1. To emphasise the connection between the goals of social and environmental sustainability and the cultural values that underpin it, to inform the role of design in legitimising these values.
2. To challenge, through design representation, the generalised view that sustainable lifestyles and practices are constraining and less appealing than non-sustainable ones, and to empower designers with culturally relevant discursive narratives and ideological positions for sustainability to reach wider audiences.
3. To build a framework that empowers designers to develop more aspirational PSS innovations, meaningfully rooted in their sociocultural context and capable of encouraging the adoption of more sustainable lifestyle practices, particularly focusing on improving users' quality of life as outcomes.
4. To democratise relevant knowledge that can make sustainable innovations more accessible.
5. To assess the potential impact and relevance of the research beyond the specific area of application of this PhD (i.e. sPSS), to related fields such as Service Design and Design for Sustainability and Social Innovation.

1.3.3 Research Questions

Considering the above objectives, the research aimed to answer the following questions:

RQ1 – In which ways does the perceived value of sustainability as a cultural meaning affect the appeal and uptake of sustainable offerings (products and services)?

- a. How do sustainable offerings currently compare with competing choices, in terms of value proposition (i.e. perceived value, meaning, benefits and appeal)?
- b. What are the main implications of the dominant sustainability discourse for outputs of Design for Sustainability?
- c. What values, representations and ideologies (i.e. discursive frames) are most suitable for sPSS innovations to appeal to wider audiences?

RQ 2 – How can the process of designing sPSS be better informed by the socio-symbolic and cultural aspects of user and context (i.e. people's expectations, aspirations and social identity needs)?

- a. How can sPSS innovations be developed more in tune with context and user so that they are perceived as relevant and appealing against other (less sustainable) options?
- b. How can designers be supported to research and map the contextual socio-symbolic aspects (e.g. socio-psychological needs and aspirations) that influence users' preferences?
- c. How can sPSS value propositions that are of good intrinsic (as well as perceived) value be elaborated?

1.3.4 Research Scope and Direction

Given the above-mentioned aim and objectives, the scope of this research lies within the field of Design for Sustainability, which seeks to support the emergence of alternative modes of provision (Manzini, 2015). Due to budgetary and time restrictions, this research was limited to the development of a framework, methods and tools to support design practice.

The theoretical propositions of this research were explored within the context of sustainable Product-Service Systems or 'sPSS'. Both these terms are used in this research to refer to 'bottom-up' or 'grassroots' innovation initiatives that contribute to social and

environmental sustainability through reinforcing intrinsic values of users' well-being and quality of life. Figure 1.4 situates this investigation within the Design for Social Innovation and Sustainability area of research, where the focus of inquiry (i.e. sustainable PSS) can be identified as 'ventures'. The research aim aligns with 'design for paradigm shift', and the research direction is to develop design knowledge and strategies 'for scaling and impacting' bottom-up sustainable innovations.

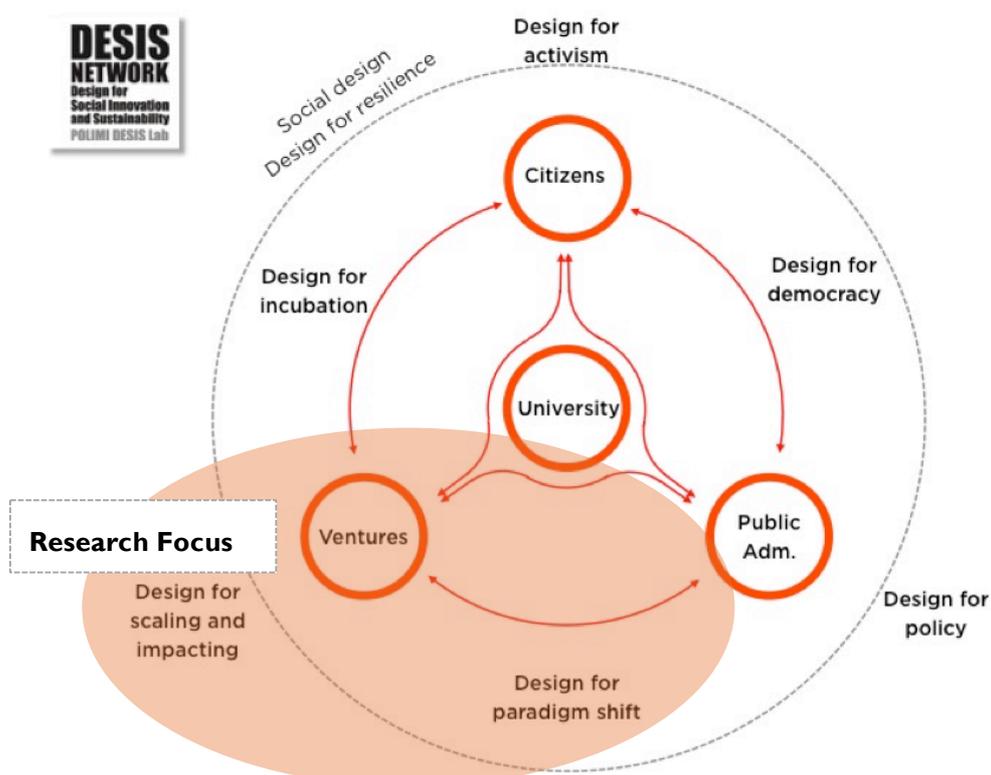


Figure 1.4 – Mapping Design for Sustainability and Social Innovation research and activities (Source: DESIS Network)

The investigation consisted of the application of a sociocultural lens based on methods of semiotic and cultural analysis to the design process. Within the scope of this research, the term 'design process' refers to methods and principles of service design applied to the conceptualisation and design of services driven by human-centred and participatory approaches that involve designers and non-designers in the process of innovation (Holmlid, 2007; Mager, 2004). Such methods refer to creativity and co-creation techniques that are used to explore problems and develop solutions together with relevant stakeholders, facilitating the design of alternatives to mainstream modes of production, consumption and provision. Such solutions also tend to engage users in lifestyles of greater sustainability, well-being and social cohesion (Seyfang & Smith, 2007).

In this research, the term 'designer' is used to refer to the professionally trained design practitioner or expert (Manzini, 2015) engaging in the process of research, conceptualisation and development of sustainable PSS social innovations in different capacities and roles.

Many tools and methods are commonly employed by expert designers to enable sPSS innovations. Nevertheless, this is an emerging area of practice that requires the development of new theories, skills and capabilities to deal with the sociocultural dimension – i.e. framing, positioning and other meaning-making aspects that affect the adoption and diffusion of innovations (Morelli, 2003; Penin et al., 2015).

1.4 Thesis Outline

This thesis is composed of nine chapters:

- **Chapter 2 – LITERATURE REVIEW (Phase I)**

This chapter explores existing literature on which this PhD builds to address the research problem. The first section highlights the purpose, aim and goals of sustainable development and its relationship to humanity's pursuit of happiness and well-being. The second section explores the concepts of consumption, identity and culture. The effects and consequences of the dominant culture of consumerism on people's well-being, and the role of design in supporting a sociocultural paradigm change are discussed. This leads to the last section, where the role of cultural deconstruction and framing practices are explored, as enablers of strategic design for the development of more dematerialised patterns of consumption and legitimisation of the intrinsic values that underpin social and environmental sustainability and well-being.

- **Chapter 3 – METHODOLOGY**

This chapter outlines and justifies the research design created for this project to attain the aim and objectives set out in Chapter 1. Through the discussion of the type and nature of the research (purpose), the research strategy and the data collection techniques are determined and justified. A detailed description of the data analysis techniques used throughout the phases of the research complements the understanding of the research project structure.

- **Chapter 4 – PRELIMINARY STUDY (Phase 2)**

The objectives, development and results of the Preliminary Study are presented in this chapter. This phase of research explored aspects related to the cultural perception of sustainability and ideology, via semiotic and cultural analysis of sustainability representations, identifying a more strategic ideological position for Design for Sustainability practice and education to gain wider societal influence and impact. It presents the Initial Theoretical Framework, propositions and theory premises, illustrating its potential for achieving the research project's aim in the context of sPSS design. The validation of the proposed theory conducted with other design professionals is also included. Finally, *Con[text]*, the Initial Framework to facilitate the application of theory to practice elaborated as a result of this study, is introduced in this chapter.

- **Chapter 5 – PILOT AND MAIN STUDY (Phase 3)**

This chapter describes the implementation of three Participatory Action Research interventions, conducted to develop theory and generate case studies that demonstrate the value of the *Con[text]* framework to improve designers' practice, capabilities and skills. The Initial Theory was applied to practice by engaging in real-life scenarios with social enterprises (providers of sPSS) in the first two cases, concluding with a third intervention applied to design education. The findings evidence the effectiveness, suitability and implications of applying a semiotic and cultural analysis lens to design processes, putting forward a method to support the formulation and framing of sPSS value propositions and design. Considerations and reflections that impact practice and education are documented.

- **Chapter 6 – EVALUATION (Phase 4)**

The next chapter describes the discussions generated through consultations where the outcomes of this research were exposed to and evaluated by sPSS and service design experts. An in-depth interview with a design expert determined assessing the suitability and implications of mapping and incorporating cultural codes into the design process, and the impact of such a framework to enhance the appeal and relevance of PSS in context. Furthermore, this chapter presents a focus group, which was conducted to gather insights on research novelty, transferability and further research avenues.

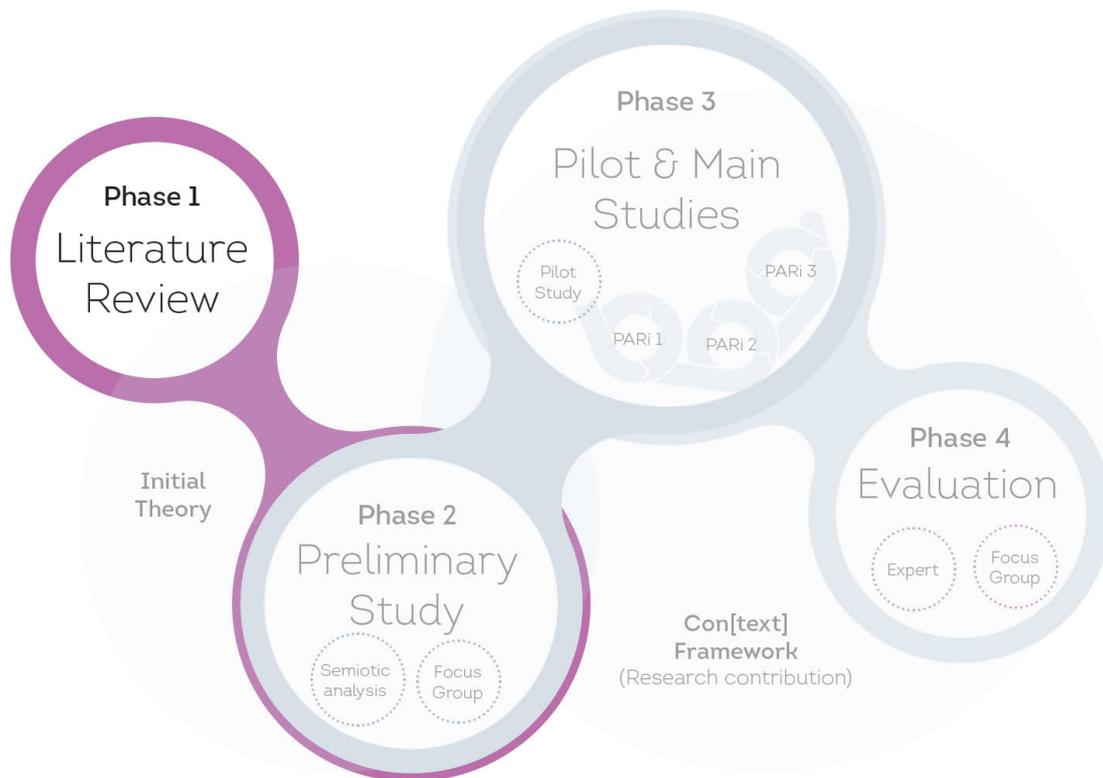
- **Chapter 7 – DISCUSSION**

This chapter integrates and discusses findings from the research in light of extant literature and knowledge, situating the contribution within the specific field of sPSS and related areas of research and practice. An overall introduction to the topics discussed is provided, followed by three sections that discuss the research impact in terms of the perception of sustainability in culture, Design for Sustainability's underlying ideologies and values and implications to the practice and education of Design for Sustainability.

- **Chapter 8 – CONCLUSIONS AND FUTURE WORK**

The final chapter brings together all the previous chapters, summarising this research project. This is achieved by demonstrating how the research aim and objectives were met, and the presentation of its overall conclusions (i.e. its results and findings). In addition, it presents the limitations to the research, its contribution to knowledge and highlights further research avenues.

Chapter 2 – Literature Review



The purpose of Phase 1 was to inform the context and direction of the research, by gaining a deeper understanding of the area of study, identifying prior research, key authors and knowledge gaps.

A review of literature was conducted at this phase, from which the Initial Theory that formed the basis of the subsequent research stages was generated, in line with Objective 1 of this research (Chapter 1, section 1.3.2):

To emphasise the connection between the goals of environmental and social sustainability (securing happiness and well-being for all), and the cultural values that underpin it, in order to inform the role that design can play in legitimising these values.

Figure 2.1 shows the relevant topics covered by the literature review, and the sections that follow outline the summarised key findings. The intention of the research is marked by the dotted line, i.e. design disrupting dominant consumption and production patterns to achieve greater societal sustainability, happiness and well-being.

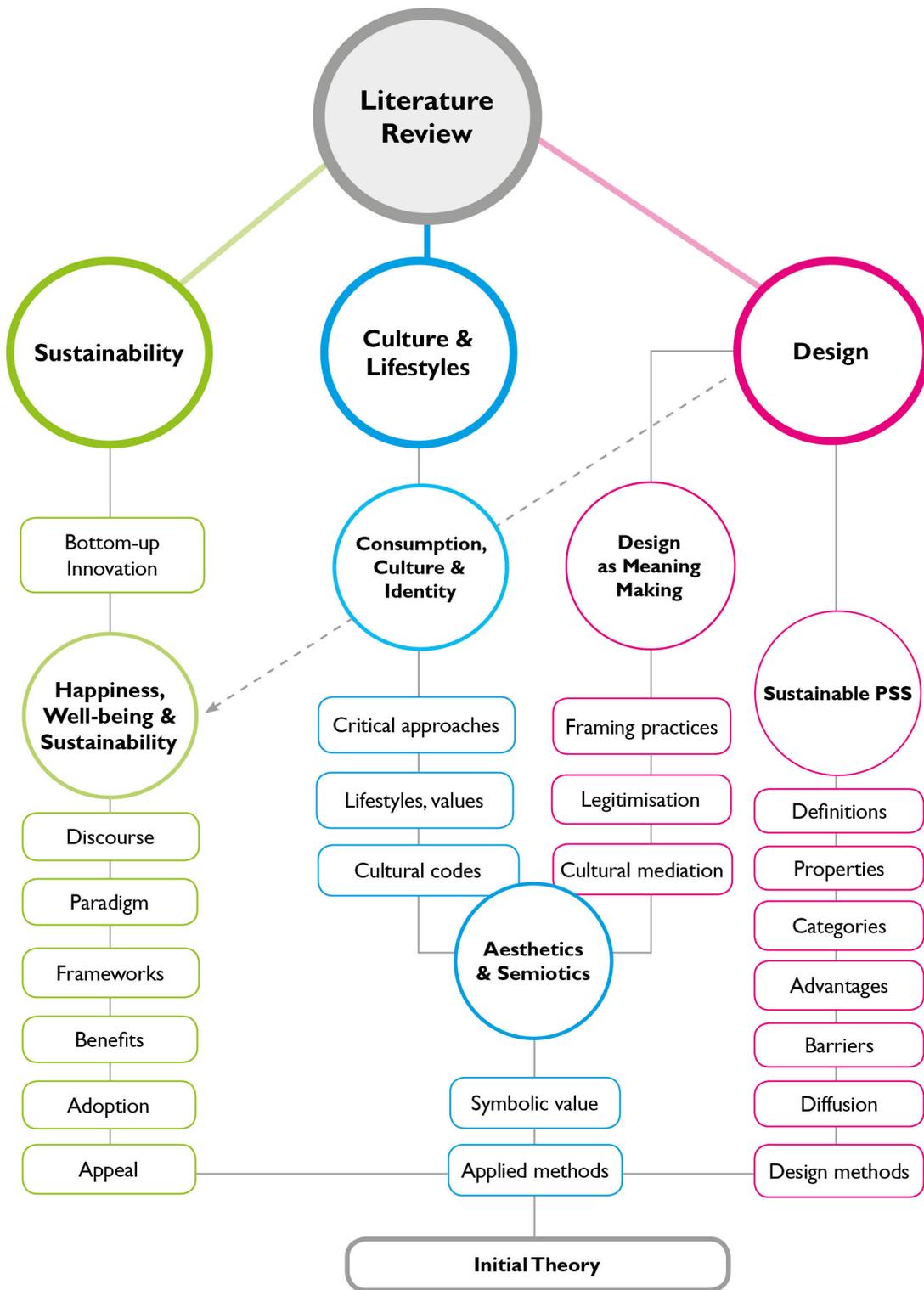


Figure 2.1 – Literature Review Map

2.1 A Sociocultural Transition to Sustainability

It is now widely acknowledged that societal well-being – as currently pursued, undertaken and measured – is causing damage to our environment, resulting in irreversible changes in climate, biodiversity loss and overconsumption of non-renewable natural resources. The following sections highlight the aspects of literature relevant to the state of our society and the socio-economic and environmental challenges that humanity faces.

As design not only contributes to, but ‘in many ways now constitutes [the] quality of life’ (Ehrenfeld, 2008, quoting Peter Lawrence, p. 157), the relationship between well-being, sustainability and cultural values is explored, to inform how Design for Sustainability can contribute towards this sociocultural paradigm transition.

2.1.1 Happiness, Well-being and Sustainability

‘Happiness is the meaning and the purpose of life, the whole aim and end of human existence.’

– Aristotle

In April 2012, a global movement that upholds well-being, happiness and sustainability as the hallmarks of ‘a new economic paradigm’ was launched at the headquarters of the United Nations in New York. The urgent need for systemic change was called for, as more than eight hundred distinguished participants recognised that ‘[the] present GDP-based system was devised prior to any knowledge of climate change or the finite limits of the earth’s resources, and it prioritises material growth and consumption at the expense of nature and people’ (Royal Government of Bhutan, 2012, pp. 10–11).

Traditionally, well-being has been measured on a single objective dimension: the material wealth of a country measured by Gross Domestic Product (GDP). The GDP system was adopted as a main tool for measuring a country’s economy in 1944, as a means for regulating the global economy after the Second World War. This model assumes that prosperity (societal well-being) is as a result of economic growth alone. However, it is increasingly acknowledged that GDP cannot provide an accurate reflection of a society’s well-being solely by measuring material wealth, as ‘well-being is multidimensional encompassing all aspects of human life’ (Conceição & Bandura, 2008). Jackson & Victor (2013) point out that ‘prosperity resides in the quality of our lives and in the health and

happiness of our families. It is present in the strength of our relationships and our trust in the community. It is evidenced by our satisfaction at work and our sense of shared meaning and purpose. It hangs on our potential to participate fully in the life of society' (ibid., p. 19).

Consequently, new measures of progress that incorporate the breakthrough findings of Positive Psychology on well-being and happiness are being explored to inform policy and public decision-making (Bergh & Antal, 2014). Good examples include Bhutan's Gross National Happiness framework and The Happiness Index (Ura et al., 2012), and more recently the UK's Legatum Report, which calls for a new policy direction that puts well-being at the core of economy and society (The Legatum Institute, 2014).

Happiness is a slippery concept to define and there is no clear consensus on what 'happiness' means, but broadly speaking, studies distinguish two aspects: the hedonic and the eudaimonic. Hedonic happiness is related to *feeling* happy, and is generally related to feelings and emotions that arise from daily experiences. Eudaimonic happiness (the Aristotelian approach), on the other hand, is normally a synonym of *being* happy (Bruni & Porta, 2007, p. xviii). This aspect is usually associated with a subjective mental state of well-being and life satisfaction (Kahneman & Krueger, 2006).

Although well-being can present itself as an 'ambiguous concept, lacking a universally acceptable definition and often faced with competing interpretations', it is 'generally viewed as a description of the state of people's life situation' which 'people and policymakers generally aspire to improve' (Conceição & Bandura, 2008, p. 1). Economists and policymakers often use the terms 'happiness', 'well-being' and 'life satisfaction' interchangeably. For example, a recent report by NEF refers to the eudaimonic aspect of well-being (rather than happiness) as 'well-being [that] refers to leading "a life well lived", interacting with the world around you to meet basic psychological needs such as experiencing a sense of competence or sense of meaning and purpose' (NEF, 2014).

The notion of 'sustainability', as derived from the concept of Sustainable Development, is a systemic approach that strongly links environmental and socio-economic issues (Gallopín & Raskin, 2002; Jackson & Victor, 2013). A conceptual model for sustainable development constituted by 'three pillars' or dimensions – ecological, social and economic – was introduced and popularised by the Brundtland Report (1987). It is from this approach that the widely adopted concept of the 'triple bottom-line' (people, planet and profit) arises as a 'win-win' situation for all stakeholders. It attempts to reconcile three interconnected – and

often seen as conflicting – interests for the achieving of a ‘common goal’, i.e. sustainable development. However, it has been argued that sustainability is not a goal in itself but a guiding policy to achieve other goals – i.e. the well-being of planet and people (Ehrenfeld, 2008; Gallopín & Raskin, 2002; Jackson & Victor, 2013; Marcuse, 1998).

As research on happiness and life satisfaction influences measures of well-being, policymakers are enabled to adopt a more holistic, multidimensional take on sustainable development. Increasingly it is being recognised that sustainability is not a technical problem to be solved but *a set of values that guide our actions*, and ultimately a cultural issue (Ehrenfeld, 2008; Girardet, 2008). Hawkes (2001, p. vii) reminds us that a ‘society’s values are the basis upon which all else is built’, and that such values are expressed as a society’s culture.

In the last decade, many have been adopting a ‘Four Pillar’ approach, with the addition of a ‘cultural dimension’ (Hawkes, 2001). The cultural dimension of sustainability focuses on how cultural forms should develop to express a sense of well-being, energy, creativity, diversity and innovation in human societies (Hawkes, 2001). Hawkes conceptualises it as the manifestation of robust diversity, compassionate inclusivity, energetic creativity, open-minded curiosity and community well-being, as well as the existence of tolerance and flexibility. He presents it as one of the basic requirements for facilitating an energetic community, a notion that ought to be taken up or addressed in government policy. Figure 2.2 B) depicts an interpretation of Hawkes’ ‘Four Pillar’ approach, where all dimensions are guided by sustainability policy to achieve the goals of societal well-being and happiness.

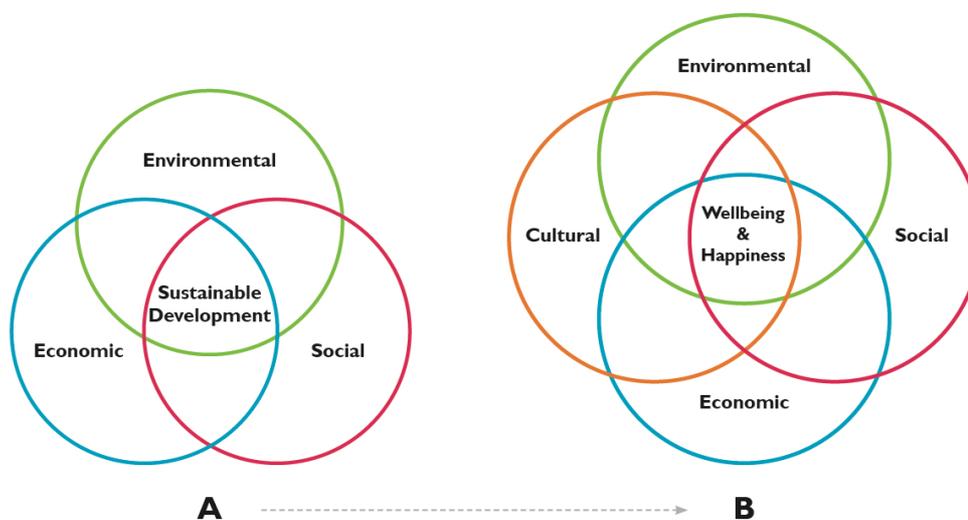


Figure 2.2 – From a ‘Three Pillar’ to a ‘Four Pillar’ model of sustainability, based on Hawkes (2010)

The 'Four Pillar' approach to sustainability has been widely adopted in local policy and city development, now advocated by a worldwide alliance of over 480 cities (UCLG, 2006, 2013), and it is preferred for developing, implementing and measuring policy impact and actions at a practical level because it provides clearer focus and goals for revitalising local economies, promoting social cohesion through a shared identity and protecting a 'sense of place', as well as ensuring environmental protection (GCCP, 2013; Norwood, 2012).

Figure 2.3 exemplifies this framework's implementation by the local government in Adelaide, Australia.



Figure 2.3 – A 'Four Pillar' approach to local development (Norwood, 2012)

This model is more specific in defining the social dimension than the traditional 'Three Pillar' model. Further expanding it into the 'cultural' aspect, it is meant to encourage an interpretative description of the sustainability of an urban region and its immediate hinterland. Here, societal well-being is understood in relation to local context in four dimensions: environmental sustainability, social equity, economic prosperity and cultural vitality. Beyond simply constraining consumption and production of goods within environmental limits, a four-pillar model of sustainability acknowledges the need to preserve cultural diversity as well as environmental protection, a task that involves 'maintaining and enhancing social and environmental well-being' (Jackson & Victor, 2013 p. 15).

Considerable implications are drawn for design practice in terms of what factors may be considered during the design process, when looking through the 'Three Pillar' or 'Four

Pillar’ lens accordingly (Table 2.1). If sustainable innovations are developed under a three-dimensional lens, many sociocultural aspects can be overlooked as the social dimension is too loosely defined and open to a myriad of interpretations (Hawkes, 2001). This might explain in part why most research so far has concentrated on how to deliver social value through sPSS (for example, enhanced social cohesion), but research on issues related to cultural aspects that affect sPSS appeal and uptake (such as user’s needs for social identification and differentiation, and rootedness to context) is scarce.

Sustainability Dimension	Factors that may be considered by Design	Three Pillar Model	Four Pillar Model
Environmental	PSS innovation provides environmental benefits (e.g. low resource consumption)	✓	✓
Economic	PSS innovation is economically viable and self-sustainable	✓	✓
Social	PSS innovation provides social value (e.g. social cohesion, job generation, social inclusion)	✓	✓
Cultural	PSS innovation is rooted in its context, and offers improved ‘quality of life’ benefits over existing choices	?	✓

Table 2.1 – Considering PSS design through a ‘Three Pillar’ and a ‘Four Pillar’ approach to sustainability

2.1.2 Cultural Values and Sustainability

Researchers working in the field of Sustainable Consumption and Production have started to recognise the central role of values in the production/consumption cycle. Barber (2010) holds that values are not just the main drivers of our (perceived) needs and wants (Vergragt et al., 2014), but a central influence to all the stakeholders in the production and consumption cycle (Figure 2.4).

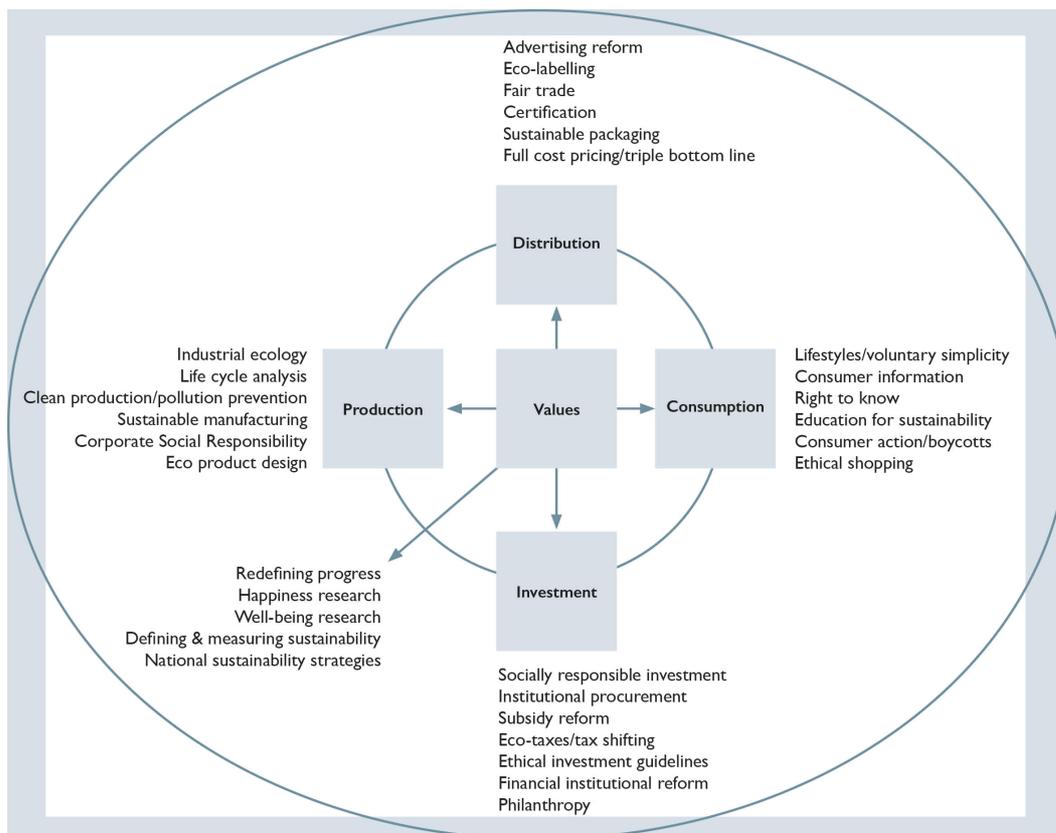


Figure 2.4 – Research and practice in Sustainable Production and Consumption systems (Barber, 2010)

Since design signifies and mediates meanings and values with its output, it bears responsibility for the values it promotes and legitimises.

Values represent our guiding principles: our broadest motivations, influencing the attitudes we hold and how we act (Schwartz et al., 2012). Evidence shows that certain values contribute to a greater sense of well-being and pro-environmental attitudes while others do not. It has been well documented that people’s decisions are driven importantly by the values they hold – frequently unconsciously, and sometimes to the virtual exclusion of a rational assessment of the facts (Kahneman, 2012; Tversky & Kahneman, 1981). Interdisciplinary research has evidenced the role of values in influencing consumer behaviour (Shaw et al., 2004) and engagement with environmental issues (Corner et al., 2014; Wolsko et al., 2016).

Self-determination (STD) theorists who study the tendencies of human motivation (Deci & Ryan, 1985) group values in two clusters: ‘intrinsic’ or self-transcendent values (community, relationships, affiliation, self-development) and ‘extrinsic’ or self-enhancing values

(financial success, material wealth, power). Both intrinsic and extrinsic values coexist in the individual.

People's values tend to cluster in similar ways across cultures, and some sets of values can easily be held simultaneously while others oppose one another. Intrinsic values relate to needs that are understood as innate and universal, essential for an individual's psychological health, and when satisfied, allow optimal functioning and growth (Grouzet et al., 2005). Table 2.2 provides a summary of motivational goals classified as 'intrinsic' or 'extrinsic':

	Goal contents	Description	Sample items	
Intrinsic	Affiliation	To have satisfying relationships with family and friends	'I will have a committed, intimate relationship.'	Increased subjective well-being and pro-environmental behaviour
	Community feeling	To improve the world through activism or generativity	'I will assist people who need it, asking nothing in return.'	
	Self-acceptance	To feel competent and autonomous	'I will have insight into why I do the things I do.'	
	Spirituality	To search for spiritual or religious understanding	'I will find religious or spiritual beliefs that help me make sense of the world.'	
	Physical health	To feel healthy and free of illness	'I will be physically healthy.'	
Extrinsic	Financial success	To be wealthy and materially successful	'I will be financially successful.'	Decreased subjective well-being and pro-environmental behaviour
	Image	To look attractive in terms of body and clothing	'My image will be one others find appealing.'	
	Hedonism	To experience much sensual pleasure	'I will experience a great deal of sensual pleasure.'	
	Popularity	To be famous, well-known and admired	'I will be admired by many people.'	

Table 2.2 – Intrinsic and extrinsic goals provide motivation for behaviour (Grouzet et al., 2005)

They have found that when *extrinsic* values are dominant, there is a poor sense of well-being and decreased pro-social and environmental attitudes; conversely *intrinsic* values are associated with a higher sense of well-being and increased pro-social and environmental attitudes. We live happier and more sustainable lives when our goals and aspirations are driven by intrinsic values (Hurst et al., 2013; Schmuck et al., 1999).

2.1.3 A Societal Shift: from Cultures of Consumption to Cultures of Sustainability

By the ways in which design chooses to represent meanings and values, it adopts ideological positions towards the dominant cultural discourses – it can reaffirm, critique or challenge them (Fuad-Luke, 2009). This opens a space to analyse the role that oppositional identities and movements (Williams, 1977), i.e. *cultures of sustainability and well-being*, play within the dominant *cultures of consumption*, and how effective they might be in shifting it.

Williams (1977) poses that while dominant perspectives and values are embodied in wider society or by the ruling and most powerful class/es, emergent values, beliefs and practices are constantly being developed out of a new set of social interactions as societies change. Emergent forms do not exist in isolation, but coexist within or alongside the dominant culture, operating in a process of continual tension that can take the form of both incorporation and opposition.

The following sections consider these coexisting dominant and emergent ideologies, their underlying values and sociocultural expressions, in view of what design supports in a sociocultural paradigm transition.

2.1.3.1 Dominant Forms: consumption lifestyles

Slater (1999) holds that all consumption is intrinsically a cultural process but ‘consumer culture – or a culture *of* consumption – is unique and specific: it is the dominant mode of cultural reproduction developed in the West over the course of modernity’ (p. 8). As such, lifestyles of consumption reflect a particular world view and its associated cultural values.

In 1955, anthropologist and marketer Victor Lebow introduced a ‘vision’ for a consumer society in which he laid the foundations of modern lifestyle values:

‘Our enormously productive economy demands that we make consumption our way of life, that we convert the buying and use of goods into rituals, that we seek our spiritual satisfactions, our ego satisfactions, in consumption. The measure of social status, of social acceptance, of prestige, is now to be found in our consumptive patterns. The very meaning and significance of our lives today expressed in [is] consumptive terms’ (Lebow, 1955, p. 3).

The culture of consumerism – which values *consuming* over *doing, being* or *producing* – dominates modern lifestyles in high-income countries. This system, based on the principles of a ‘free market economy’ of ‘choice’, promotes consumption as a way to freedom, well-being and happiness.

Thorstein Veblen coined the term ‘conspicuous consumption’ in the late nineteenth century, but what was then the concern of the elite social classes has now become the mainstream lifestyle of the modern West (Slater, 1999). However, in the last four decades an even deeper structural change has emerged in Western societies: the reversal of the traditional relationship between production and consumption, with marketing, which was first *subordinate* to production, now having a central role and ‘dictating’ what gets produced. Modern marketing builds symbolic associations between the product and the psychological states of potential consumers rather than promoting products on ‘usefulness and merits’ (Hamilton, 2010; Slater, 1999).

Today, beyond fulfilling a function, products have come to provide satisfaction as symbols of status, identity and belonging and practices of consumption have been transformed from a means to meeting needs to a process for construction of personal identity (Belk, 2004). As Hamilton puts it, ‘citizens of affluent countries increasingly seek a sense of self from their consumption activity instead of their workplace, class or community’ (Hamilton, 2010, p. 571). In this, he argues that ‘the market rules less by material or political compulsion and more by consent’ (ibid., p. 573) due to the widespread popular belief that to find happiness one must be able to acquire more and have endless choice. What was once proposed by Lebow as a ‘vision’ has become commonplace in rich societies. The power of the market economy resides in this ideological strategy (Hamilton, 2010).

Our current socio-economic paradigm has placed great emphasis on prosperity and growth through material consumption, with its mantra that ‘the more we own, the happier we will be’. However, an ever-growing body of evidence confirms that increasing consumption does not secure people’s well-being and happiness, but in fact, it undermines them. Beyond environmental damage and resource depletion, its consequences are ever-increasing inequality, economic indebtedness, instability, conflict and decreased happiness and well-being (Hurst et al., 2013; Wilkinson & Pickett, 2009). Evidence shows that above a certain threshold, increasing acquisitive power does not result in an increased sense of happiness and life satisfaction (Kahneman & Krueger, 2006). According to Brickman and Campbell’s

(1971) theory of the *hedonic treadmill*, as a person makes more money, expectations and desires rise in tandem, which results in no permanent gain in life satisfaction.

Overconsumption, therefore, has grave consequences not only in terms of environmental capacity, but also in terms of well-being. When consumption becomes a substitute for real meaning, consumers lapse into a permanent state of unfulfilled psychological and social need (Crompton, 2011; Ehrenfeld, 2008; Hamilton, 2010), ‘the existential state of the consumer in modern capitalism’ (Hamilton, 2010). As most people in developed countries today seek ‘proxy’ identities by means of commodity consumption (Belk, 2004), in Hamilton’s view ‘environmental appeals to change consumption behaviour implicitly ask people not merely to change their behaviour but to change their sense of personal identity’. This can be perceived as threatening and produce indifference and dismissal (Crompton, 2011; Hamilton, 2010).

2.1.3.2 Emergent Forms: sustainable lifestyles

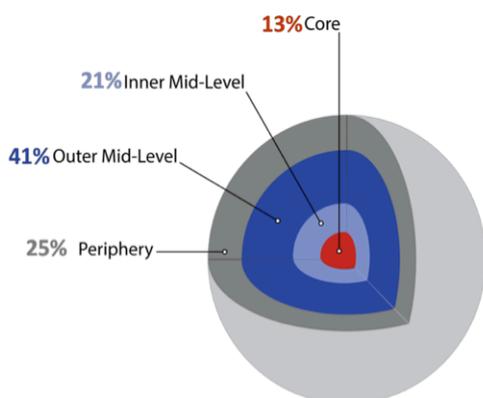


Figure 2.5 – World of Wellness Segmentation (The Hartman Group, 2013a)

As awareness of environmental problems and consumers’ unfulfilled promise of happiness grow, many are beginning to question the popular belief that well-being is dependent on material wealth.

The strongest evidence that backs this position is provided by The Hartman Group’s ‘World of Wellness’ market segmentation model (Figure 2.5), which accounts for consumer engagement with the ‘wellness culture’ and provides

comprehensive insight into cultural change and the emergence and adoption of values and trends in the Health and Wellness market. The growth in a ‘market group’ which strongly supports the notion that the pursuit of personal development, spirituality and a more dematerialised concept of well-being is no longer relegated to the periphery, but is undeniably migrating to the centre of mainstream culture.

According to their 2013 report (The Hartman Group, 2013b), behaviourally and aspirationally, Core consumers privilege authenticity, sustainability, quality and knowledge. Mid-level consumers have solidly embraced ideas of Health and Wellness that integrate

mind and body, self and community [. . .] and Periphery consumers aspire to manage their health proactively, with a goal of happiness rather than simply freedom from illness. In essence, the report highlights that for the first time all market segments share in a broadened, personal, proactive wellness perspective, which means that well-being is now a mainstream society pursuit and interest.

Equally, Nelson et al. (2007) argue that alternative forms of consumption are a new form of civic engagement. For example, *downshifting* – the notion of reducing work hours, thereby income, to increase leisure time and reduce the level of stress associated with modern lifestyles – is a cultural form that expresses a desire for challenging the values of consumerism. Downshifting consumers, they hold, are less materialistic and brand-conscious, and also tend to practise political consumption (e.g., boycotts, *buycotts*), engaging in digital rather than traditional forms of civic and political participation. A study shows that 25 per cent of British adults aged 30–59 had downshifted over the previous decade. However, a conflict between dominant societal values and personal values is revealed, with 87 per cent of British surveyed participants admitting that ‘money-hunger’ societal pressure conflicts with their deeper values and preferences (Hamilton, 2003).

In summary, these emergent cultural trends demonstrate the clear shift in motivations and values that is central to transitioning society towards a new socio-economic paradigm. However, it is evident that this shift is driven by the pursuit of more fulfilling and dematerialised lifestyles, expressed as better ‘quality of life’, and not as the pursuit of environmental sustainability alone (H. Brown & Vergragt, 2015).

2.1.4 Bottom-up Innovation: a grassroots approach to paradigm shift

Rethinking the role that consumption plays in individual well-being and societal development is key for addressing pressing environmental problems. Akenji (2014) presents a model with three necessary conditions to shift the system towards sustainability: the right *attitudes* by all stakeholders (shaped by values and knowledge); *facilitators* who translate attitudes into action (incentives and constraints); and sustainable *infrastructure* (including systems of provision and the physical infrastructure) (Figure 2.6).

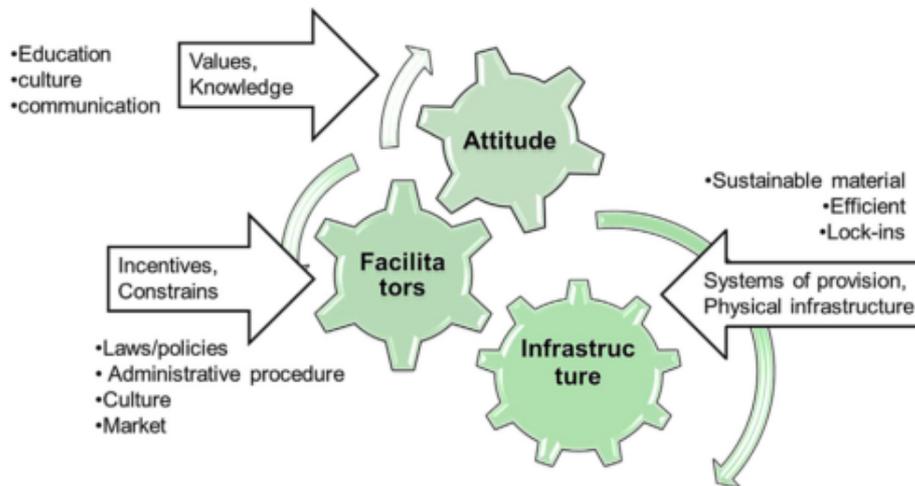


Figure 2.6 – Key elements for mainstreaming sustainable consumption (Akenji, 2014)

This model evidences that consumption, as a social activity, requires all stakeholders to take responsibility. However, in the face of government shying away from addressing consumption at a structural level, and the business agenda still being driven by maximising profit and externalising environmental costs (Vergragt et al., 2014), the hopes for systemic change have turned to civil society. In this, it is worth exploring the role of design in empowering communities as they seek to embrace innovative ways to improve their lives and environment (Staszowski, 2010). Society develops and breeds innovations in forms of new practices, institutions, ‘rites, techniques, customs, manners and mores’, plus technology and technological innovations’ (Howaldt & Schwarz, 2010, p. 4). As such, innovations are created and produced by a variety of societal actors from many walks of life, not only in science and business. Although all innovation is socially relevant, most policies concentrate on top-down innovation, often neglecting the value that bottom-up initiatives – i.e. ‘grassroots innovation’ and ‘community action’ – hold for sustainable development (Akenji, 2014; Seyfang & Smith, 2007).

Seyfang and Smith (2007) define ‘grassroots innovations’ as:

Networks of activists and organisations generating novel bottom-up solutions for sustainable development; solutions that respond to the local situation and the interests and values of the communities involved. In contrast to mainstream business greening, grassroots initiatives operate in civil society arenas and involve committed activists experimenting with social innovations as well as using greener technologies.

Grassroots innovations reinforce 'intrinsic values' (see section 2.1.2) and seek environmental and socio-economic impact – e.g. job creation, training and skills development, personal growth, improved sense of community, social capital, improved access to services and facilities, health improvements, greater civic engagement (Akenji, 2014). But also, they provide 'diffusion benefits' – the potential to generate transformations which individuals, 'stuck in incumbent socio-technical regimes, are powerless to change' (ibid., p. 21) allowing room for people to design lifestyles that may be different from the mainstream but more adapted to their needs. For example, Lorek & Spangenberg (2014) encourage NGOs to shape members 'value sets' towards more intrinsic motivation through better leadership, to initiate and catalyse grassroots and to work more closely with academia.

Manzini (2014) argues that design initiatives might be geared towards 'making social innovation more probable, effective, long-lasting, and apt to spread' (ibid., p. 65). Some early examples evidence that design practitioners, researchers and educators have started to explore ways to collaborate with, support and promote sPSS grassroots social innovations. For example, the European project SPREAD Sustainable Lifestyles 2050 (2011–2012) brought together business, research, policy and civil society in a backcasting exercise to develop visions for sustainable lifestyles in 2050 and identify European research policy priorities (Mont et al., 2014). Another example is the Local Exchange Trading Systems (LETS), which explored opportunities to learn from participatory and community-based strategies aimed at developing social and humanistic aspects of well-being (Briceno & Stagl, 2006).

Tie et al. (2014) envision that design based on collaborative actor networks and communities may become a new paradigm for social innovation. They report on a series of pilot sPSS innovations that, supported by Jiangnan University and Politecnico di Milano, were implemented under a collaborative action research framework to better understand the role of designers and the practical aspects of their involvement in sPSS social innovation. Tie et al. (2014) report the benefit of these pilots for the design and local communities: 'We have transformed the conventional participatory, user-centred design approach, in which designers often serve in an uncertain and individual, business-orientated way, into a new method that integrates design resources as the power of a network and promotes social innovations that meet common social needs (Community-Centred Design)' (p. 359).

Modes of grassroots approaches to innovation can be varied, and are initiated by several 'actors' in society (Howaldt & Schwarz, 2010). Designers often engage with grassroots innovation in different roles: as design practitioners (whether working commercially or in the design activism sphere), as 'designpreneurs' (starting up their own businesses) or through universities or other academic institutions, which increasingly facilitate engagement with local communities through teaching and research programmes (Manzini & Staszowski, 2013).

In summary, there seems to be clear consensus that design engaged with grassroots innovation platforms can amplify its impact and agency for supporting society, communities and individuals in transitioning towards lifestyles of well-being and sustainability in many respects. However, this is a relatively new area of research, and the cultural mediation role that design can play by boosting competitive advantage, legitimising and amplifying the effects of grassroots innovation has not been clearly articulated and is worth further investigation.

2.1.5 The Concept of Sustainability in Consumer Culture

As with all world views, the dominant consumerism and emergent sustainability socio-economic views are expressed in discourses and representations, offering people 'propositions' of values and lifestyles.

The lack of resonance that current approaches to sustainability generate has raised concerns which are being increasingly voiced in academia (Ehrenfeld 2008; Hamilton 2010; McKenzie-Mohr 2013; Mont & Plepys 2008; Vergragt et al. 2014), the media (A. Clark, 2013; Grinnell-Wright, 2013; Locskai, 2013) and the business sectors (Gillispie, 2012; Jaber, 2009; Makower, 2013). Barriers to the adoption of more sustainable consumption patterns have been attributed to entrenched habits, resistance to change, value-action gap, pricing, inconvenience, lack of availability and regulation (Kollmuss & Agyeman, 2002; McKenzie-Mohr, 2013; Mont & Plepys, 2008). Equally, the 'green consumption' paradox has been argued extensively, concluding that the level of consumption itself is not reduced (Akenji, 2014; Connolly & Prothero, 2003; Vergragt et al., 2014).

Although different concerns and views are articulated from a variety of angles, there is consensus on the 'lack of effectiveness' of the sustainability discourse to mobilise and

transform behaviour. The issues have been problematised around the following topics:

Benefits, Meaning, Affinity and Promise:

Benefits

For a long time, the sustainability discourse has taken a ‘problem–solution’ approach. It assumed that enunciating ‘hard facts’ around environmental issues and then highlighting the environmental benefits of sustainable offerings would be compelling enough for people to prefer these choices. But the growing societal concern with environmental issues has not directly translated into higher demand for sustainable offerings. For example, sales of green products in the US represent well under 1 per cent of any given category (Makower, 2013).

People quite easily and often make changes to their lifestyles by incorporating new practices and products, but they do so to enhance their life experience in practical and meaningful ways. Framing the offer to switch to sustainability around environmental benefits translates into the ‘environment first’. Far from being presented as a personal gain, the offering generates action by guilt, or is interpreted as an altruistic pursuit. Neither of these can capture a wide range of adopters. In order for people to see meaning in sustainability, ‘they must see some degree of personal benefit, regardless of their orientation in the World of Sustainability’ (Harman, 2014; The Hartman Group, 2013b).

Meaning

Although the meaning of sustainability as a concept is growing society-wide, there is still generalised confusion about what sustainable practices or products are – beyond those clearly labelled as ‘green’ or ‘eco’ (Hanss & Böhm, 2013). A reason why the sustainability concept is often ill-defined in people’s minds is that sustainable lifestyles can be ‘practised’ in manifold manifestations, but the inability to form clearly defined meanings impacts on the significance it bears in people’s lives (Ehrenfeld, 2008).

Affinity

The sustainability discourse has been deficient in connectedness and emotional appeal with people (Makower, 2013). It relies on traditional ‘rational’ decision-making, often by presenting us with ‘evidence’ such as scientific proof, compelling statistics and ‘hard facts’. This approach assumes a human behavioural mechanism for decision-making based on rational calculations to make the ‘right’ choice. However, when people make decisions, perceptions and emotions seem to have a greater weight on our choices and preferences

(Kahneman, 2012). In comparison, the dominant consumerism discourse utilises highly developed strategies targeted to our senses and emotions, centred on a discourse for attaining happiness through continuous consumption of goods (Hamilton, 2010). Sustainable offerings would benefit from a stronger appeal to the emotionality of customers to be more effective (Grimmer & Woolley, 2012, p. 16).

Promise

As previously noted, happiness and well-being are universal, cross-cultural legitimate pursuits. As such, they are within the deepest and strongest intrinsic motivators that drive our aspirations and goals, and consequently our priorities and behaviours. It is not accidental that the consumerist discourse relies heavily on them to appeal to a mainstream audience. Their effectiveness as deep emotional drivers are demonstrated in the extent to which we have surrendered to the allure of consumerist illusions that reflect them (Kasser, 2002). Evidence shows that, although happiness and sustainability are often portrayed as conflicting pursuits, they may actually be complementary (K. W. Brown & Kasser, 2005). The sustainability discourse, with a few exceptions, rarely acknowledges the emotional driving potential they pose for communicating with mainstream audiences.

In summary, these views seem to express that at present, the lifestyle proposition of consumerism is greatly appealing because it is equated with abundance and happiness, while sustainability is equated with restriction and dullness. It seems that, at present, most sustainable products and services are being positioned within the ‘green’ and ‘eco’ – one that is perceived as niche at best, and obscure, poorly understood or totally absent from people’s minds at worst.

To conclude, Table 2.3 summarises the comparison between both discourses, showing consensus on the ineffectiveness of the current sustainability discourse.

	Consumerist Discourse	Sustainability Discourse
Benefits	Clear, direct	Unclear, indirect
Meaning	Clear, targeted	Unclear, generic
Affinity	Mainly emotional	Mainly rational
Promise	Happiness and well-being are instrumentally present	Happiness and well-being are implicit

Table 2.3 – A brief comparison between the consumerist and sustainability discourse characteristics

This suggests that communicating and representing sustainable offerings with references around personal benefits of ‘greater happiness and well-being’ and establishing an emotional connection with users is required to enhance how sustainability is perceived (made meaningful and relevant) for people in their everyday lives.

In general terms, sustainability propositions do not seem currently very attractive for people. Sustainability calls for ‘lowering resource consumption’. Consequently, sustainable choices seem to lack popularity because they are often equated with ‘settling for less’ (Luchs et al., 2010). As humanity constantly pushes towards development and progress, the concept of sustainability is often perceived as ‘cutting down’, and therefore a loss, rather than gain. However, if sustainable development is considered a more legitimate way to achieve *a better life for all humanity*, sustainability should be equated in people’s minds as ‘going for the best’.

Framing affects people’s attitudes and behaviours towards sustainability. At present, sustainable offerings seem to be represented around the aesthetics and narratives associated with the ‘green/eco’ category. This framing triggers ideological associations that users have previously stored in their minds, and it poses two main problems:

1. When the associations are positive, users who ‘get’ these meanings would be drawn and would perhaps consider the proposition further.
2. If the associations are negative, or absent, the proposition becomes ‘invisible’, and will be consequently discarded or ignored.

Positioning sustainable offerings within the green/eco category, therefore, creates a closed loop of ‘preaching to the converted’ – i.e. only those already within the sustainability ‘universe of meaning’ connect with the proposition, and those outside of it remain unaffected (Grimmer & Woolley, 2012). This has important implications for Design for Sustainability outputs, and representations need to account for the framing effect and other possible cognitive biases.

2.1.6 Perception and Decision-making: Cognitive Biases

Extensive studies have been conducted in social psychology on the effects of framing, which is considered a ‘cognitive bias’ that describes how people react to a particular choice in different ways depending on how it is presented – e.g. a loss or gain (Chong & Druckman,

2007). Cognitive biases such as the ‘framing effect’ are central to understanding human decision-making. The most significant contribution in this field in recent years has been Prospect Theory (Kahneman & Tversky, 1979; Tversky & Kahneman, 1992), which is the theoretical basis of behavioural economics.

2.1.6.1 Framing effect

Tversky and Kahneman (1981) explored the ‘framing effect’ by conducting an experiment to assess how different phrasing affected participants’ responses to a choice in a hypothetical life and death situation. Participants were asked to choose between two treatments for 600 people affected by a deadly disease. Treatment A was predicted to result in 400 deaths, whereas treatment B had a 33 per cent chance that no one would die but a 66 per cent chance that everyone would die. Gain and loss are defined in the scenario as descriptions of outcomes (e.g. lives lost or saved, diseased patients treated and not treated, lives saved and lost during accidents, etc.). This choice was then presented to participants either with positive framing, i.e. how many people would live, or with negative framing, i.e. how many people would die (Table 2.4).

Framing	Treatment A	Treatment B
Positive	‘Saves 200 lives’	‘A 33 per cent chance of saving all 600 people, 66 per cent possibility of saving no one’
Negative	‘400 people will die’	‘A 33 per cent chance that no people will die, 66 per cent probability that all 600 will die’

Table 2.4 – Example of positive and negative framing (Tversky & Kahneman, 1981)

Treatment A was chosen by 72 per cent of participants when it was presented with positive framing, dropping to only 22 per cent when the same choice was presented with negative framing. Further experiments conducted by other researchers in other contexts confirmed these results (Bibas, 2004; Druckman, 2001; Gächter et al., 2009).

The process of mental accounting in which people organise the outcomes of transactions explains some anomalies of consumer behaviour. In particular, the acceptability of an option can depend on whether a negative outcome is evaluated as a cost, or as an uncompensated loss. Prospect Theory shows that a loss is more significant than the equivalent gain (Tversky & Kahneman, 1981), that a sure gain (certainty effect and pseudocertainty effect) is favoured over a probabilistic gain (D. Clark, 2009), and that a probabilistic loss is preferred to a definite loss (Tversky & Kahneman, 1981). One of the

dangers of framing effects is that people are often provided with options within the context of only one of the two frames (Druckman, 2001).

If sustainability as a lifestyle proposition is perceived as a loss, it needs to be 'reframed' through representation. Therefore, the gap between *intention* and *interpretation* needs to be addressed by considering issues of how innovations are presented, or framed. As Lakoff (2010) rightly asserts, 'Truth must be framed effectively to be seen at all. That is why an understanding of framing matters'.

2.1.6.2 Values framing

The relationships between *decision* values and *experience* values are also investigated by Kahneman and Tversky (1984). More recently, a study examined how pro-environmental messages' moral framing affects views and intentions of liberal and conservative Americans on conservation intentions, climate change attitudes and donations to an environmental organisation (Wolsko et al., 2016). The study evidenced that while liberals' attitudes did not generally differ across conditions, conservative Americans shifted substantially towards the pro-environmental direction when the issue was presented within their binding moral frame (in which protecting the natural environment was portrayed as a matter of obeying authority, defending nature's purity and demonstrating patriotism to the United States).

The attitude and behaviour shifts towards a positive view related directly to the fact that the appeal was perceived as coming from the 'in-group' (their own). As it was perceived as congruent with their values, the appeal was considered a stronger argument. This presents considerable implications in terms of understanding the impact of moral framing when constructing targeted messaging for sustainability in the hope of behavioural and attitude change (Alexander, 2008; Crompton, 2011; Lakoff, 2010; Wolsko et al., 2016).

2.1.6.3 Psychological distance

Psychological distance refers to the extent to which an object is distant from the self – socially, in time, in space or in probability of occurrence (McDonald et al., 2015; Trope & Liberman, 2010). According to the Construal Level Theory, psychological distance is associated with different mental representations of object and events. When an object is perceived to be psychologically proximal or close to the self, it tends to be perceived more

concretely in the mind, on a low level of construal. Conversely, when an object is perceived to be distant from the self, it tends to be perceived in abstract or high-level terms.

Psychological distance is composed of four dimensions (Trope & Liberman, 2010): *spatial distance* refers to the distance in space between a target and a perceiver; *temporal distance* refers to the amount of time that separates the perceiver's present time to a target event; *social distance* refers to how distinct the social target is from the individual self; and *hypotheticality or probabilistic distance* refers to the likelihood of an event to happen or, in other terms, how close it is to reality as perceived by the individual.

These four different dimensions of psychological distance affect mental construals, which explains the effects of representation to guide prediction, evaluation and behaviours, for example, consumer responses to advertising (Liberman et al., 2007). Therefore, when an object is framed in a proximal (vs. distal) manner, individuals are more likely to construe this object in a concrete (vs. abstract) way. For example, it was demonstrated that consumers tend to construe events that occur far from where they live as abstract, whereas they tend to construe events that occur near to where they live as concrete (Fujita et al., 2006); and that exposure to representations (priming) is linked to identity, values, aspirations and beliefs, with a direct effect on behaviours (Fitzsimons et al., 2008).

In this research, the concreteness of sustainability is relevant to the extent to which the benefit of an sPSS innovation is perceived as concrete. A concrete object is usually defined as existing in reality, as being perceptible by the senses or real. Magnier et al. (2017) argue that a more sustainable product that embeds psychological proximity to a sustainable solution (perceived as local) in its design will be perceived as more concrete than an object that embeds far distance to a sustainable solution or does not embed any form of psychological distance.

2.1.7 Section Conclusions

The dominant paradigm based on lifestyles of consumption, despite the promise of democracy within market capitalism, is proving detrimental to people's well-being. The pursuit of sustainable development and societal well-being were initially seen as conflicting interests, due to the 'restricting' measures that sustainability policies seek to impose on a development model where well-being is measured solely in terms of material growth.

However, a more 'dematerialised' concept of societal well-being is emerging, bringing the pursuit of well-being and sustainable development more closely in line.

A growing number of emerging cultural expressions and movements uphold that society is too materialistic and that a radical change in values is needed. These groups express their beliefs through practices that bring long-term fulfilment because they are underpinned by intrinsic values, rather than on extrinsic motivations that reward only temporary satisfaction. In turn, practices based on intrinsic values have both the benefits of enhancing subjective well-being and are linked to more sustainable modes of production and consumption. However, these forms are still emergent, and the urgency to shift habits and change social arrangements on a wider scale calls for all actors in society to engage in sustainable practices; but sustainable consumption, in its present form, is failing to mobilise change.

Although interest in sustainability as a concept is rising society-wide, it does not seem to be the primary motivational driver for behaviour change, but rather a 'consequence' or part of a societal shift towards a new, more dematerialised definition of well-being and life satisfaction. Cultural aspects have been identified as a barrier for sustainable PSS mainstream adoption and diffusion – the user's ideals of value, their habits and preferences (further explored in section 2.3.1.2), which bring considerable impact to bear on the business sector's decisions based on customer demands. Currently, the way in which the sustainability *concept* is 'translated' into lifestyle *offerings* (opportunities for engagement) seems flawed. There seems to be a gap between the intentions of sustainability discourse producers and the interpretations of users. This gap between intended and interpreted meanings needs to be urgently addressed if sustainability is to become more relevant and meaningful to people, by focusing on the sociocultural values, practices and cognitive-perceptual issues that influence users' preferences and decisions, rather than on users' individual behaviour in isolation from studying their sociocultural contexts.

Considering that sustainability is as much a cultural as a technical problem, a 'Four Pillar' lens is being proposed as more suitable than a 'Three Pillar' approach, as many aspects of well-being (those that constitute a 'good life') are encapsulated within the sociocultural dimension (identity, community, self-expression, enrichment). This means in order to transition society from *cultures of consumption* to *cultures of sustainability*, it becomes essential that the opportunities afforded by Design's central position in cultural

reproduction are fully embraced and strategically mobilised to purposefully seek to legitimise intrinsic values that underpin societal sustainability and well-being.

2.2 Design and Cultural Reproduction

‘The power of every form of culture depends on its degree of legitimacy.’

– Susen & Turner (2011)

As design occupies a central role in mediating between production and consumption (du Gay et al., 2013) this section explores how design can contribute to ‘turn the tide’ of a dominant consumerist culture by legitimising new processes and practices based on values that support greater societal well-being and sustainability.

2.2.1 Consumption, Culture and Identity

The sociocultural meanings of goods have been well documented in marketing management (Mick & Oswald, 2006), design (Crilly, Good, et al., 2008; Julier, 2014; Shove et al., 2007; Verganti, 2008) and material culture (Henare et al., 2007) literatures. There is general consensus that meanings flow among cultural categories, consumer goods and consumers (Maguire & Matthews, 2012). Furthermore, these meanings have a direct effect on world views and behaviours (as discussed in sections 2.1.6 and 2.2.5).

As all lifestyles encompass a wide range of everyday consumption practices – using or using up something – consumption itself is intrinsically a cultural process (Slater, 1999) which as Julier (2014) recognises, ‘stands at the intersection of different spheres of everyday life, between the public and the private, the political and the personal, the individual and the social’ (p. 84). These practices, in turn, express a wider set of cultural and ideological systems – i.e. socio-economic paradigms or world views (ibid.) in which designed artefacts participate and become not only useful but meaningful.

Consequently the study of consumption practices has attracted the attention of scholars from a wide range of disciplines, and Julier (2014) broadly groups its main proponents under four different views: *passivity*, which views the consumer as a passive agent dominated by the power of the producing agents – i.e. manufacturers, designers, the media (Frankfurt School, Galbraith; 1958; Packard, 1980); consumer *sovereignty* (de Certeau, 1988; Hebdige, 1979), which views consumption as a means to emancipation from the

constraints of traditional social class entrapment or to empower subcultures to oppose dominant systems, for example, the concept of 'voting with our wallets'; *postmodern logic*, (e.g. Baudrillard, 1988) which sits between the first two opposing views and sees consumption as a practice that springs from socially arranged conditions in which the consumer participates, rather than an act produced by the individual's desire for an object. Under this view, to talk about 'consumer culture' is more appropriate than talking about individual consumption (Julier, 2014). In the last decade, Practice Theory (Schatzki, 1996; Shove et al., 2012; Warde, 2005) has emerged as a new approach to the study of consumption, based on the concept that people 'consume' or 'use' a series of resources and products while engaging in routine activities, focusing on consumption that is less conscious and shaped by habits (Mylan, 2015). Such an approach offers a richer understanding of consumption which goes beyond the economic (consumers as buyers) and socio-psychological views (consumers have attitudes that drive behaviour) (Shove, 2010), by also accommodating practical and cultural aspects of use (Mylan, 2014). But although it acknowledges the norms and collective conventions that govern the practice – which other disciplines, like semiotics and cultural studies, call 'cultural codes' (Chandler, 2007) – it does not go so far as to explain how framing and representations could be used to favourably influence user's perception of value(s) in a given context.

Therefore the question remains as to how designers can strategically enhance the perceived value of sustainable innovation by building on valuable cultural references (tacit or explicit), rather than expecting users to give up their cultural identity or change their values and behaviours by choosing sustainable lifestyle options. Most radical sustainable innovations (such as PSS) challenge the status quo of production–consumption arrangements and, in so doing, they enter a contestation space where other dominant propositions are better developed and implemented, and to have wider appeal, they need to be perceived as 'extraordinary experiences' (Tukker, 2004). Julier (2014) poses that design conspires to overlap fixed positions, 'making consumption both active and passive, meaningful and meaningless at the same time', often reconciling cultural dilemmas and contradictions, and that to understand how design affects and is affected by culture, 'it is perhaps more useful to understand the mechanisms of *how* [emphasis added] the exchanges of production and consumption take place' (p. 84).

2.2.2 Cultural Codes, Symbolic Value and Legitimation

To create strategic competitive advantage through design by enhancing value requires a deeper understanding of how perceived or symbolic value is created and delivered.

As signs, goods (products and services) are free to take on any association or meaning as a play of 'signifiers' or cultural social markers (Baudrillard, 1988; Bourdieu, 2010). By virtue of their practice, designers participate in the cycle of cultural reproduction, in light of the role they play in the production and legitimation of symbolic value through all designed artefacts (Julier, 2014; Negus, 2002). As such, designers are considered within the 'cultural intermediary' social class (Bourdieu, 2010) of 'taste creators' (Julier, 2003, p. 54) because they impact 'on the formation of value for particular products or practices' and 'upon notions of what, and thereby who, is legitimate, desirable and worthy, and thus by definition what and who is not' (Maguire & Matthews, 2012, p. 552). Designers create this 'symbolic value' (desirability, identity and legitimacy) by 'framing' goods – i.e. they create narratives that associate them to certain values and cultural representations of those values which attribute certain meanings and identity to them by calling upon cultural references and associations within cultural categories (or codes) (du Gay et al., 2013, p. 9; Crilly et al., 2008).

In the context of semiotics, codes are defined as socially agreed conventions and practices familiar to the members of a culture, which individuals acquire through *socialisation* – i.e. the process of inheriting and learning norms, customs, values, aesthetic tastes and ideologies, providing an individual with the skills and habits necessary for participating within their own society (Clausen, 1968; Hurrelmann, 1989). Cultural codes play a big role in the construction of social realities, such as class differentiation and identity, by reflecting certain values, attitudes, beliefs, assumptions and practices (Chandler, 2007; Nöth, 1990). An understanding of codes enables us to deal with aspects of consumption related to the 'symbolic value' that goods acquire as cultural artefacts, and identify what these codes 'look like' as represented in material terms – for example, in a Western context, an established aesthetic code for female is 'pink', and male is 'blue'; and drivers know they should stop at a traffic light when the red light is on.

Codes are a fundamental object of study in semiotics. Chandler (2007) explains that 'when studying cultural practices, semioticians treat as signs any objects or actions which have meaning to members of the cultural group, seeking to identify the rules or conventions of

the codes which underlie the production of meanings within that culture. Understanding such codes, their relationships and the context in which they are appropriate, is part of what it means to be a member of a particular culture.’ (p. 148). This concept is applied in the context of user-centred design (UCD) – when constructing ‘User Personas’, imaginary users are constructed by drawing on common characteristics, beliefs and practices of a certain target user group (Massanari, 2010) – i.e. as a member of a particular culture, social circle or subculture (Hebdige, 1979).

Historic and Intellectual Background

In this research, the concept of code is used ‘to identify a system of beliefs and values that is immanent in communication practices’. The concept has its roots in the works of Basil Bernstein (e.g. Bernstein, 1973), who explored patterns of communication among social classes in Britain (Carbaugh, 2014).

Semiotics is traditionally defined as a discipline dedicated to the study of signs, but a more contemporary view describes it as the study of the representations that enable human cognition (meaning-making) and communication. Semiotics became a major approach to cultural studies in the late 1960s, with Roland Barthes, who declared that the discipline ‘aims to take in any system of signs, whatever their substance and limits; images, gestures, musical sounds, objects, and the complex associations of all of these, which form the content of ritual, convention or public entertainment: these constitute, if not languages, at least systems of signification’ (Barthes, 1967, p. 9).

A cultural studies approach to semiotics focuses on studying signs and codes not in isolation but as part of semiotic ‘sign systems’ that are socially constituted and treated as social practices (Hodge & Kress, 1988). This approach is concerned not only with communication but also with the construction and maintenance of reality (Denzin & Lincoln, 2003), and therefore deals with ideological complexes, the relationships and inequalities in the distribution of power, wealth and goods in capitalist societies (Castells, 2013; Foucault, 1980; Hodge & Kress, 1988). The interest is not to study *what* signs mean, but *how* they mean, i.e. the processes and mechanisms by which meanings are ‘constructed’ and the institutions that contribute to create and maintain such meanings.

The adoption of contemporary – or *social* – semiotics in Britain was influenced by its prominence in the work of sociologist Stuart Hall (1964–2014), who was director at the Centre for Contemporary Cultural Studies (CCCS) at the University of Birmingham (1969–

79). His theories and views have influenced design research and theory, as acknowledged by Julier (2013).

Historically, there are two main strands in semiotic theory: the 'structuralist' school, which is rooted in a European tradition at the turn of the century led by Swiss linguist Ferdinand de Saussure (1857–1913) who focused on reconfiguring the study of language; and the post-structuralist or 'pragmatist' school led by American pragmatist Charles Sanders Peirce (1839–1914), concerned with studying the ways in which context contributes to meaning.

Based on Saussure's understanding of codes and communication theories, Hall (1980) conceptualised the process of production/interpretation of cultural artefacts as two marked and distinct 'moments' in a circular process of communication: 'Encoding' and 'Decoding'. In the context of semiotics, 'encoding' refers to the processes by which producing agents attribute meaning to cultural artefacts by appropriating codes from the cultural context; 'decoding' involves not only the recognition and comprehension of what a text 'says' but also the interpretation and evaluation of its meaning with reference to its context and relevant codes (Chadler, 2007).

2.2.3 Decoding: Cultural Deconstruction Practices

As discussed in the above section, designers 'frame' goods by recalling certain 'cultural associations' to represent their meaning and value in culture. Through advertising, display, packaging, branding, product design and other forms of mediation, 'commodity goods' – products and services – are conferred with myths (or symbolic associations), which appear to be 'natural' to it (Barthes, 1967). Hence, semiotic and cultural analysis methods are useful for 'decoding' these myths and mapping meanings in a cultural landscape, making explicit how they are constructed and represented (Julier, 2014).

2.2.3.1 The Circuit of Culture

In that, the 'Circuit of Culture' framework (du Gay et al., 2013) offers a useful theoretical lens for situating the role of design in cultural reproduction. First, it visualises clearly the multidimensional mediation of design in cultural practices and interactions and its influence to legitimise practices and ideals of value. Secondly, it allows us to deconstruct design outputs as cultural artefacts that effect socio-economic settings, and, in turn, are affected by sociocultural contexts. The Circuit of Culture identifies five major cultural processes that

complete a ‘circle’ of cultural reproduction: Representation, Identity, Production, Consumption and Regulation (Figure 2.7).

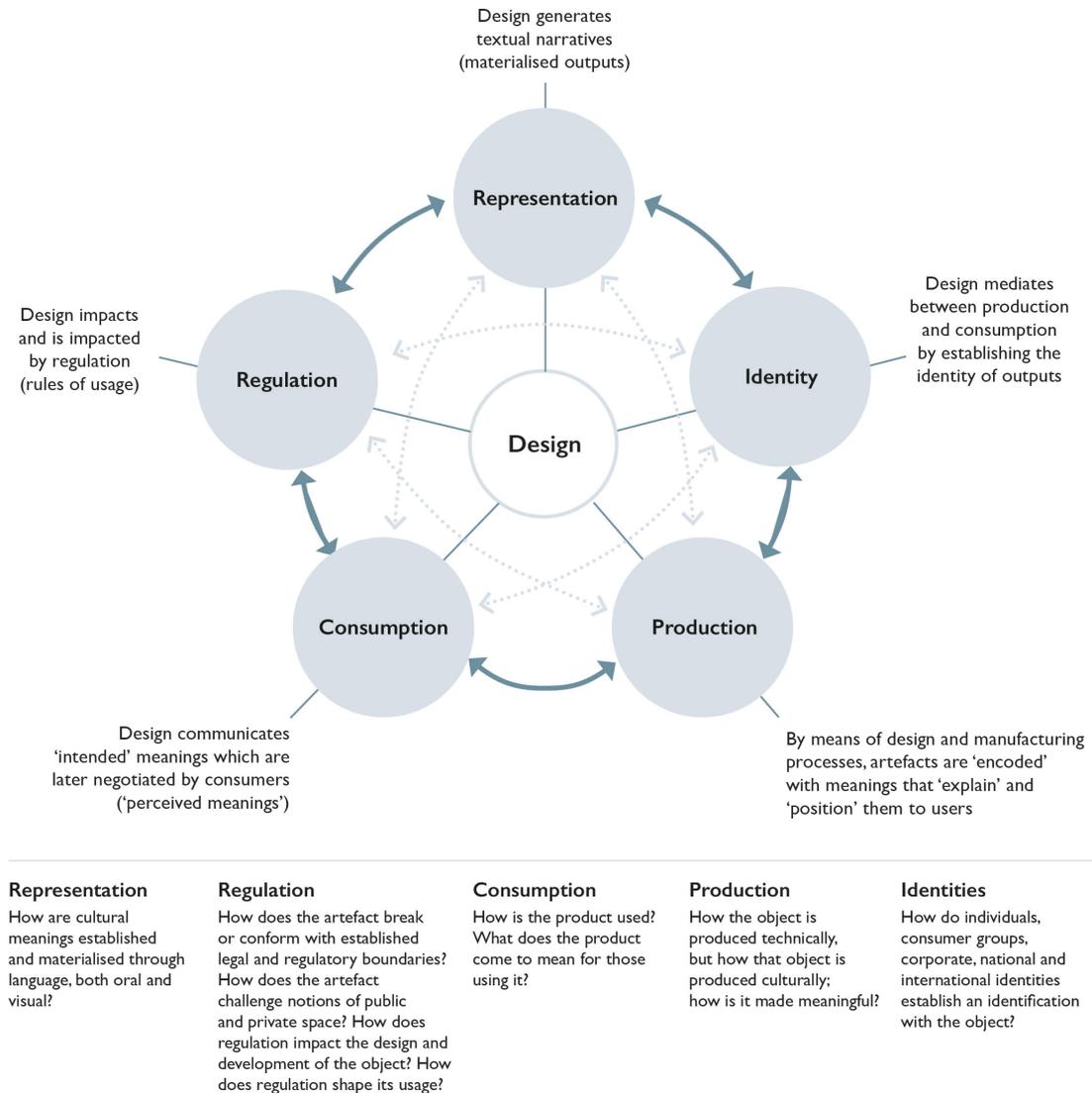


Figure 2.7 – The Circuit of Culture, adapted from du Gay et al. (2013)

The central argument is that both consumption and production inform social *identities*, the way that artefacts are *represented* and their systems of *regulation* (rules of use). It suggests that different stages in the circuit all interact with each other and that meanings are constantly transformed and rewritten by both producing agents (designers, marketers and distributors) and their consumers. Although these processes are presented as separate parts, they argue that ‘in the real world they continually overlap and intertwine in complex and contingent ways’ (ibid., pp. 3–4).

2.2.3.2 Applied Semiotic Methods

The application of semiotics to consumer insight and marketing is now well-established as a powerful alternative methodology to conventional market research (Harvey & Evans, 2001; Maggio-Muller & Evans, 2008; Oswald, 2012, 2015). The semiotic approach to marketing concentrates on uncovering 'naturalised' meanings which users are often unable to articulate, because these operate largely at the subconscious level (Oswald, 2012; Rapaille, 2007). While many marketing and market research methods try to understand the user's preferences in isolation, semiotic methods acknowledge that many of the individual's beliefs, preferences and behaviours correspond to 'implicit' socially agreed rules, expressed through social signifiers to mark social status and so form 'in' and 'out' groups.

Semiotics applied to consumer insight and marketing has drawn on the traditions of both Peirce and Saussure, as well as cultural studies approaches. It is shaped more like an eclectic set of methods than a philosophically uniform or consistent discipline (Evans & Shivakumar, 2010; Oswald, 2015).

Marketing semiotics has experienced a sharp rise in influence with the growth of brand strategy and management since the 1990s, and particularly with the rise of megabrands requiring cross-cultural and global communication platforms (Evans & Shivakumar, 2010). Semiotic research is employed as a strategy for mainstream diffusion of innovations, by identifying the themes and codes which occur with sufficient frequency to have a likelihood of transitioning into the dominant or mainstream culture (Evans, 2014). These methods are increasingly being adopted in top-down, corporate-context practice (e.g. in branding, product and service development) to enhance the cultural resonance and overcome market insertion barriers of brands, products and services (Maggio-Muller & Evans, 2008; Oswald, 2015; Rapaille, 2007).

Semiotics is used in commercial contexts as a strategic set of tools to elaborate sophisticated 'cultural insights'. Some benefits of applied semiotics research include the ability to create disruptive innovation by identifying emerging meanings and breaking the current normative codes; and foresight in identifying patterns of change in culture and anticipating trends (Evans, 2014).

In contrast to traditional market research, which gains insights mostly by consulting users directly (e.g. by means of interviews, focus groups and questionnaires), marketing semiotics draws insights from the study of *discourses* expressed via popular culture representations

(media, advertising, music, film, etc.), by employing semiotic, cultural analysis and ethnographic methods (Evans & Shivakumar, 2010; Oswald, 2012).

Evans (2014) reports a set of ‘simplified’ semiotic methods that are directed to improve brand communications, position new brands, products and services in the ‘mainstream cultural landscape’ and to spark radical product innovation (that which is not based on existing or readily articulated customer needs). The most common semiotics operations applied in market research to map cultural symbols and codes are summarised in Table 2.5.

Type	Description	Function
Binary Oppositions	A pair of concepts that relate in direct opposition (i.e. clean/dirty)	It breaks cultural and category codes into two opposite sets. Normally a good place to start the code-mapping process, see opportunities for innovation and creativity and to resolve trade-offs and cultural contradictions.
Code Mapping (context)	A snapshot of the cultural landscape frozen in time, and the active codes present at that particular time.	Searches for key metaphors and themes present in the category by dividing it up. Good for locating developing themes, and cross-fertilisation with themes from other related categories.
Code Mapping RDE (trajectories)	Residual, Dominant and Emergent codes.	Maps the cultural shift of values, meanings and cultural codes diachronically. Useful for observing how cultures evolve, spotting new ways of thinking and potential mainstream future trends. The strategic use for this tool is to spot and map emerging meanings and associations upon which value propositions can be potentially developed and introduced, by using emergent codes framing.
Semiotic Square	Paired concepts analysis based on Jakobson’s distinction between contradiction and contrariety	Useful for accessing deep structures informing the communication and perception of meaning – i.e. the underlying cultural ‘software’ – and connections with structures of power and logic.
Cultural Archetypes	Rooted symbols and cultural archetypes such as gold, America, home, work, family, etc. Received wisdom, ‘what everyone knows’ and ‘goes without saying’	Useful for building narratives and associations with deep-rooted cultural values and traditions. Normally used in storytelling material, film, novels and popular culture.
Myth	Express and serve to organise shared ways of conceptualising something within a culture	Serve as process of naturalisations – i.e. they make dominant and historical cultural values seem ‘normal’, ‘natural’ and ‘common sense’. They can serve to hide the ideological function of signs and codes because they appear as self-evident truths.

Table 2.5 – Some of the semiotic operations that are applied to market research

Figure 2.8 illustrates the typical ‘cultural landscape’ or cultural context that is normally analysed for these purposes.

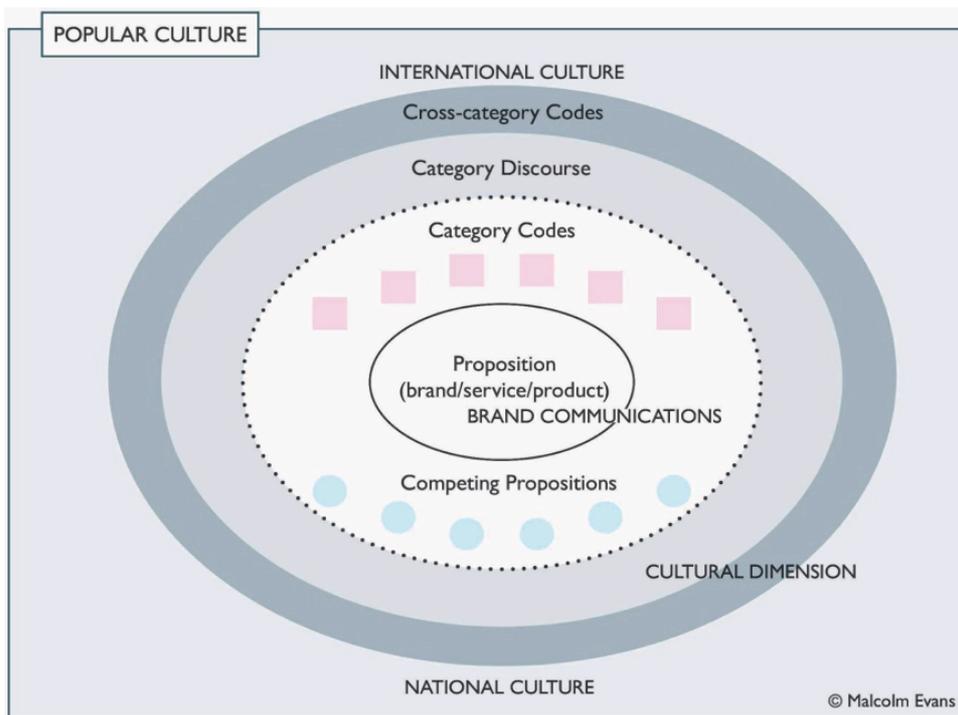


Figure 2.8 – Cultural context landscape (Evans, 2014)

Building on Hall’s Encoding/Decoding conceptualisation, Evans’ (2014) process comprises two main stages: Decoding (analysis and identification of codes) and Recoding (incorporating codes into design and communications). The steps are illustrated in Figure 2.9.

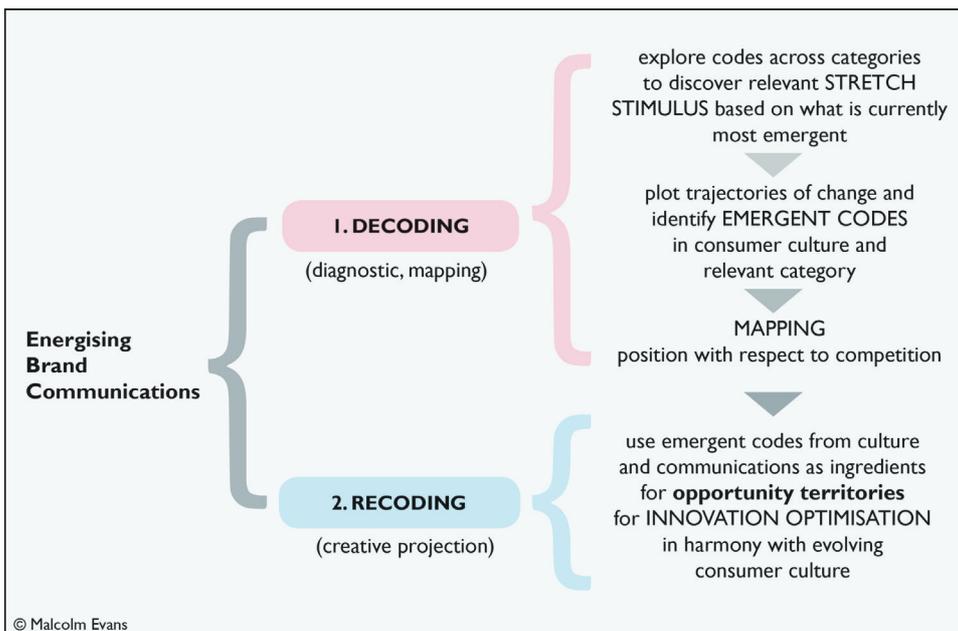


Figure 2.9 – Semiotic approach, adapted from Evans (2014)

Oswald (2012, 2015) reports on similar applied semiotic methods that are used for developing and designing packaging and retail spaces (physical and online), and holds that 'cautious marketers develop design strategy from a thorough understanding of the codes structuring the perception of value in a given market or product category'. Cultural anthropologist and marketing researcher G. Clotilde Rapaille developed a method based on a mix of code and psychoanalytic theories and has worked commercially for over three decades, providing multinational corporations with strategic cultural insights for introducing brands and products successfully across cultures (Rapaille, 2007).

These semiotic, cultural analysis methods build on cognitive-linguistic knowledge, and benefit from empirically tested outcomes applied in commercial contexts (Harvey & Evans, 2001; Maggio-Muller & Evans, 2008; Oswald, 2012, 2015). Therefore, if appropriately adapted and incorporated into existing design approaches and methods, they could offer great potential to inform the design and innovation stages of sustainable products and services in terms of enhancing mainstream appeal and adoption.

However, as these methods have been executed by professional semioticians and market researchers working in top-down organisation settings, their implementation to empower bottom-up systemic innovation (such as sPSS) as well as their integration into the design process still needs to be empirically investigated.

2.2.4 Encoding: Framing and Meaning-making Practices in Design

Design artefacts contribute to the meaning of sustainability in culture because they 'communicate' values and intentions, but they also predispose users to respond and behave in certain ways depending on how the artefact is framed. Considering how design can contribute to a better perception, and encourage adoption of sustainable lifestyles, this section explores the processes and practices by which the formation of meaning in design artefacts is achieved.

In the words of John Ehrenfeld (2008, p. xix), 'to create sustainability, we must first adopt new meanings for the words we use to tell our stories. Only then will we begin to act in a way to produce sustainability and not the opposite.'

2.2.4.1 Design Intention and User Interpretation

The communicative potential of products has been discussed in design through various theoretical lenses. Crilly et al. (2008) provides a very useful generic communication-based model of design (Figure 2.10), which synthesises the most pertinent features of existing models from different disciplines. The value of these models to understand meaning is that they enable designers to acknowledge the relationship between intention and interpretation.

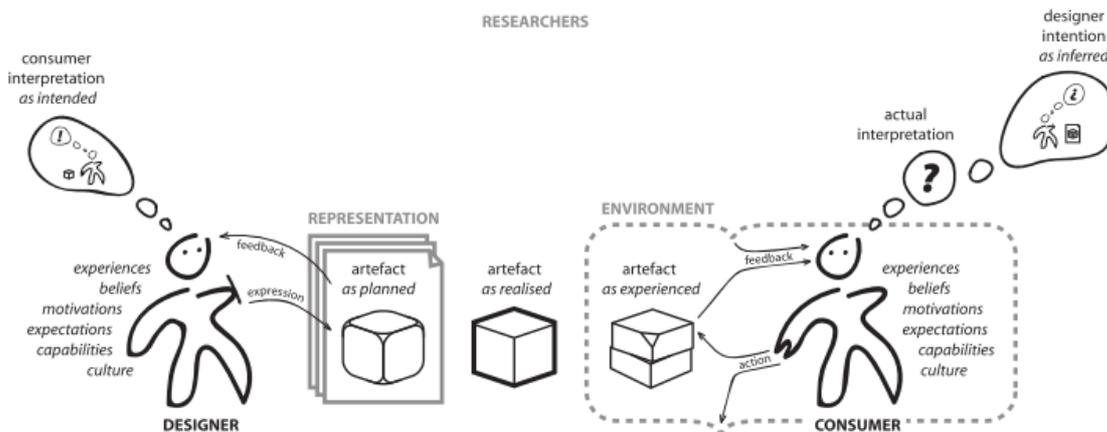


Figure 2.10 – Integrated communication-based model of design (Crilly et al., 2008)

This model depicts in a simple way the dynamics of how the complex exchange between *design intent* and *user interpretation* takes place.

Although critics have argued that designers’ intentions are irrelevant because meanings do not reside in the artefact (Krippendorff, 2006) but consumers actively construct their own meanings as they engage with it, Crilly poses that considering the intention–interpretation relationship ‘emphasises the possibility – or inevitability – of divergence’ (Crilly et al., 2008, p. 438). This means prompting designers to contemplate the possible consequences design artefacts bring to bear for the user and the context, as well as their own agency and mediation role. Furthermore, considering that such consequences have behavioural and political implications, anticipating the meanings and consequences is not just a matter of semantics but it becomes a matter of ethical and responsible practice (Zingale & Domingues, 2015).

2.2.4.2 Artefacts as Cognitive Interfaces

‘The whole is *greater* than the sum of its parts’ – Kurt Koffka

Acknowledging the relationship between design intent and user interpretation, Kazmierczak (2003) progresses the concept of design artefacts as cognitive interfaces, ‘triggers’ that enable reconstruction of intended meanings. Like Crilly et al. (2008), the author identifies differences between *intended*, *constructed* and *received* or *reconstructed* meaning, and proposes that by focusing on received meaning, the design paradigm is shifted from a preoccupation with ‘designing objects for certain uses’, to designers focusing on the cognitive processes and effects caused by artefacts – i.e. user response.

In this stance, design practice is approached as a semiotic phenomenon, a form of ‘diagrammatic reasoning’ of meaning construction. Design outputs are regarded as mental maps of individual and collective cultures. For Kazmierczak, the process of design starts with an informed and rational selection of the cultural codes and other perceptual aspects as ‘design constraints’, aiming at arranging and combining these into interfaces that induce specific inferences followed by subsequent behaviours (ibid.).

Competent users know that objects are constructed or designed to be understood in particular ways, especially in media-savvy cultures. Thus, the design problem is to deal with triggering an appropriate contextual frame in the receiver for reconstructing the intended meaning. In other words, the design process creates, simulates or represents an intelligible artefact by presenting qualities that will cause and fulfil certain expectations in users (ibid.).

This approach stresses the semiotic relations between perception and meaning construction, focusing design on the cognitive perceptual aspects. It proposes cultural codes as ‘design constraints’, and their use is intrinsic and inseparable to the design activity when this is understood as meaning- and sense-making process. However, Kazmierczak argues that, historically, designers have not had adequate rational tools to bridge the gap between meaning construction and design decisions at the level of design framing, and ‘the reliance on aesthetics and style is symptomatic of this gap’ (ibid., p. 45).

2.2.4.3 Context and Consequences

Cultural context plays a considerable role in the effects of framing. It has been evidenced that framing biases are considerably reduced when people are forced to make decisions in

isolation from social contact and context (Chong & Druckman, 2007); and disappears with cultural distance – for example, when encountering information in a second language, because the second language provides greater cognitive and emotional distance than one’s native tongue (Keysar et al., 2012).

Many design research methods focus on the needs of individuals, especially as ‘consumers’. However, in reality being a consumer is only one aspect of people’s lives within many others (Tie et al., 2014). Therefore, understanding the sociocultural context of innovation (values and codes) is paramount in order to consider the effects of framing in terms of artefact *appeal*, *predispositions* and *consequences* that it brings to bear upon context and user.

Clatworthy (2012) points out that to build desirability in services requires incorporating ‘details’ from the innovation’s context into the design: ‘details that the user can perceive as belonging to their lifestyle, are coherent with the user’s other lifestyle choices, the way they think and the things that express their identity and who they are’ (p. 85). Equally, Crilly et al. (2004) discuss the role that external visual references (or stimuli) play in influencing decision-making. They pay particular attention to the personal, situational (contextual) and cultural factors that moderate user response (illustrated in Figure 2.11).

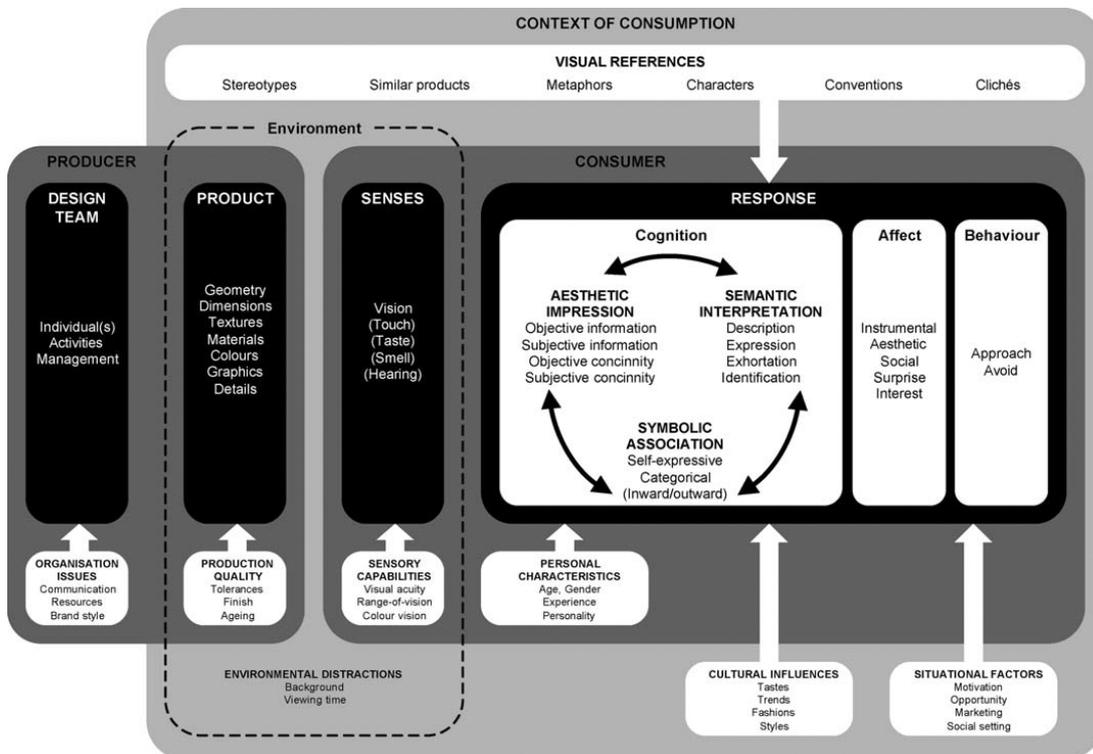


Figure 2.11 – Framework for consumer response to the visual domain in product design (Crilly et al., 2004)

Appearance and experience are important when considering innovation adoption because they influence both *commercial success* and user's *quality of life* or subjective well-being (Crilly et al., 2004; Kahneman, 2012).

Furthermore, as design signifies and mediates meanings with its output (Kolko, 2011; Krippendorff, 2006), it is partly responsible for the values promoted and legitimised through these meanings. Zingale and Domingues (2016) argue that, 'in the pragmatist view of semiotics, the meaning or sense of every artefact is to be searched into the sensible effects and the practical consequences it determines both in the physical and cognitive environment to which the artefact is destined. This means that an artefact must not only be considered for the values and meanings it expresses through its form and structure, but – above all – for everything it determines in the mind of the user-agent'. As design artefacts mediate and legitimise values, they are not neutral objects – they influence our mental representations such as tastes, beliefs, prejudices and stereotypes, and thus they can change people's views and behaviours – by opening sensibilities through representation. Therefore the effects and consequences of artefacts are political. 'Design is always a silent but hard-working part of our history. Design is one of the most powerful routes through which our beliefs and views of the world flow' (Zingale & Domingues, 2016; p. 9). Tie et al. (2014) argue that 'in this process, designers as important conceivers and practitioners need to reflect upon their role, from the perspective of anthropology and sociology, and on the question of how to balance between the "material needs of individuals" and the "commonwealth of society"' (p. 346).

As designers create perceptual associations by appropriating and manipulating cultural codes already present – and often dominant – in the artefact's category discourses, and more often than not in the designer's own cultural circle (Julier, 2006), it is important also to consider how the designer's own and the user's world views (design logic–user logic) may also affect the designer's *intended* and user's *perceived* meanings.

Figure 2.12 summarises the dynamic relationship between designers and users, mediated by design artefacts.

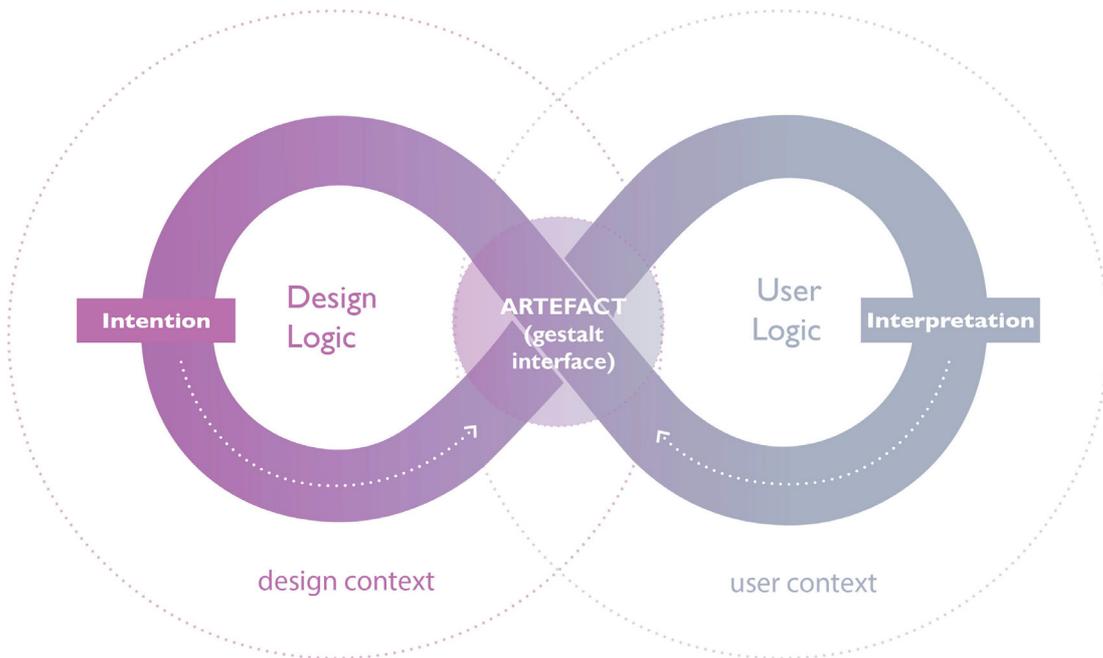


Figure 2.12 – Design artefact as a semiotic interface. Based on Crilly et al., (2008), Kazmierczak (2003) and Zingale & Domingues (2016)

In summary, mapping the cultural landscape of the innovation can aid in bridging the gap between design intention and user interpretation, by allowing designers to consider how the aesthetic, semantic and symbolic aspects influence and affect user’s interpretation of what the artefact is, how it should be used and what it says about the user.

Design constraints can be drawn by producing a ‘map’ of stimuli that could help to anticipate, at least in part, user appeal and response. Methods are needed to perform these tasks during the design process, because artefact framing is mostly conducted in an intuitive manner (Kazmierczak, 2003).

2.2.5 Section Conclusions

Consumption practices, cultural reproduction and identity are complexly interlinked aspects of socio-economic paradigms. On one hand, design outputs stimulate people’s imagination and satisfy wants and desires; on the other hand, people’s social attributes are reconstructed under the impact of these outputs, which can lead to many new social and environmental problems. However, as dominant consumption practices hold symbolic value and act as means of social differentiation and identity, they are hard to let go.

As design has effects on people's orientation towards goods as legitimate, worthy and desirable, it brings certain responsibilities as well as privileges to bear upon consumption practices and cultural ideals of value. Due to this central role in the economic paradigm, it is impossible for design to remain neutral of influence, and designers have a responsibility to understand the impact and consequences of their output. The intervention of design on practices both uses and interprets consumer information in an endless 'circuit of culture', either reinforcing dominant practices and power structures or destabilising them by legitimising new values and practices. As such, it is important to consider the role that design can play in amplifying diffusion and making a greater impact towards the transformation of society. A lack of understanding of the exchanges that take place along the consumption-production-identity continuum to which design contributes perpetuates, perhaps unknowingly, unhelpful associations and meanings.

Cultural codes encapsulate meanings that are recalled to represent not only the utility and benefit, but also the values and identity, of designed artefacts. These associations help to 'frame' and 'position' goods and services into categories, making them 'visible' and, hopefully, desirable to the user. Designers create these associations by appropriating and manipulating cultural codes already present – and often dominant – in the artefact's category discourses, and, more often than not, in the designer's own cultural circle.

The symbols – cultural references or codes – used to represent the concept of sustainability in culture need to reflect the intended meaning, and not the opposite. Sustainability can be 'reframed' through design representation by closing the gap between the intended meaning of designers and perceived meaning of users. Although design intent does not determine user response, it is important to consider what strategies can be employed to bridge the gap between the two. In this, critical 'cultural deconstruction' practices offer designers the opportunity to strategically challenge cultural misconceptions of sustainability, e.g. associations with the 'green' and 'eco' niche categories, by designing artefacts that 'reframe' its meaning using codes and associations that are more relevant and contextually appropriate.

To do so, it is necessary for designers to work more *strategically* rather than *intuitively* with framing, in order to disrupt cultural misconceptions and revalorise the appeal of sustainable offerings. However, this requires the mobilisation of a range of theoretical frameworks and cognitive skills, as the identification and selection of these codes seems to

be mostly *intuitive* rather than *intentional* – due to a lack of appropriate processes and tools for strategic code mapping and selection.

The practice of framing in design needs to be better supported with methods that allow for contextual research and design of meaning, to bridge the gap between intention and interpretation. It is worth exploring what other disciplines can offer in terms of methods and tools to make practice more robust in terms of understanding the effects and consequences of design outputs.

Semiotic methodologies allow for the strategic selection of ‘cultural codes’, offering the opportunity to construct favourable *meanings* and *appeal* for sustainable innovations, rooting the innovation in its social context so that it can be more easily understood and valued by potential users. If appropriately adapted and incorporated into existing sPSS design approaches and methods, these methods offer great potential to inform the design and innovation stages in terms of user preferences and aspirations, resulting in innovations that are more relevant and ‘in tune’ with context and user, of better perceived value and appeal.

Moreover, by being correctly ‘encoded’, sustainable innovations could help redefine the cultural preconceptions, appeal and meaning of sustainability in consumer culture.

2.3 Sustainable Innovation: Product-Service Systems (PSS)

The role of designers in this shift is indeed very relevant, as many systemic solutions are only possible when different actors (companies, institutions and final users) join their efforts to solve common problems and achieve common goals. The glue of such partnerships is attractive design solutions, based on a mix of material and immaterial components, which satisfy the requirements of each of the stakeholders. Product-Service Systems (PSS) are commonly present within such solutions.

A Product-Service System (PSS) is a market proposition that extends the traditional functionality of a product by incorporating additional services (Baines et al., 2007). As PSS is closely linked to business model innovation and sustainability, it attracted increasingly more interest in research from different disciplines such as service management, service design and marketing (Boons & Lüdeke-Freund, 2013).

2.3.1.1 PSS Definitions and Typologies

Literature provides a comprehensive range of definitions of PSS, each one focusing on specific aspects and/or characteristics. Vezzoli et al. (2014) define sustainable PSS as:

An offer model providing an integrated mix of products and services that are together able to fulfil a particular customer demand (to deliver a 'unit of satisfaction') based on innovative interactions between the stakeholders of the value production system (satisfaction system), where the economic and competitive interest of the providers continuously seeks environmentally beneficial new solutions.

Extant literature shows a lack of clarity about PSS and its main fields: it started as a topic closely connected with sustainability, but subsequently different fields have developed other terminologies and focuses of research over the years to indicate the same or similar notions (Lifset, 2000). Although sustainability emerged as the principal topic in PSS research from its start (Mont, 2002; Robin Roy, 2000) and it remains important, it has been losing its centrality among PSS research fields. First publications on PSS (Mont, 2002; Tukker, 2004) define them as an environmentally friendly business model, thus combining two main research themes: sustainability and business models, representing PSS ability to address both environmental and economic sustainability. However, some authors started questioning whether PSS were truly capable of delivering the expected environmental

benefits (Tukker & Tischner, 2006). The lack of evidence in support for PSS environmental friendliness resulted in a clear separation of the sustainability and business model PSS research streams, which focused either on environmental/social impact or on strategy and business models and ignored sustainability aspects (Annarelli et al., 2016).

Therefore a PSS must be specifically designed, developed and delivered if it is to be highly eco-efficient (Vezzoli et al., 2014). And even when well-designed, it has been observed that some PSS changes could generate unwanted side effects, usually referred to as rebound effects (ibid.). This means on an operative level criteria, methods and tools are needed to orientate design towards sustainability and well-being goals.

The sustainability goal can be reached through PSS in different ways: reuse and recycling of products at the end of their life cycle, which is a concept that can be applied to several business models, such as office furniture (Besch, 2005), construction machinery industry (Zhang et al., 2012), manufacturing (Igba et al., 2015); maintenance of services to lengthen products' useful life and reduce change rate, a potential that can be fully exploited in manufacturing (Huang et al., 2011; Meier et al., 2010); forms of leasing, sharing and/or pooling in order to maximise consumption rate by allowing multiple use, leaving to the provider the ownership and maintenance of the product (Mont, 2002; Tukker, 2004).

As digital technologies enable new business models with sustainability impact, especially those initiated under 'bottom-up' or grassroots innovation frameworks such as collaborative consumption and circular economy innovations (Emili et al., 2016; Firnkorn & Müller, 2011; Pereira et al., 2016), more recent literature reconsiders the interrelation between the sustainability and business model aspects/research streams (Centenera & Hasan, 2014). These two topics represent a sort of 'evolution' of PSS original concern in addressing all aspects of sustainability: environmental, economic and social (Annarelli et al., 2016), providing evidence that certain sPSS innovations reinforce intrinsic values and social cohesion and are therefore capable of enhancing well-being and quality of life aspects, as well as delivering environmental benefits. In the context of this research, these type of PSS are referred to as sustainable Product-Service Systems (sPSS).

PSS Typologies

Although different labels and subdivisions to describe PSS are used, three different PSS types are highlighted as major business approaches to system innovation and favourable for eco-efficiency (Baines et al., 2007; UNEP, 2002). They are summarised in Table 2.6.

Type	Function	Definition	Example
Product-orientated PSS	Services providing added value to the product life cycle	Promoting/selling the product in a traditional manner, while including in the original act of sale additional services such as after-sales service to guarantee functionality and durability of the product owned by the customer (maintenance, repair, reuse and recycling, and helping customers optimise the application of a product through training and consulting). The company is motivated to introduce a PSS to minimise costs for a long-lasting, well-functioning product and to design products to take account of product end-of-life (reusable/easily replaceable/recyclable parts).	DuPont Flooring Management Systems
Result-orientated PSS	Services providing 'final results' for customers	Selling the use or availability of a product that is not owned by the customer (e.g. leasing, sharing). In this case, the company is motivated to create a PSS to maximise the use of the product needed to meet demand and to extend the life of the product and materials used to produce it.	Zip Car Velib'
Use-orientated PSS	Services providing 'enabling platforms for customers'	Selling a result or capability instead of a product (e.g. web information replacing directories, selling laundered clothes instead of a washing machine). Companies offer a customised mix of services where the producer maintains ownership of the product and the customer pays only for the provision of agreed results.	Xerox Pay Per Copy

Table 2.6 – Product-service system typologies (Baines et al., 2007)

Tukker (2004) provides a more detailed classification shown in Figure 2.13, where the main categories identified by Baines et al. (2007) are further subdivided to provide a more specific PSS typology.

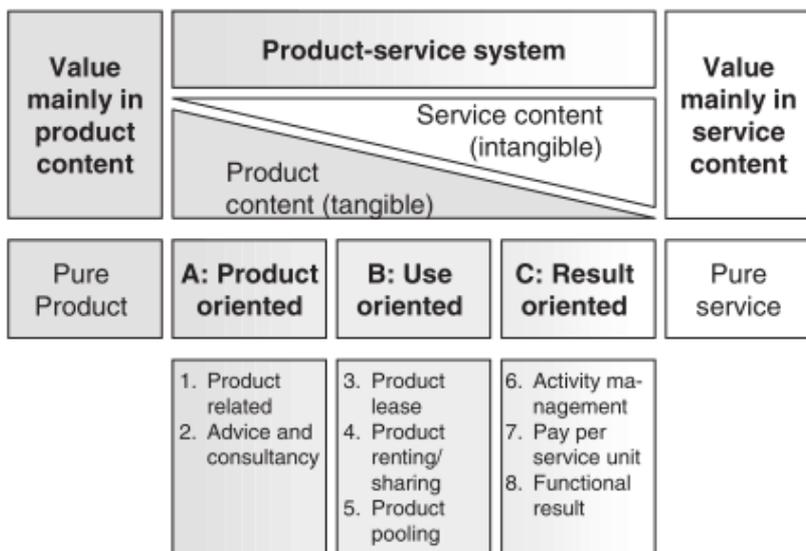


Figure 2.13 – Main and subcategories of PSS (Tukker, 2004)

In this same article, Tukker also reviews the ability to create and capture sustained added value with PSS (often referred to as shareholder value), analysing each of the typologies by looking into four different elements:

- *Market value* of the PSS (tangible and intangible)
- Production costs of the PSS (including risk premium aspects)
- Investment needs/capital needs for PSS production
- The ability to capture the value present in *the value chain*, now and in the future

The Market Value element is important in terms of customer appeal and uptake of sPSS (those studied in this research), as it considers how consumers would justify their choice of a PSS over a product in terms of perceived value. This element comprises two aspects: a *tangible* or objective value for the consumer (e.g. resources, time input and cost of capital saved); and an *intangible* or subjective value for the consumer (e.g. additional, 'priceless' experiences). Tukker describes these aspects as follows:

- Tangible or objective value is a fairly straightforward concept. A customer who has the choice between buying a product or using a PSS can start to make a rational calculation about what the product actually costs, including all kinds of 'hidden' costs, and that is in principle the maximum price he/she would like to pay for a competing PSS.
- *Intangible or subjective value* is a little less straightforward as a concept, but is currently the key to success or failure of many products and services in the consumer market. In an affluent (Western) society consumers can generally take basic needs such as food, shelter and safety for granted, and will be more geared towards the realisation of higher needs such as affiliation, love, esteem and self-realisation. The trick then becomes to satisfy needs on these higher levels in conjunction with the offer of a material artefact: 'turning ordinary products into extraordinary experiences'.

Tukker argues that by creating intangible added value, the PSS provider 'makes the client willing to pay more than would be justified on the basis of "rational" calculation' (ibid., p. 251). The symbolic (or intangible) added value, which forms the basis of the consumer culture, has been widely incorporated into business practice as discussed in section 2.1.3.1. Intangible value is also becoming increasingly relevant as society dematerialises, entering the age of the 'experience economy' (Pine & Gilmore, 1999).

By virtue of their practice, designers play a central role in the creation of symbolic value, as previously discussed in section 2.2. Therefore, this aspect is something that can be addressed by design.

2.3.1.2 PSS Advantages and Barriers

PSS are focused on delivering a 'unit of satisfaction' based on innovative interactions between the stakeholders of the value production system, who continuously seek environmentally and socio-ethically beneficial new solutions (Vezzoli et al., 2014). However, as radical innovations, they also face considerable barriers for introduction and acceptance.

a) Barriers for diffusion and adoption

All radical innovations face considerable barriers for market introduction and acceptance. According to Norman and Verganti (2014), the most common reason radical innovations fail is that society is not ready for them. As radical innovations, sPSS suffer the same problem. The main barrier for adoption is the *cultural shift* necessary for user acceptance and companies' resistance to change (Ceschin, 2014; UNEP, 2002) Figure 2.14.

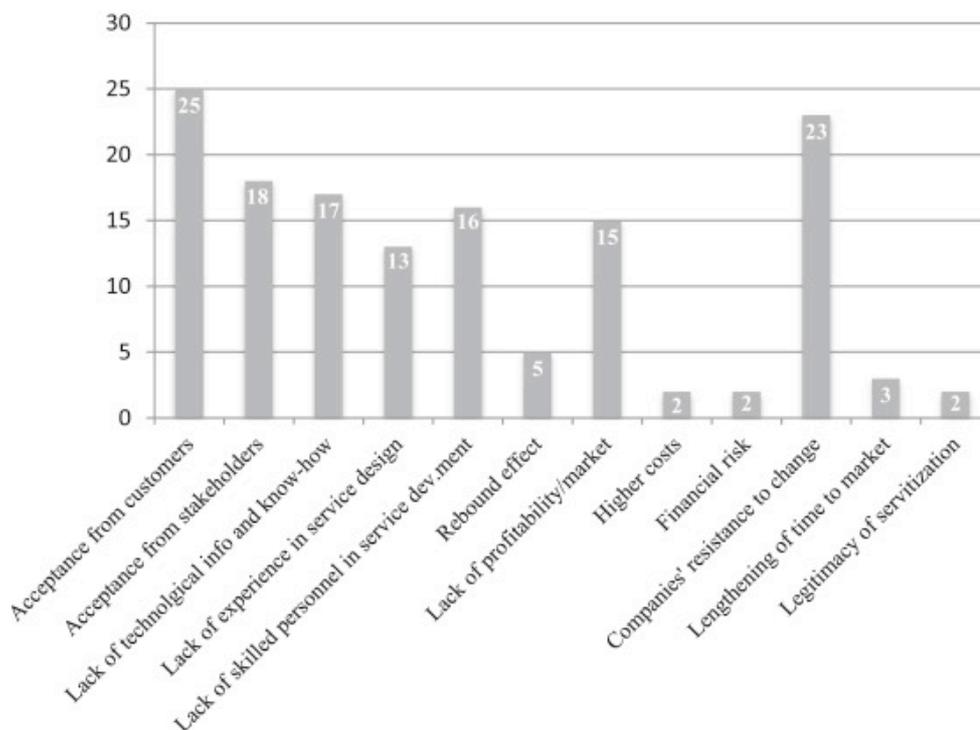


Figure 2.14 – Historiogram of PSS barriers (Annarelli et al., 2016)

Although customer acceptance is one of the most problematic barriers, research on consumers’ perception of PSS is being neglected. PSS propositions are totally new to the users and their actual use depends on users’ capability to recognise and accept the added value provided by the PSS (Morelli, 2003). So far, PSS research has been mainly focused on the business-to-business market, and research regarding the few examples of PSS offered to private consumers has often been conducted from an environmental perspective and ‘the possibility of enhanced utility or increased satisfaction is rarely in focus’ (Rexfelt and Ornäs, 2009, p. 675).

Ceschin (2013) has drawn insights from literature on transitions management to suggest possible ways of stimulating the diffusion of PSS. However, the conclusions focus on management (how to reorientate company strategies to facilitate implementation of PSS), rather than on user preferences and adoption issues.

Mylan (2014) points out that although one of the strengths of sPSS is that the concept spans ‘production and consumption’ or ‘product and use/service’, research has concentrated mostly on design and management of systems, and the consumption side of PSS research is underdeveloped. Tukker and Tischner (2006) also pointed to the lack of attention to the dynamics of consumption within the sPSS research community. Table 2.7 demonstrates how little attention the ‘Markets and customer’ research area has attracted to date.

	Time period	1999–2004	2005–2009	2010–2012	2013–2016
Future research directions	Economic dimension	1	2	12	22
	Environmental/Social dimension	4	6	7	13
	Strategy, competitiveness and general performance	5	7	16	25
	PSS design and implementation	4	10	10	18
	Relationships and networks	2	5	8	10
	Markets and customers	1	3	4	3
	Organisation	1	1	2	4
	Technology	0	0	4	0
	Policy and regulation	0	0	1	4

Table 2.7 – Future research directions divided by main focus areas (Annarelli et al., 2016)

Thus there is still a great need for research regarding the relationship between consumers and sustainable innovations (Mont & Plepys, 2008; Rexfelt & Ornäs, 2009; Vezzoli et al.,

2015). Although many may take the stance that users' consolidated habits are limiting the diffusion of PSS innovations, others, like Bailey (2014), acting in a commercial design practice context have evidenced that applying user-centred design principles – co-design, operational collaboration, user- and human-centredness and governance, and working with multidisciplinary design teams (information, brand, interface UX and behavioural designers) can help to identify the barriers that are holding customers back and the design interventions that overcome them (Bailey, 2014).

It is also worth remarking that PSS are often marketed as products (Morelli, 2003), so to compete successfully against existing options, sustainable innovations need to satisfy the socio-psychological as well as the utilitarian aspect of consumption (Ceschin et al., 2014). For design, therefore, the challenge is not only to conceive sPSS concepts, but to understand which are the most effective strategies to introduce and diffuse them in the market (Ceschin, 2010). Strategies are required for designing sPSS that deliver high symbolic value while sacrifices in tangible value are minimised (Tukker, 2004).

Therefore, PSS should clearly demonstrate how they can benefit people's lives (Stokes et al., 2014) in ways that current offers do not. This implies a competitive advantage situation where the positioning and perceived value of sPSS innovations need to be carefully and strategically constructed during the design process. This requirement extends the scope of design beyond functionality and usability features and into the construction of the symbolic meanings that these innovations are intended to carry for the user (ibid.).

In sPSS innovation, symbolic value can be constructed through a coherent 'system aesthetic,' i.e. an integrated perception of the products, communication, services and interactions and practices embedded in the PSS (Ceschin et al., 2010; Valencia et al., 2014). Norman and Verganti (2014) suggest 'radical innovations can be design-driven through a better understanding of potential patterns of meanings. These can emerge through research and observations rooted in more general *socio-cultural changes* [emphasis added], as an understanding of how society and culture are changing' (p. 95). These aspects can be informed by a deep understanding of the users' sociocultural context (Light & Miskelly, 2014; Morelli, 2003; Valencia et al., 2014; Wong, 2004).

In Design for Sustainability, however, these methodological implications have been rarely discussed, even though these aspects play a critical role in the design, development and

diffusion of PSS (Morelli, 2003). Methodology for eliciting user requirements and developing customer-orientated PSS innovations is scant (Rexfelt & Ornäs, 2009).

b) Benefits and drivers

From a technical perspective, Vezzoli et al. (2014) argue that compared to a traditional product-manufacturing situation, a company increases profitability if it can meet the same demand by providing a less resource-intensive 'product and related service' mix. They propose that there is an economic interest in extending the product lifespan:

- Product life cycle optimisation, designing to extend the product – and its components' – lifespan and to intensify product's and component's use
- Materials' life extension, designing in order to valorise materials from scrapped products, such that rather than ending up in landfill, they can be reprocessed to obtain new secondary raw materials or incinerated to recover their energy content
- Minimisation of utilised resources, design aimed at reducing the usage of materials and energy of a given product or, more precisely, of a given service offered by that type of product

PSS can also deliver improved strategic positioning (UNEP, 2002) through market differentiation, new market development, increased flexibility and improved brand image. But also providing added value to customers by flexible customisation or freeing them from the responsibilities of product ownership (e.g. acquisition, storage, maintenance and disposal) (Vezzoli et al., 2014).

Annarelli et al. (2016) offer a visualisation of the advantages of PSS according to extant research (Figure 2.15). Extending existing offer, building relationships with customers, cooperating with authorities, reducing environmental costs and best utilisation of assets are identified as the most salient benefits.

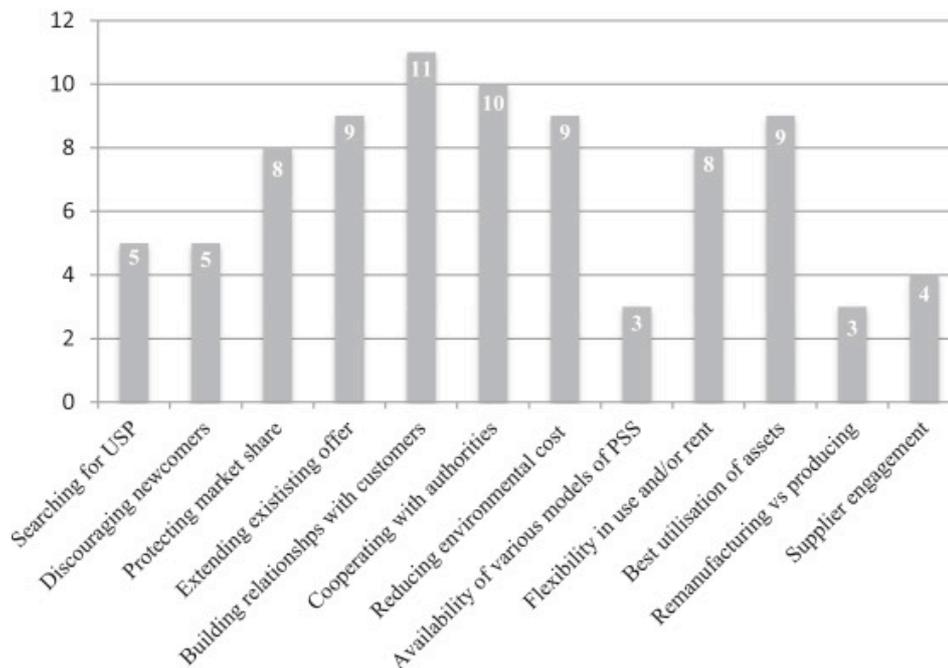


Figure 2.15 – Historiogram of PSS benefits (Annarelli et al., 2016)

From a ‘systemic disruption’ perspective, sPSS represent a promising approach for transitioning ‘minds’ towards sustainable consumption that fits the emerging dematerialised economy and as such, can allow for new associations of value. PSS are socially constructed systems whose characteristics are determined by the different cultural, social, economic and technological frames of the actors involved in their construction (Morelli, 2002). Therefore, beyond the advantages of lowering resource consumption by decoupling the creation of value and satisfaction from product ownership to the consumption of services, sPSS open up an exciting territory to explore new consumption patterns, where value and identity are constructed around practices and experiences rather than products and possessions. In this, sPSS represent a fertile ground for sociocultural disruption in that:

- Their emphasis on satisfaction through intangible offerings allows for the repositioning of perceived value from physical objects to experiences and relationships
- Configuration of processes and practices allows for the internalisation of new habits and routines that are more sustainable
- They contribute to a paradigm shift where wealth is perceived as access rather than ownership

Drivers

In business model literature (e.g. Battistella et al., 2012) some interesting topics have emerged proposing feasible ways to business innovation linked to sustainability concerns, such as *sharing economy* (Cheng, 2016), and *circular economy* (Witjes & Lozano, 2016). These topics are closely linked to sPSS, and can be considered as a sub-field of PSS/servitisation stream of research.

These two topics represent an evolution of PSS original concern in addressing all aspects of sustainability (environmental, economic, social). Centenera and Hasan (2014) conducted a research project that, although limited to the Australian context, 'aims at developing a sustainable product-service system, a system incorporating financial, social, and environmental sustainability' (p. 62). The study involved all three categories of PSS investigating, for example, reuse and recycling in the case of product-orientated PSS (which can be considered the main elements behind the *circular economy* concept), and *collaborative consumption* and sharing models in the case of use-orientated PSS. Indeed, this example shows a renewed interest in business models and sustainability, as evidenced also by more recent works (Emili et al., 2016; Firnkorn & Müller, 2011; Pereira et al., 2016).

These 'collaborative consumption' models, such as car- or bike-sharing, or goods-swapping systems, are becoming increasingly more common and numerous thanks to technological progress. Businesses based on collaborative consumption imply *economic* and *cultural* innovation. Their popularity represents opportunities to consolidate new socio-economic arrangements to production and consumption based on peer-to-peer collaboration that increases social cohesion, and also a shift from value in ownership to value in access.

However, these models still need to be further legitimised and their 'voices amplified'.

Although the above examples demonstrate a rising interest, there are also clear problems with customer acceptance of these solutions (Piscicelli et al., 2015).

2.3.1.3 Challenges for PSS Designers

Product-Service Systems are complex solutions whose design requires the consideration of multiple aspects such as technology, development actors, users and context (Morelli, 2002). Valencia et al. (2014) identify seven main design challenges for PSS design professionals. These are described below, where specific aspects related to the focus of this research (bottom-up sPSS) have been added:

1. *Defining the value proposition*

One of the most significant challenges is the clear definition of the value proposition for consumers.

The value proposition is the definition of the PSS in terms of the need the service is going to fulfil. The outcome of this phase is a sentence clearly describing the added value provided by the new PSS (Morelli, 2003).

This challenge has two aspects: firstly, designing PSS with perdurable value for consumers may be largely influenced by the thorough understanding of the use context, such as the end-user, his/her goals towards the system and expectations. Secondly, the nature and heritage of the company may influence a clear definition of the value proposition, which may cloud the definition of a well-rounded value proposal, one that is coherent with the needs and goals of the context for which it is developed.

This implies that the sPSS initiator/provider's own background and understanding of users (e.g. a community group or social entrepreneur) may hinder the formulation of value propositions that are relevant to users and context. This resonates with problems of discourse, ideology and representation discussed in section 2.1.5, and the need for support to address framing biases as highlighted in sections 2.1.6 and 2.2.5.

2. *Maintaining the value proposition over time*

Since companies providing PSS seek to create long-lasting interactions with end-users, a well-defined value proposition can be key in building relations that last. This challenge relates to having a clear vision, from the outset, for where the market is heading in the longer term, which may be needed to enable certain functionalities or features in the service (Valencia et al., 2014).

This highlights the importance of sPSS designers to understand global trends and market dynamics in general, and the innovation's category in particular (Norman & Verganti, 2014; Zurlo & Cautela, 2014).

3. *Creating meaningful high-quality interactions*

Understanding the human component. Being empathic about the *emotions* evoked through the PSS, making use of an appropriate tone and language in the communication towards end-users, and the overall experience that is created for the end-user (Valencia et al., 2015).

This implies the need to understand users, not only as individuals but as sociocultural communities or groups, and the codes that 'bind' them together as such. Aesthetics and style play a big role in gaining acceptance or adherence (Mandoki, 2007).

Designers face a challenge in translating end-user needs and wishes into meaningful interactions that create value, and to maintain these relevant as the system and its user evolve.

This aspect highlights the importance of conducting iterative user and context research. As cultures are flux, meanings and associations change the way artefacts are interpreted by users (du Gay et al., 2013; Hall, 2001; Zingale & Domingues, 2015).

An important side effect of creating high-quality interactions is the positive effect it can have on trust. Trust may be influenced by the correct interpretation of the needs of consumers, and a challenge may surface in designing interactions that match the expectations of end-users.

Matching expectations (and not only 'needs') requires an understanding of what influences users' aspirations and driving values. These are largely determined by sociocultural contexts (section 2.2.4.3), and have a direct relationship with perceived value and purchase decisions, as discussed in section 2.1.6.

4. Creating coherence in the PSS

Coherence is particularly important because of the multiple touchpoints that are part of the system. Visual coherence was defined as the cohesiveness between the visual representations around the system, such as colours, shapes, images or written language (Valencia et al., 2011; van Rompay et al., 2010).

Consequently, visual coherence can help consumers to associate different PSS touchpoints.

Coherence on how the system behaves across different touchpoints and how end-users interact with the sPSS must be considered.

Therefore, despite the changing character of diverse touchpoints, the aesthetic experience of interaction with the system should remain consistent across it, reinforcing meaning and minimising the time invested by consumers in learning how to interact with it.

5. Stakeholder management

Since the design of PSSs is typically transdisciplinary, multiple stakeholders are involved, who may have different perspectives on what the system should deliver, have different problem-solving approaches, or communicate differently.

This requires the development of designers' capacity for mediating and establishing the catalysing factors that generate that cohesion, and reconciling different narratives and expectations (Zurlo & Cautela, 2014) into an actionable sPSS value proposition.

6. Clear communication tools

The communication of design goals among stakeholders is challenging, firstly due to the multiple elements making part of the system (changing nature of touchpoints); secondly, while designing Smart PSSs, designers undergo cognitive shifts, jumping from abstract (i.e. system level) to specific (e.g. product level). Discussions around the Smart PSS can be overwhelming, and affect the shared understanding of design goals.

In this, visual representations may aid in the discussions around design goals (Valencia et al., 2013), and materialise some intangible aspects by representation.

7. Selection of means and tools for the design process

The design of PSSs is a new domain, where designers are learning by doing. This 'newness' poses challenges for designers when selecting tools and methods to support the design process.

It is argued that there is a lack of knowledge of PSS design, and that 'we need a new generation of designers (and design educators) and other professionals capable of operating with complex systems research and innovation' (Vezzoli et al., 2014, p. 42).

Considering these challenges, the following sections explore existing processes, tools to identify the relevant gaps to support designers, as per the aim and objectives of this investigation.

2.3.2 PSS Design Processes, Tools and Skills

Sustainable PSS are social constructions based on 'attraction forces' (such as goals, expected results and problem-solving criteria) that catalyse the participation of several partners (Morelli, 2003). The innovation is the result of a values co-production process within such a partnership, and its effectiveness is based on a shared vision of *possible* and *desirable* scenarios (ibid.). The design activity within this process should therefore focus on mediating and establishing the catalysing factors that generate that cohesion (Zurlo & Cautela, 2014).

Within this activity, PSS innovation represents a very wide area of intervention for a designer. The definition of a standard set of methods and tools to use to design PSS is therefore impossible. However, designers should consider creating their own toolbox including methods and tools to be used in different contexts and for different PSS (Morelli, 2006). In the case that concerns this research – i.e. sustainable PSS as bottom-up innovation initiatives or ventures which are often generated by spontaneous actions of individuals or groups of citizens – the contribution of a service design approach and tools may help, providing them with a structure and a consolidated service system, and can even create the basis for their scalability.

In the context of design, a tool is an approach or procedure aimed at framing, analysing or generating concepts (HEAD – Geneve, 2014). The most prominent recent examples of toolkits assemblage developed to date to support grassroots innovation are:

1. IDEO's Human-Centred Design toolkit provides the International Development community with innovation tools. It has been downloaded over 100,000 times (IDEO, 2011).
2. Nesta's work to produce the Development, Impact and You (DIY) Toolkit supporting the creation of social innovations in International Development (Nesta, 2014).
3. The Social Innovation Journey Toolbox, Transition, Transnational Network for Social Innovation Incubation. TRANSITION partners developed and refined a series of tools to support social innovators at different stages of the Social Innovation Journey (Figure 2.16). The tools were used to help them enhance their social impact and tackle complex issues in development and scaling (Corubolo et al., 2015).

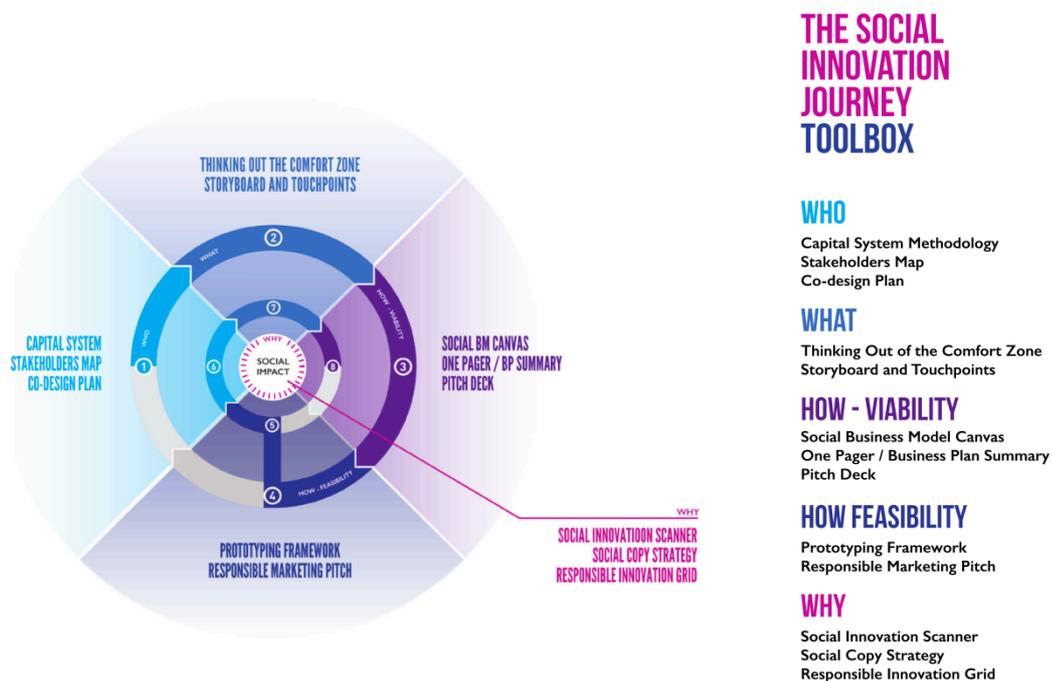


Figure 2.16 – Transition Social Innovation Journey (Corubolo et al., 2015)

All kits provide different tools to support innovation through different stages of the innovation process, and some go beyond innovation and into implementation and upscaling.

Next to the generic, traditional service design and specific toolkits to enable design in the social innovation sphere, Tukker (2015) points out that a variety of tools, guidelines and methods have been developed of which the UNEP’s Design for Sustainability manual, which includes a PSS module (Crul & Diehl, 2005) is the most widely disseminated. Other manuals are the result of projects such as the Sustainable Product Development Network (SusProNet) project, and the Method Product-Service Systems (MEPSS) project.

There is consensus in the literature about the fact that the intrinsic complexity of some PSS requires that such tools be used with a high degree of flexibility (Morelli, 2006). Although these kits and approaches vary extensively in terms of the shape and number of tools they offer, they all build on human-centred principles and a design-thinking mindset (T. Brown, 2009; Vezzoli et al., 2014).

For the purpose of this research, the widely popularised Double Diamond (Design Council, 2005) design process illustrated in Figure 2.17 poses a suitable generic model for spotting where in the design process of sPSS context research could be incorporated, as this model

depicts in a simple, clear, four-phase process the typical user-centred approach to innovation.

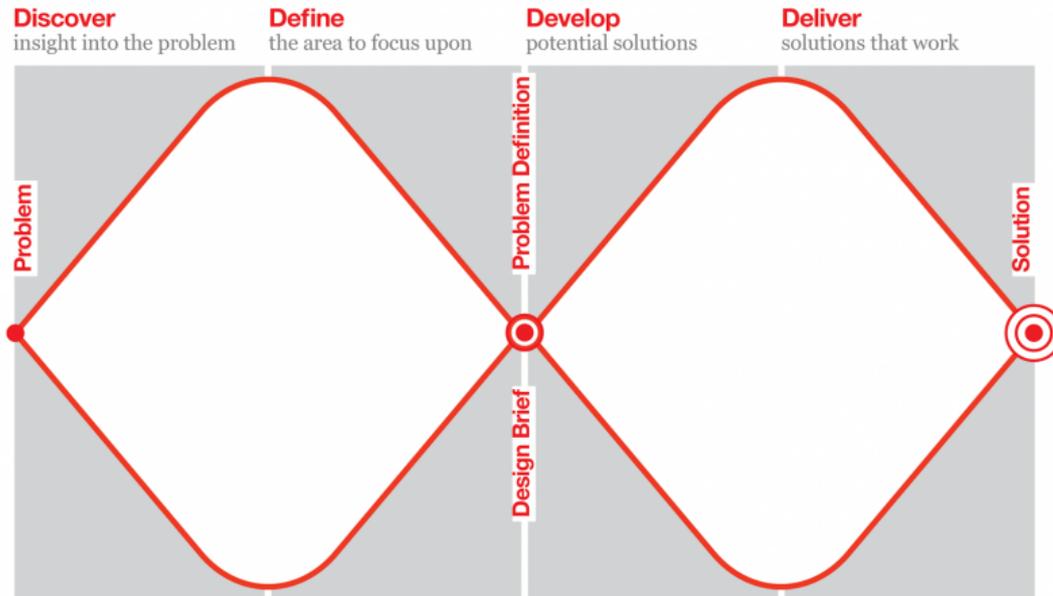


Figure 2.17 – Double Diamond design process (Design Council, 2005)

Equally, the research built on tools described in Design Methods for Developing Services (Technology Strategy Board/Design Council), which are summarised in **Error! Reference source not found.** (a more detailed description is provided in Appendix G.)

Process stage	Purpose/objective	Tool
Discover	Identify the problem, opportunity or needs to be addressed through design <ul style="list-style-type: none"> • Define the solution space • Build a rich knowledge resource with inspiration and insights. 	User Journey Mapping
		User Diaries and Cultural Probes
		Service Safari
		User Shadowing
Define	<ul style="list-style-type: none"> • Analyse the outputs of the Discover phase • Synthesise the findings into a reduced number of opportunities • Define a clear brief for sign off by all stakeholders 	User Personas
		Brainstorming
		Design Brief
		Business Model Canvas
Develop	Develop the initial brief into a product or service proposition for implementation <ul style="list-style-type: none"> • Design service components in detail and as part of a holistic experience • Iteratively test concepts with end users 	Service Blueprint
		Experience Prototyping
		Business Model Canvas
Deliver	<ul style="list-style-type: none"> • Taking product or service to launch • Ensure customer feedback mechanisms are in place • Share lessons from development process back into the organisation 	Scenarios

Table 2.8 –Design Methods for Developing Services (Source: Technology Strategy Board/Design Council)

The methods described above are usually supported by dedicated tools and worksheets on aspects such as researching users' needs, habits and routines; idea generation and creativity enhancement; economic, social and environmental evaluation; visualisation of the PSS in the form of a storyboard; and description of the PSS business model in terms of technical architecture, organisational architecture and revenue streams, including the need for setting up new partnerships to deliver the PSS (Diehl & Christiaans, 2015).

Nevertheless, it is worth noticing that most of these models seem to equate the generation of an initial concept (business idea) with the value proposition (how the idea makes sense for users in context). There is a lack of tools to support market analysis, contextual research (what to look for), and gathering relevant sociocultural and symbolic data necessary for the elaboration of strong value propositions. It is interesting to note, for example, that the tool illustrated in Figure 2.16 doesn't include 'where' or 'when', which would situate the innovation in context and in a cultural moment in time. This data could be mapped by using cultural context mapping and RDE analysis described in section 2.2.3.2.

Although in a grassroots context, sPSS innovation does not necessarily start with a top-down strategic SWOT analysis of the product and market portfolio; but usually starts with straightforward ideas that respond to challenges posed in concrete, lived scenarios, and the challenge is to translate and refine this concept into ventures that can compete in the market. Therefore, elaborating such value propositions requires a deep understanding of context, in addition to understanding users.

- **Capacities for Design in the Sociocultural Dimension**

Wong (2004) argues that to be successful, a PSS solution in the consumer market must be sensitive to the culture in which it will operate. Equally, Light and Miskelly (2014) found that one of the seven features of successful collaborative initiatives is 'rootedness' – i.e. aligning with the place and culture you are operating within.

Sustainable PSS are complex solutions whose design requires the consideration of multiple aspects, such as technology, development actors, users and context (Morelli, 2002), all equally involved in the definition of the final configuration. The traditional design role and capacities are projected upon two dimensions: the technical and the organisational. However, ensuring social participation and engagement (contextual insertion) is a critical part in the success of the sPSS implementation. Therefore, user appeal and relevance (perceived value) should be considered during the design process. This implies the

introduction of a third dimension (sociocultural), in addition to the technical and organisational dimensions, which are already part of the design activity (Figure 2.18):

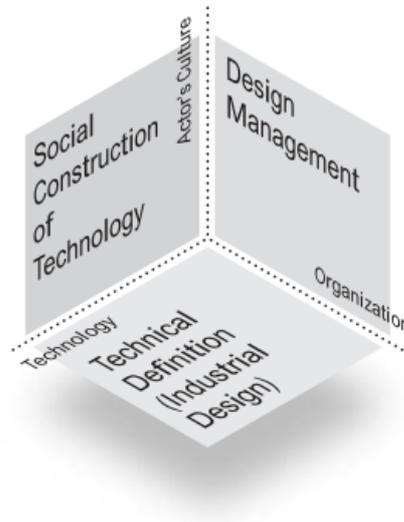


Figure 2.18 – Multidimensional values implied in service design activities (Morelli, 2003)

- The first domain refers to the technical capabilities and skills for developing innovative aspects of the product or touchpoint design.
- The second domain refers to the ability for reorganising functions around innovative patterns. Such a domain is close to the discipline of design management, although it often implies a capacity to understand and enhance organisational learning capabilities using PSS as a catalyst for innovation
- The third domain (sociocultural dimension) concerns the ability to influence innovation processes and to determine the paradigmatic context (meaning) in which new products and services can be accepted or refused. Such a context depends on the capability to interpret, enhance and emphasise certain (sometimes weak) innovation aspects. This is similar to the concept of ‘amplification’ proposed by Manzini (2015).

Morelli proposes that, given that a PSS is the result of the interaction between different actors and artefacts during the use phase, the design activity should focus on the convergence between the sociocultural frames of the actors, the users and those embedded in the artefacts used for the service (touchpoints). Such a consideration suggests that the design of a PSS is an activity that is thoroughly socially constituted. As discussed in

section 2.2.4, sociocultural frames are embedded in the artefact and infrastructures of the PSS, and are intelligible through its physical and representational characteristics.

In this process, Morelli (2003) views the designer as a selection agent: the designer's role is to synthesise different concurrent perspectives. This synthesis is focused on certain problems – or categories of problems – and the designer selects a set of admissible solutions among many possible solutions. Therefore, the resulting PSS is an aggregation of the designer's choices, which define its function in the context of the service, linking artefacts to the attitudes of relevant social groups in order to leverage acceptance or rejection of certain products and services. Fulfilling this role successfully is highly dependent on the designer's capability to observe and interpret cultures, social needs and attitudes with respect to certain phenomena. However, sociocultural and symbolic aspects of consumption, which might significantly impact the value proposition and design of sPSS in terms of perceived value and appeal, have been little explored in the context of bottom-up sustainable innovation (Ceschin et al., 2014; McCormick et al., 2016).

Morelli suggests that Bijker's (1995) approach can be used as criteria to generate different profiles of the possible users of a service, which requires the designer to undertake a thorough analysis of users' characteristics based on interviews, surveys or even by co-creation. However, these methods pose limitations to the eliciting of sociocultural rules and conventions, as such symbolic aspects are naturalised and mostly unconscious (Barthes, 1967) and, therefore, difficult for stakeholders to identify and articulate.

In this, cultural context 'decoding' practices described in section 2.2.3 can aid in identifying the cultural codes which can best serve as design constraints. Further to improving the innovation's competitive advantage, these critical approaches encourage designers to adopt an aesthetic-semiotic direction rooted in the user's cultural context which may enable them to contribute more purposefully to the cultural dimension of sustainability, by preserving, reinterpreting and *contemporising* local and familiar symbols and linking them to new, more sustainable consumption patterns, aspirations and practices.

2.3.3 Section Conclusions

The scope of Design for Sustainability has extended from environmentally friendly industrial/product design to innovation of production–consumption systems and community services, embracing the opportunities to alter the realm of lifestyle and offering

alternatives to dominant consumption patterns. Bottom-up innovation is becoming increasingly relevant to implementing design interventions to bring about societal change. Early cases of PSS implementation show how designers can intervene in coordinating actors and supporting system redesign. But the main challenge is how to tackle cultural transition and legitimation by developing innovations that are capable of satisfying people's intrinsic needs, making them more relevant and appealing than other (unsustainable) alternatives. Especially important is to work with sPSS that support the existing emerging cultural shifts, so that design can potentiate their impact.

Moving design practice outside the 'studio setting' has added a new sociocultural dimension to the traditional technical and organisational skills and capacities of designers. Designers acting in this sphere find themselves innovating in collaboration with a wide range of stakeholders in interdisciplinary teams, and taking on a variety of roles simultaneously during the process. These new places of practice open fresh opportunities to influence societal change, but also challenge and stretch designers' skills and capacities. Consequently, design theories and methods – service design and PSS specific – are being constantly developed to support designers' evolving practice.

One of the main challenges faced by designers' new role is to develop strategies for the acceptance and diffusion of the PSS innovation in the market. A wide range of tools and methodologies have been elaborated for the conception of sPSS, and to equip designers and non-designers to improve the development and scaling-up of grassroots social innovations. However, formulating strong value propositions, translating and maintaining the delivery of the proposition consistently throughout the service experience, remain among the most difficult challenges for PSS designers. While some existing tools and methods consider users and context, they do not appear to support how to research and map sociocultural and symbolic aspects that can 'make or break' the acceptance and diffusion of PSS innovations.

Although the interpretation and manipulation of cultural and social values and associations embedded in sPSS are intrinsically characteristic to design activity, more research is needed to illuminate how sPSS value proposition elaboration and design can be enhanced, with special attention to the framing of sociocultural values and 'meaning-making' aspects – i.e. the symbolic attributes that can make sustainable innovations more appealing and aspirational by improving user's quality of life.

Consequently, expanding from a user-centred to a 'context-centred' disciplinary approach to sPSS design requires the elaboration of support for designers – i.e. resources to acquire and develop the necessary skills and capacity for meaning-making and cultural mediation. This aspect is especially relevant because, as previously discussed in section 2.2.4.3, design mediation has political implications.

2.4 Overall Conclusions of the Literature Review

In this phase of research, a literature review was conducted to fulfil the first objective of this investigation: to emphasise the connection between the goals of social and environmental sustainability (securing happiness and well-being for all), and the cultural values that underpin it, in order to inform the role of design in legitimising these values.

A socio-economic paradigm based on 'cultures of consumption' is hindering humanity's happiness and well-being, as well as damaging the biosphere – our life support system. Dominant cultures of consumption are driven by extrinsic motivators that result in greater unhappiness and unsustainability. In response, societies seek a shift of socio-economic paradigm, through a model for sustainable development promising social, environmental and economic benefits – i.e. 'the triple bottom line'.

However, it is being increasingly recognised that sustainability is not a technical problem to be solved but *a set of values that guide our actions*, and ultimately a cultural issue. This calls for a new model that extends beyond the popularised 'Three Pillar model' (i.e. social, environmental and economic) to a 'Four Pillar model' which incorporates a cultural dimension, recognising that socio-economic arrangements and, especially, consumption, are underpinned by cultural values. Furthermore, a cultural dimension of sustainability contributes to preserving cultural diversity – i.e. values and expressions that contribute to a 'sense of community' and a 'sense of place', important factors that underpin human well-being and quality of life.

Equally, emergent expressions of a societal shift in values indicate a move towards a more 'dematerialised' concept of societal well-being. Consequently, the pursuit of well-being and sustainability are beginning to align. New development frameworks that place well-being as the central goal for sustainability are being adopted, and cells of 'cultures of sustainability', underpinned by intrinsic, rather than extrinsic, human motivation are proliferating. However, these forms are still emergent and the urgency to shift habits and change social

arrangements calls for all actors in wider society to engage in sustainable practices. But this can only be achieved if sustainability adds value to people's lives as well as benefits to the environment.

There is an urgency to support the transition and to encourage wider societal adoption, and the concept of sustainability as a lifestyle proposition needs to shift from simply being concerned with environmental issues to embracing a more human-centred approach to sustainable innovation that delivers sustainability but also enhances quality of life to potential users. Designers as cultural intermediaries can and should play a key role in supporting the values that underpin the sustainability paradigm by taking a more proactive role in the way that their artefacts contribute to the representation and legitimisation of sustainability in culture. Building on cultural references and associations already present in the innovation's context, it seems possible to 'design' a smoother transition to radical sustainable processes and practices and support the already emerging new paradigm.

Within the outputs of Design for Sustainability, sPSS have been identified as interesting platforms from which to explore systemic disruption. But they also face important cultural barriers, mostly associated with low perceived value due to a lack of symbolic features (which users attribute to products to construct their social identities). As such, they were considered a good case to explore for the purpose of this research.

Cultural deconstruction practices such as applied semiotic and cultural analysis allow for the strategic selection of 'cultural codes', offering the opportunity to construct favourable *meanings* and *appeal* for sustainable innovations, rooting the innovation in its social context so that it can be more easily understood and valued by potential users. Moreover, by being correctly 'encoded', sustainable innovations could help redefine the cultural preconceptions, appeal and meaning of sustainability in consumer culture. But while these methods offer great potential to aid design in this task, the capabilities and requirements for their integration to the design process needed to be empirically investigated. Moreover, working with the perception and value of sustainability in culture requires widening the scope and skills of designers to deal with cognitive-semiotic (meaning-making) aspects. This, in turn, requires the elaboration of new theories and methods to inform Design for Sustainability, as a strategic discipline engaged in a socio-economic paradigm change. The following section highlights the knowledge gaps identified within the scope of this research.

2.4.1 Knowledge gaps

Strategies for tackling the cultural barriers that prevent a wider societal uptake of sPSS can be summarised as follows:

Lack of research

Although customer acceptance is one of the most problematic barriers in sPSS (and sustainable innovation in general), extant literature shows little interest in researching the sociocultural context of innovation, markets and customers. Until today, research on sPSS (especially within the design discipline) has mainly focused on processes. Eliciting users' ideals of value to create relevant value propositions that offer improved quality of life to users (and can therefore effectively compete with existing options) is an area of research being neglected.

Studying and mapping sociocultural meanings at macro (global) level and micro (local/contextual) level is key to strategically insert radical innovations in the market. Therefore, it is necessary to better understand the sociocultural rules and the symbolic aspects of consumption at play in the context of the innovation.

Lack of design skills and methods

Consequently, designers need support to develop the skills and capacity to deal with the sociocultural dimension of consumption (users' identity, aspirations and expectations) during the sPSS design process.

A wide range of tools and methodologies are available to support sPSS design, and to equip designers and non-designers to improve the development and scaling-up of bottom-up sustainable innovation. However, formulating strong value propositions, translating and maintaining the delivery of the proposition consistently throughout the service experience remain among the most difficult challenges for PSS designers. Evidence suggests that, to date, methods to analyse the sociocultural landscape of innovation and derive 'design constraints' for innovation framing are lacking. This is crucial to inform the elaboration of value propositions and symbolic features that can 'make or break' the acceptance and diffusion of PSS innovations, and which could play an important role in delivering competitive advantage for sPSS by enhancing the innovation's perceived value, relevance and appeal.

Consequently, this research focused on building a theoretical framework and practical methods to integrate a sociocultural lens to the design process, based on applied semiotics and cultural analysis methods, to support designers in the research of symbolic meanings, innovation framing and meaning-making aspects of sPSS innovation.

Chapter 3 – Research Methodology

This chapter outlines and justifies the research methodology adopted for this inquiry. It provides details on the research type, purpose, strategy and design, as well as the data collection and analysis methods that were selected to achieve the aim, objectives and research questions described in sections 1.3.2 and 1.3.3.

3.1 Research Type

According to Denzin and Lincoln (2003), *qualitative* research recognises ‘the value-laden nature of the inquiry’, whereas *quantitative* researchers ‘claim that their work is done from a value-free framework’ (p. 13). The results of this research are intended to provoke critical reflections on dominant cultural forms (consumerism), and mobilise strategic action based on the values that Design for Sustainability, admittedly, seeks to support and legitimise. Therefore, a qualitative approach is considered the most appropriate route.

Furthermore, the authors clarify that ‘qualitative researchers stress the socially constructed nature of reality [. . .] They seek answers to questions that stress *how social experience is created and given meaning*. In contrast, quantitative studies emphasise *the measurement and analysis of causal relationships between variables, not processes*’ (ibid., p. 13). As this inquiry seeks to improve collaboratively the quality of social practices and processes, both of design practitioners and the social agents it affects, it is important to understand the qualitative aspects of social relationships and practices.

Moreover, meanings are not entities that can exist separate from the individual’s subjective perception and are created under social conditions (Berger & Luckmann, 1967). Therefore, a qualitative approach is appropriate because it allows for studying *meaning* and *process* under a social-contextual relationship lens.

3.2 Research Purpose and Paradigm

This inquiry is driven by a critique of the dominant social structures of consumption and production, and the need for design to contribute to systemic change by empowering local grassroots initiatives. Thus, the purpose of this research is not geared towards improving

practice in order to serve *current* social arrangements, but to *disrupt* unsustainable social and environmental structures and drive systemic change.

In this, the research project seeks to produce knowledge for *emancipation* (Kemmis & McTaggart, 2003) from a culture of consumerism by envisioning a more strategic role for design to influence societal transformation towards greater sustainability and well-being for all (Barth & Fischer, 2012). The ultimate goal of this kind of research is that of the 'emancipation of participants from the dictates or compulsions of tradition, precedent, habit, coercion or self-deception' (Carr & Kemmis, 1986).

An emancipatory interest orientates the researcher towards the release of human potential (both of the researcher and the participants engaged) and the collaborative investigation of ideology and power relations within design practice and society in order to draw strategies for transformation and change.

3.1 Research Design and Strategy

Due to the nature of the research aim and questions, the overarching strategy adopted for this research was based on Critical Action Inquiry (CAR). Kemmis and McTaggart (2003) describe CAR as that which 'expresses a commitment to bring together broad social analyses: the self-reflective collective self-study of practice (in this case, design practitioners as well as users), the way language is used (the sustainability discourse), organisation and power in a local situation (context and problematic that sustainable PSS innovation intends to address) and action to improve things (planned design strategy for systemic change)' (p. 338, text in brackets added for clarification).

This strategy allowed for investigating the two research questions under the same paradigm, congruently accommodating a phase for Initial Theory development (Phase 2, Preliminary Study) based on critical analysis of broad sociocultural discourses; and the Main Study of investigation based on Participatory Action Research which aimed to improve practice.

Without denying the importance of foundational knowledge, action researchers often seek experiential knowledge as well, in the hope that theory and pragmatics together can achieve a whole that is greater than its parts (Altheide & Johnson, 2011). Although action research is a very practical and relevant way of doing research (McKay et al., 2000),

especially for practitioners, few PhD programmes teach or encourage action research methods, so action research dissertations represent an important source of documentation of action research case studies, as well as knowledge about various social practices (Herr and Anderson, 2005). As such, this research project presented a good opportunity for documenting these aspects.

The research aim was to develop the incorporation of a sociocultural lens to the design process. This was achieved by drawing from cognitive science and critical approaches – i.e. cultural studies and semiotics. Figure 3.1 maps how these disciplines informed this research, as it aimed to understand the relationship between representations, perception and decision-making (in respect to the appeal and uptake of sPSS innovation) and to develop methods and tools for design practice.

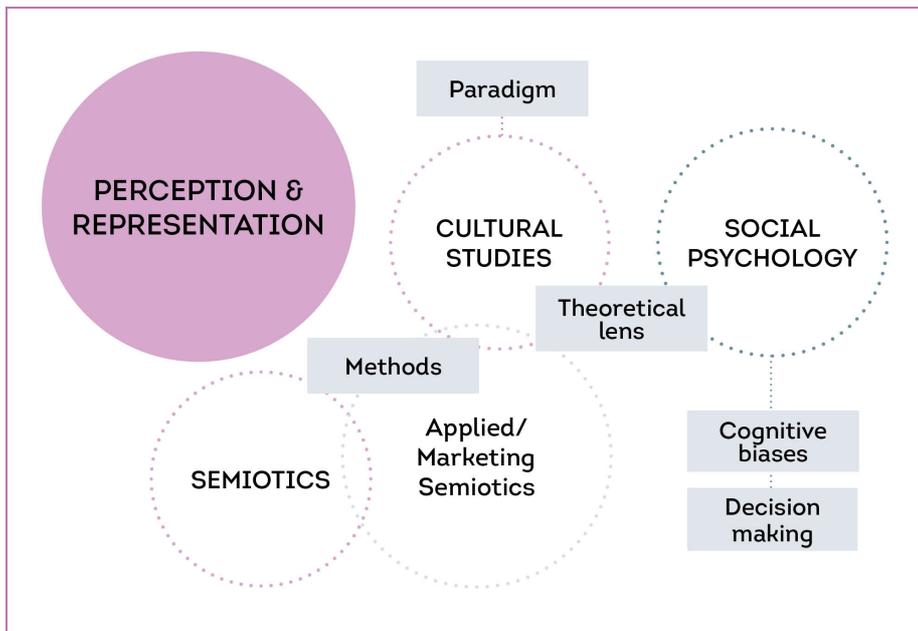


Figure 3.1 – Cognitive science interdisciplinary approach used to investigate perception/representation

Cognitive science was found to be a good approach to informing the research on the study of perception and representation, due to its interdisciplinary stance (that the mind/brain cannot be attained by studying only a single level, therefore studies draw from various fields). The fundamental concept of cognitive science is that ‘thinking can best be understood in terms of representational structures in the mind and computational procedures that operate on those structures’ (Thagard, 2014). In this research, this stands

for the relationship between intended (design-framing) and perceived (user-interpreted) meanings, with emphasis on how representation (sense) affects their decision-making.

Critical and analytical aspects are crucial elements of this inquiry. Therefore, the building of theory, methodology and development of interventions is informed by empirical and theoretical knowledge that transformative and interpretive frameworks such as critical theory, cultural studies and socio-semiotics offer for studying the production of meaning in social contexts, and in the interest of this particular research, the social representation of values through designed artefacts – i.e. sustainable PSS. Meanings are thought to be subtle and deeply embedded into the belief structure of practice and, through the process of critical self-reflection, they can be accessed and surfaced for examination ultimately leading to transformation (Herr & Anderson, 2005).

This inquiry adopted a socio-semiotic interpretive lens, first, to deal with questions of social reality construction through the analysis of discourses and representations. Secondly, because the intended outcome of the research was to incorporate the use of ‘deconstruction practices’ into the design process. These are interpretive and critical in nature, and their output serves to inform strategic design action for social change.

An important aspect to note is the use of reporting language in this thesis, which is unusual while working under this paradigm. To comply with the funding institution’s recommended ‘best practice’, the researcher had to compromise and write this work in the third rather than the first person, and refer to research collaborators as ‘participants’.

3.1.1 Research Design

The research design reflects the principles of the research paradigm and strategy, incorporating phases of preparation, action and reflection. Participation, dissemination and immediate application of outputs are also built into each phase of research.

The investigation was organised in four phases: Literature Review, Preliminary Study, Pilot and Main study and Evaluation (Figure 3.2).

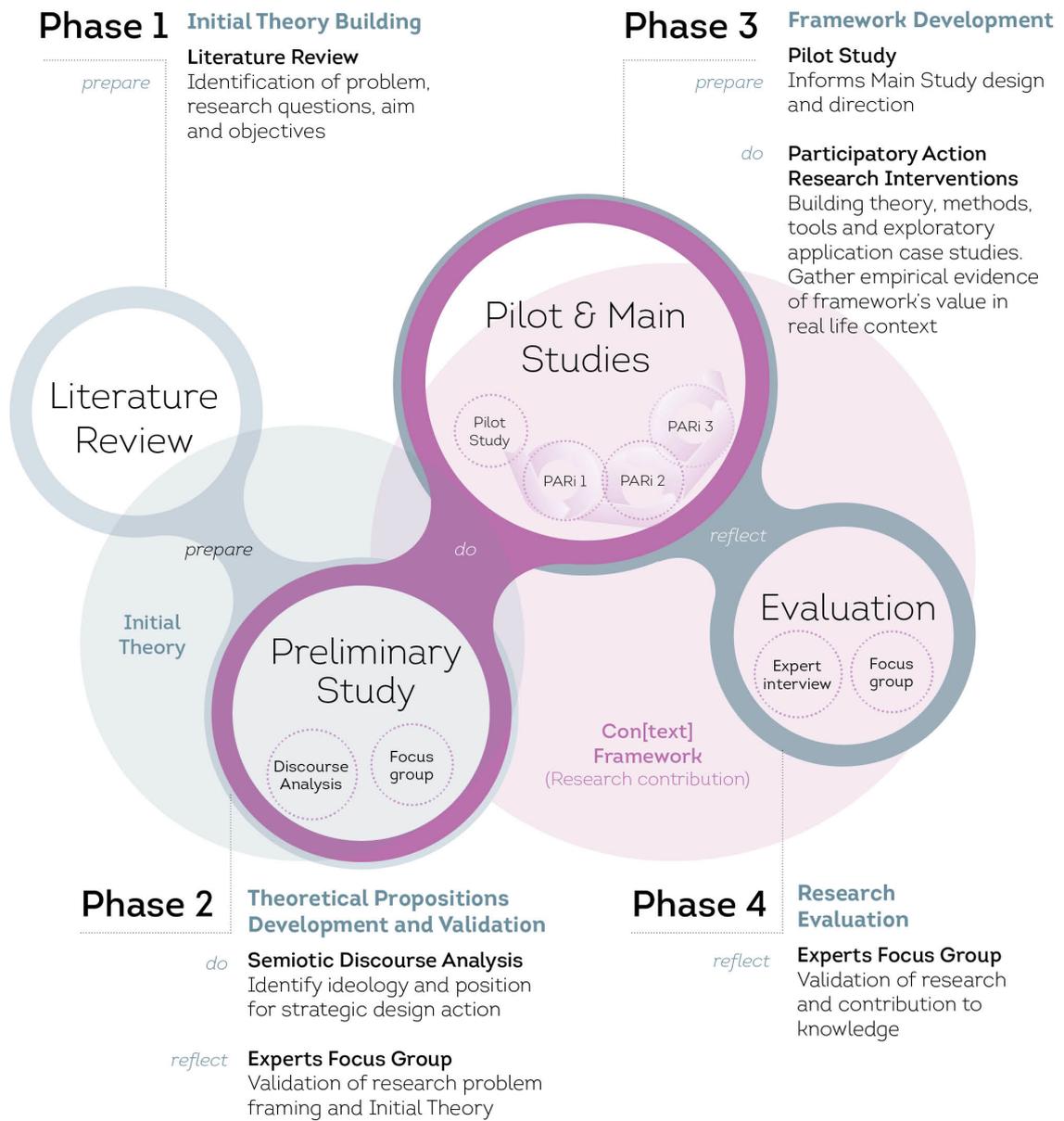


Figure 3.2 – Research design structure

Table 3.1 illustrates the research design, and summarises the strategy adopted in each phase to respond to the research questions, aim and objectives of the investigation.

Aim To improve the design and value proposition formulation of grassroots sustainable innovations (sPSS), as strategy to support a sociocultural transition towards sustainability, happiness and well-being. In line with this aim, this research focuses on investigating effective means to research and map the innovation's sociocultural context, in order to identify and incorporate by design the cultural codes that enhance its symbolic value (relevance and appeal).			
Phase	Objective	Question	Research strategy
Phase 1 Problem-framing	1. To emphasise the connection between the goals of social and environmental sustainability and the cultural values that underpin it; to adopt a strategic role for legitimising them through design intervention.	RQ1 – In which ways does the perceived value of sustainability as a cultural meaning affect the appeal and uptake of sustainable offerings (products and services)? <i>a. How do sustainable offerings currently compare with competing choices, in terms of value proposition (i.e. perceived value, meaning, benefits and appeal)?</i>	Literature review
Phase 2 Preliminary Study Elaboration of Initial Theory, propositions and conceptual framework	2. To challenge, through design representation, the generalised view that sustainable lifestyles and practices are constraining and empower designers with culturally relevant discursive narratives and ideological positions for sustainability to reach wider audiences.	<i>b. What are the main implications of the dominant sustainability discourse for outputs of Design for Sustainability?</i> <i>c. What values, representations and ideologies (i.e. discursive frames) are most suitable for sPSS innovations to appeal to wider audiences?</i>	Critical discourse analysis Focus group
Phase 3 Main Study Framework and methods development	3. To develop a design intervention (i.e. methodology, framework) that empowers designers to develop more relevant, aspirational and meaningful sPSS innovations, rooted in their sociocultural context and capable of encouraging the adoption of more sustainable lifestyle practices, particularly focusing on improving users' quality of life as outcomes. 4. To democratise relevant knowledge that can empower social innovation by making it accessible.	RQ 2 – How can the design process be better informed by the socio-symbolic and cultural aspects of user and context (i.e. people's expectations, aspirations and social identity needs)? <i>a. How can sPSS innovations be developed more in tune with context and user so that they are perceived as relevant and appealing against other (less sustainable) options?</i> <i>b. How can designers be supported to research and map the contextual socio-symbolic aspects (socio-psychological needs and aspirations) that influence users' preferences?</i> <i>c. How can we elaborate sPSS value propositions that are of good intrinsic (as well as perceived) value?</i>	Pilot study Participatory Action Research interventions
Phase 4 Research Evaluation	5. To assess the potential impact and relevance of the research outcomes within and beyond the specific area of application in this research.		Expert interview Focus group

Table 3.1 – Research design and strategy

3.1.2 Overarching Strategy for Sampling, Data Collection and Analysis

The aim and objectives of this research required a strategy that would enable the researcher to embrace the critical, flexible, participatory and practice-based aspects central to the investigation's success. Combining methodologies is required in the cultural studies tradition, to allow for studying the interplay between lived experience, discourses and texts and the historical, social and political context (Saukko, 2003).

A postmodern *bricoleur* approach was adopted as an overarching strategy to participant selection, data collection and analysis techniques. This strategy allowed for assembling and accommodating a wide range of research design tools and methods to achieve the aim and objectives within each phase to research. It also encouraged the researcher to adopt a critical, reflective and multi-perspective approach to reporting findings.

Grossberg et al. (1992) describe *bricolage* methodology as 'pragmatic, strategic, and self-reflexive' (p. 2). The term *bricolage* derives from a traditional French expression which denotes craftspeople who creatively use materials left over from other projects to construct new artefacts. *Bricoleurs* use only the tools and materials 'at hand' (Lévi-Strauss, 1966), in direct contrast to the work of engineers, who follow set procedures and have a list of specific tools to carry out their work. The use of this metaphor in qualitative research denotes methodological practices explicitly based on notions of eclecticism, emergent design, flexibility and plurality. Further, it indicates approaches that examine phenomena from multiple, and sometimes competing, theoretical and methodological perspectives (M. Rogers, 2012). As such, a *bricolage* approach can be considered a critical, multi-perspectival, multi-theoretical and multi-methodological approach to inquiry (Berry, 2011; J. L. Kincheloe, 2001, 2005). Advocates of this approach argue that it enables researchers to embrace a multiplicity of epistemological and political dimensions through their inquiry (Berry, 2004) and also create opportunities for informed action.

3.2 Data Collection and Analysis Techniques

While adopting a *bricolage* strategy meant that data collection, analysis and participant selection were based on their suitability to attain the objectives of each phase, priority was given to established inquiry methods to support the robustness and rigour of the inquiry.

Table 3.2 summarises the methods used in each research phase.

Prepare	Phase 1 Literature Review	Critically review extant literature	
	Phase 2 Initial Theory Building	Critical Discourse Analysis	Multimodal resources analysed using: <ul style="list-style-type: none"> • RDE method • Semiotic Square method
Participatory consultation		<ul style="list-style-type: none"> • Focus group • Thematic analysis 	
Act	Phase 3 Pilot and Main Study	Pilot study	<ul style="list-style-type: none"> • Workshops • Photographic records • Questionnaire (feedback form)
		Main Study PAR Interventions	<ul style="list-style-type: none"> • Questionnaires (scoping and feedback) • Unstructured and semi-structured interviews • Journaling • Workshops/working meetings • Document analysis • Focus group • Thematic analysis
Reflect	Phase 4 Evaluation	Expert consultation	<ul style="list-style-type: none"> • Unstructured interview • Thematic analysis
		Evaluation consultation	<ul style="list-style-type: none"> • Focus group • Thematic analysis

Table 3.2 – Summary of research methods employed in each phase of the research

The following sections describe and justify the selection of methods in Table 3.2.

Feedback questionnaires – The researcher elaborated two tailored questionnaires (Appendices C5 and D1) to collect feedback from participants after sessions and interventions. A feedback sheet (simplified questionnaire) was used to collect participant’s feedback during the Pilot Study (Appendix B4).

Unstructured interviews – Interviews are probably the most widely employed method in qualitative research. The researcher needs to decide on the research questions that will be answered by interviewing, and these questions are open-ended, general and focused on understanding the central phenomenon in the study (Creswell, 2013).

The two main types employed in this kind of research are the *unstructured* and *semi-structured* interview. For this research, both types of interviews were used. The unstructured interview consists of a list of topics or issues, often called an *aide-memoire*, that are to be covered. The style of questioning is usually informal (Bryman, 2016). Semi-structured interviews entail a series of questions but the researcher is able to vary the

sequence and can ask further questions in response to what are seen as significant replies (ibid.).

Semi-structured interviews were used to collect information during the PARI cycles: PARI 1 and 2, in order to complement information collected via familiarisation questionnaires. In PARI 3, interviews were used to quickly collect students' feedback, and later to obtain tutors' views of the context in which the intervention took place, and wider problematic. In Phase 4, an in-depth unstructured interview was conducted with a sPSS expert helped to collectively make sense of the research outcomes within the global problematic of sustainability and the specific aspects of sustainable food provision PSS, which relates to the field studies in this research. Interviews were audio-recorded and transcribed.

Focus groups – The focus group technique is a method of interviewing that involves more than one, usually at least four, interviewees (Bryman, 2016). Focus groups offer the researcher the opportunity to study the ways in which individuals discuss a certain issue as a member of a group, rather than simply as an individual. In this sense, therefore, focus groups reflect the processes through people responding to each other's views and build a view out of the interaction that takes place within the group. Researchers are explicitly concerned to reveal how the group participants view the issues with which they are confronted; therefore, an unstructured setting is provided for the extraction of views and perspectives (ibid.).

Focus groups were key for collectively informing problem-framing and direction of this research in Phase 2, stimulating discussions and emergence of views and dilemmas related to sustainable design. The focus group held at Phase 4 (Evaluation) was very valuable for situating the outcomes of the research within the discipline. As with interviews, focus group sessions are best recorded and transcribed for analysis (Bryman, 2016).

Existing data – This refers to a heterogeneous set of resources and data that have not been produced at the request of the researcher – instead, they are 'out there' waiting to be assembled and analysed (Bryman, 2016).

This research was concerned mainly with these sources:

- *Personal documents* in written form (such as diaries, letters, emails) and visual form (such as photographs)
- *Mass-media outputs* (multimodal resources for the discourse analysis)
- *Virtual outputs*, such as internet sources, used as evidence and/or for reference

Journaling (or memos) – Keeping self-reflective journals is a strategy that can facilitate reflexivity, whereby researchers use their journal to examine ‘personal assumptions and goals’ and clarify ‘individual belief systems and subjectivities’ (Ahern, cited in Russell & Kelly, 2002, p. 2). At a wider level, journaling provides a good platform for reflection on action (Schön, 1991), which involves looking back on an experience, with the purpose of:

- Analyse what happened
- Think through the event from a number of perspectives (for example, our own and the participants’)
- Identify what went well
- Identify problems and work towards solutions where possible
- Identify areas for development
- Build your professional knowledge (and build a record of it)
- Think about what you would do next in similar situations

As a private document, a journal can include whatever we want it to. There are no rules about personal reflective writing – ‘the important thing is to use it to achieve the purpose you are using it for, and to write it in a way you want to write in it’ (Jasper, 2008; p. 177).

In line with the criticality approach of this investigation, journal notes were produced according to Thompson’s (2008) expectations of reflective accounts, which are:

<i>Analytical content</i>	Not just a mention of facts, perceptions and events, but links between them, alternative approaches and consequences, beliefs and ideologies that underpin them.
<i>A critical edge</i>	A questioning approach that ‘unpacks’ assertions and assumptions, rather than taking them on board without further thought. Acknowledgement and awareness of our own as well as others’ world views and values.
<i>Evidence of conceptual thinking</i>	Awareness of the bigger picture, placing phenomena in relation to other concepts, knowledge and theories (i.e. what our example is an example of).
<i>An appreciation of one’s own role in change processes</i>	Self-awareness of our agency to promote change. Accountability for our own views and personality bias.
<i>An awareness and understanding of complexity</i>	An understanding of the complexity and uncertainty that characterises human interactions (i.e. there are not ‘one-size-fits-all’ solutions).

Self-reflective accounts of practice were recorded using Thompson's (2008) three levels of reflection model:

- *The cognitive dimension* to reflect on thoughts and processes
- *The affective dimension* to reflect on feelings
- *The values dimension* to reflect on values

A sample of journal accounts is provided in Appendix C2.

Data Analysis Methods

Thematic analysis – Thematic analysis is one of the most common approaches to qualitative data analysis; however, as a method it does not have an identifiable heritage or a cluster of particular techniques like other strategies, such as grounded theory or critical discourse analysis, which also search for themes or codes. For some a theme is more or less the same as code, whereas others view themes as groups of codes (Bryman, 2016).

Although consensus is not reached in this respect, building on (Braun & Clarke, 2006), Bryman proposes that a theme is:

- a category identified by the analyst through his/her data;
- that relates to his/her research focus (and quite possibly the research questions)
- that builds on codes identified in transcripts and/or field notes
- and that provides the researcher with the basis for a theoretical understanding of this or her data that can make a theoretical contribution to the literature relating to the research focus

A Framework strategy, a matrix-based method for ordering and synthesising data (Ritchie & Lewis, 2003) was used for assisting the thematic analysis of interviews, working and consultation sessions where data was collected and transcribed. Appendix F1 provides an example of how recurring motives in the text were represented visually as themes and subthemes in matrix.

Critical Discourse, Semiotic Square and RDE analyses – Critical discourse analyses

(Semiotic, RDE) – Critical discourse analysis (CDA) emphasises the role of language as a power resource that is related to ideology and sociocultural change. It draws in particular on the theories and approaches of Foucault (e.g. 1980), who sought to uncover the representational properties of discourse as a vehicle for the exercise of power through the construction of disciplinary practices (Bryman, 2016). CDA involves exploring why some meanings become privileged or taken for granted, while others become marginalised (ibid.). This involves asking 'who uses language, how, why and when' (Van Dijk, 1995), to

which might be added ‘and to what effect?’ The research adopted a socio-semiotics approach to critical discourse analysis. Semiotics is considered a ‘critical deconstruction’ approach because it is concerned with uncovering hidden meanings that reside in texts as broadly defined (Derrida, 1967). The strength of this approach lies in its invitation to the analyst to try and see beyond and beneath the apparent ordinariness of everyday life and its manifestations (Bryman, 2016).

Critical discourse analysis was used in the Preliminary Study, to map the meanings and associations of sustainable offerings in consumer culture, to critically analyse discursive sustainability representations and establish the positioning, ideology and predispositions they might generate, and to assert the most favourable discursive frame to be adopted for sPSS offerings. Section 3.2.2.1 describes in detail what data was analysed, and how analysis was designed and implemented.

The sections that follow expand on the specific research methodology adopted for the different phases of research.

3.2.1 Phase I – Literature Review

In line with Objective 1 of the research (Chapter 1, section 1.3.2), Phase 1 identified key literature and authors, provided definitions, mapped extant knowledge and identified the gaps in knowledge. The aim was to situate sustainability goals, their relationship to well-being and happiness lifestyles and the role of design in supporting socio-economic paradigm and cultural transformation. The review of literature was guided by the research questions, aiming to critically understand issues related to consumption, appeal and adoption of sustainable products, services and lifestyle practices in the context of developed ‘market societies’. The literature review contributed to the elaboration of the Initial Theory which was developed and challenged in subsequent phases of the research.

3.2.2 Phase 2 – Theory Building (Preliminary Study)

As described in section 4.2.2, *Con[text]*, a conceptual framework was formulated to bridge the application of the Initial Theory to practice and iteratively applied in ‘real life’ cases. This allowed for theoretical assumptions to be challenged, and the new understandings generated contributed to make the framework more robust.

In order to achieve the above, a sustainability critical discourse analysis and experts focus group were undertaken. As a first step, primary research was conducted by analysing a set of semiotic resources in order to understand how the meanings are produced, what values and ideologies they represent, and how these may affect people's perceptions and behaviours towards sustainability. Subsequently, an experts' focus group session was conducted to validate the semiotic analysis results, researcher's problem-framing and the proposed solution for tackling it (Initial Theory). The following subsections detail the research methods of the above:

3.2.2.1 Critical Discourse Analysis of Representations

This study aimed to provide empirical evidence of some of the problems with discursive representations of sustainability highlighted in extant literature by several authors. These critical aspects of the inquiry were essential to understand how Design for Sustainability outputs currently affect and effect the formation of reality and culture, and how they may do so in the future.

The study was designed to further develop the Initial Theory formulated upon findings from extant literature reviewed in Phase 1 (Chapter 2), by drawing on theories from semiotics and cultural studies, and aided in the formulation of theoretical propositions and premises for its application in the context of sPSS design. The objective was to identify the most favourable discursive frames to be adopted for design and representation of sPSS.

The study was conducted in two stages: as a first step, a semiotic analysis of sustainability representations was conducted using Williams RDE Greimas Semiotic Square model. By means of Multimodal Discourse Analysis, step one of the preliminary study sought to find out *what* is being accomplished, under *what* conditions, and *how* (out of *what* discursive resources) in order to better understand the current positions and structures of power/knowledge (Gubrium & Holstein, 2003). The meaning of sustainability in culture and how representations influence these meanings were mapped to understand the position of the stakeholders that contribute to the sustainability discourse (researchers, designers, marketers, media) in order to propose an ideological position for Design for Sustainability practice, which in this investigation focuses on sPSS design.

Selecting the data set

A *corpus* of semiotic resources normally comprises the entire collection of data that might be obtained through the combination of observation, interviews, field conversations, various degrees of participation, and so on (Vannini, 2007). The gathering of existing textual material (found data) is also very commonly used, as it saves time and can be cost-effective (Taylor, 2013; Vannini, 2007). However, the challenge of this approach lies in narrowing down the available material to a manageable and appropriate sample (Taylor, 2013). The other difficulty is deciding what data constitutes a good ‘semiotic resource’ and what is background information.

Because this inquiry deals with a mainstream perception of sustainable offerings, the study analysed a *multimodal* set of semiotic resources – i.e. data composed of a combination of words (written or spoken) and images (Kress, 2009), which represent or communicate sustainable products and services. The selection focused on resources that were broadcast broadly in mainstream media (newspaper articles, TV programmes and ads, etc.), which can be easily accessed, as they are abundant and readily available.

Vannini (2007) points out that the concern of socio-semiotic ethnography is with how semiotic resources (i.e. data) are used to express truth, what kinds of modality are used to achieve it and how these resources are differentially used over time. Therefore, in general terms, the selection criteria are guided by the research objectives and questions, as well as the analytic approach – strategies, discourses, subject positions, dilemmas, group membership categorisations (Taylor, 2013). Another selection criterion that might be applied is *modality* of the semiotic resource. In socio-semiotics modality refers to the ‘reality value’ (Jewitt & Oyama, 2001) of a semiotic resource. There are different kinds of modality, or ways of achieving reality value. For example, it is generally believed that a photograph is ‘more real’ than a written account of what is seen in the photograph (‘a picture is worth a thousand words’ concept). Kress and van Leeuwen (1996) discuss different forms of modality existing in semiotic ‘modes’ such as the linguistic, sonic and visual.

Given their pre-eminence and predominance in consumption culture, the investigation was located within mass media texts in the English language. By definition, mass media is created for a broad audience, therefore reflecting meanings and holding appeal for mainstream consumers (Arsel & Thompson, 2011; Scaraboto & Fischer, 2013). Equally,

social and cultural norms are often discursively created within popular media where expressions of normative consumption, dilemmas and opposing discursive narratives abound (du Gay et al., 2013; Zayer et al., 2012). Moreover, examining press coverage and advertising narratives of sustainability over time provides an important opportunity to observe shifts in this discourse in ways that cross-sectional data would not allow (Humphreys, 2010).

Data analysis techniques – For this study, methods of analysis widely employed by socio-semiotics¹ and cultural studies were selected, as they offer the most adequate and robust means to analyse and interpret social discourses where meanings, values, practices and beliefs are represented. These disciplines' methods are useful for those 'needing to trace in precise ways the transactions of meaning in sets of texts, whether those texts are verbal or visual, or embedded in specific objects, actions, practices or behaviours' (Hodge & Kress, 1988). According to the authors, although 'much of semiotics has not been conceived with this kind of use in view [. . .] it remains the most obvious site' for analytical practice in different disciplines needing to deal with social meaning – i.e. describing the processes and structure through which meanings are constituted and negotiated (ibid., p. 2).

Two modes of analysis were employed: the data set was first openly coded and thematically classified under a Residual/Dominant/Emergent (RDE) categorisation (Bourne Taylor, 1997; Bryson, 2013).

Semiotic analysis – Semiotics is considered a 'critical deconstruction' approach because it is concerned with uncovering hidden meanings that reside in texts as broadly defined (Derrida, 1967). The strength of this approach lies in its invitation to the analyst to try and see beyond and beneath the apparent ordinariness of everyday life and its manifestations (Bryman, 2016). In the context of this research, dilemmas posed by sustainable consumption (e.g. personal benefits/environmental benefits, people/planet, etc.) prompted semiotic investigation in order to better understand how design representation

¹ *Epistemology*: It is important to emphasise one important difference between socio-semiotic ethnography and social semiotics in general. Socio-semiotic ethnography is concerned with the study of lived experience of meaning and with the actual, practical use of semiotic resources. Whether socio-semiotic ethnographers are interested in understanding, collecting, documenting, cataloguing old or new semiotic resources, they must remain focused on how actual social agents (i.e. people), individually or in groups, produce, create, distribute, exchange, use, consume or interpret semiotic resources in specific contexts, rather than focusing on the 'semantic sense' of the resource itself.

is affected by and affects the sustainability discourse. Another area of interest is ‘positions’ (Derrida, 1982), that is:

- *Ideological positions* – establishing the meanings naturalised by dominant producing agents of the sustainability discourse (what is meant by ‘sustainability’, how it is naturalised as truth, what agents produce it and what agents challenge it);
- *Value position*: establishing the value of sustainable offerings according to the cultural associations currently ascribed to them.

Greimas Semiotic Square was used for this purpose, as a good tool for analysing paradigmatic polarities more fully by mapping the logical relationships between key semantic themes or concepts (Chandler, 2007). Figure 3.3 illustrates the structural relationships of a semiotic analysis using the square.

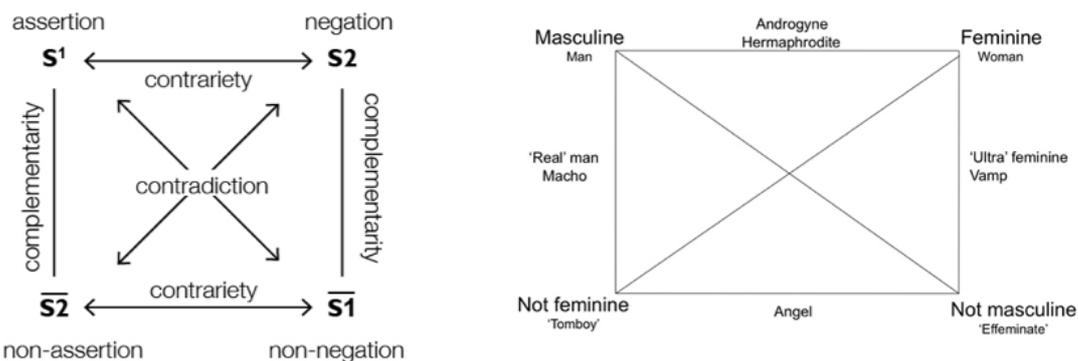


Figure 3.3 – Left: Semiotic Square relationship structure (from Chandler, 2007). Right: example of Semiotic Square analysis using the ‘masculine/feminine’ pair

By mapping concepts in the square in contrasting pairs (e.g. local/global, mainstream/niche, bottom-up/top-down, people/planet), we can uncover the relationship between them, establish related positions and ‘hidden’ or ‘implied’ meanings that, because they are usually ‘naturalised’ (taken for granted), they might not be easily spotted by other means of data analysis.

RDE (Residual, Dominant, Emergent) meaning trajectory analysis – Meanings and cultural associations are not fixed, but constantly negotiated and evolving in social contexts, therefore it is important to map the trajectory of the meaning in order to understand how semiotic resources (representations) associated to sustainability are differentially used over time. This concept of *Semiotic change* (Peirce, 1931) captures the interpersonal interaction

over time and succession of habits of thought, habits that result in the diachronic transformation of meaning.

An RDE (Residual, Dominant and Emergent²) analysis (Williams, 1977) of the discourse associations was used to understand how the associations have varied, but most importantly, to establish emerging meanings and associations upon which sustainable offerings could potentially be linked, and the implications of these associations. Figure 3.4 provides an overview of the RDE analytical categorisation structure.

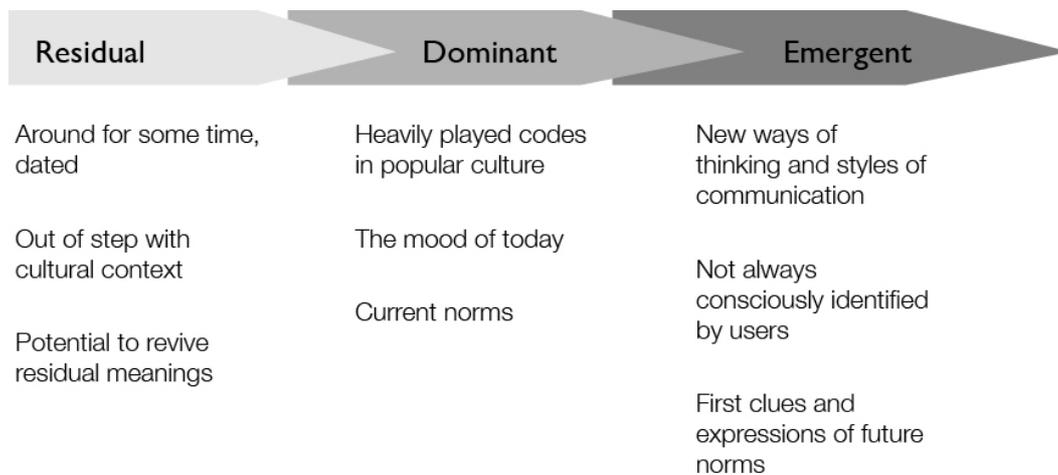


Figure 3.4 – RDE trajectory code mapping (adapted from Evans, 2014)

3.2.2.2 Focus Group Consultation

As a second step, the issues derived from the semiotic analysis and the Initial Theory were discussed and evaluated at a focus group session with other professionals.

Sampling Strategy

The study was conducted in the context of a design summer school, held at the Aegean University in Syros, Greece in September 2014. Participants were recruited from among the summer school by open invitation, all of whom had a level of expertise in sustainability, social innovation and service design, either at practice and/or academic level (see Appendix

² Residual – those beliefs, practices that are derived from an earlier stage of that society, often very long ago, and which may in fact reflect a very different social formation (e.g. different political or religious beliefs) than the present. Dominant – perspectives that are embodied in the majority of society or by the ruling and most powerful class/es. Emergent – beliefs and practices that are being developed out of a new set of social interactions, as societies change. Neither residual nor emergent forms simply exist within or alongside the dominant culture. They operate in a process of continual tension, which can take the form of both incorporation and opposition within it.

A1 for participant details). This 'expert level' of participant was deemed to be the most suitable for discussing complex concepts related to the construction of symbolic meaning, representation and identification, but also for their familiarity with sustainable design theories, methods and challenges with respect to wider diffusion.

Data collection

Data was collected throughout a focus group session, conducted under 'nominal group technique' (NGT) – a group process involving problem identification, solution generation and decision-making which is well suited to the PAR paradigm principles (Lomax & McLeman, 1984).

The session was captured on video and audio recordings, as well as whiteboard notes produced during the session with participants. The focus group session was followed by a longer, informal, in-depth discussion with a smaller group of participants who demonstrated a keen interest in contributing their views to the problematic posed. This discussion was also captured on audio recordings.

Data analysis techniques

Transcripts of the formal and informal sessions were analysed thematically (Braun & Clarke, 2006). In view of the researcher's objective of the analysis (L. Cohen et al., 2011) – i.e. to look for similarities, differences and contradictions in experts' views about the problem in order to understand the problematic from a practice (rather than a research) perspective. Emerging views were grouped by topics, as described in Chapter 4, section 4.3.1.

3.2.3 Phase 3 – Developing the *Con[text]* framework through PAR

In this phase of the research the aim was to challenge and further develop the Initial Theory (the *Con[text]* framework) through its application to practice.

The investigation started with a 'preparation' stage (Pilot Study), to inform the design of the Main Study where a series of three 'Participatory Action Research interventions' (PARi) were planned to achieve a parallel development of theory and practice by applying the framework iteratively in 'real life' situations, as illustrated in Figure 3.5.

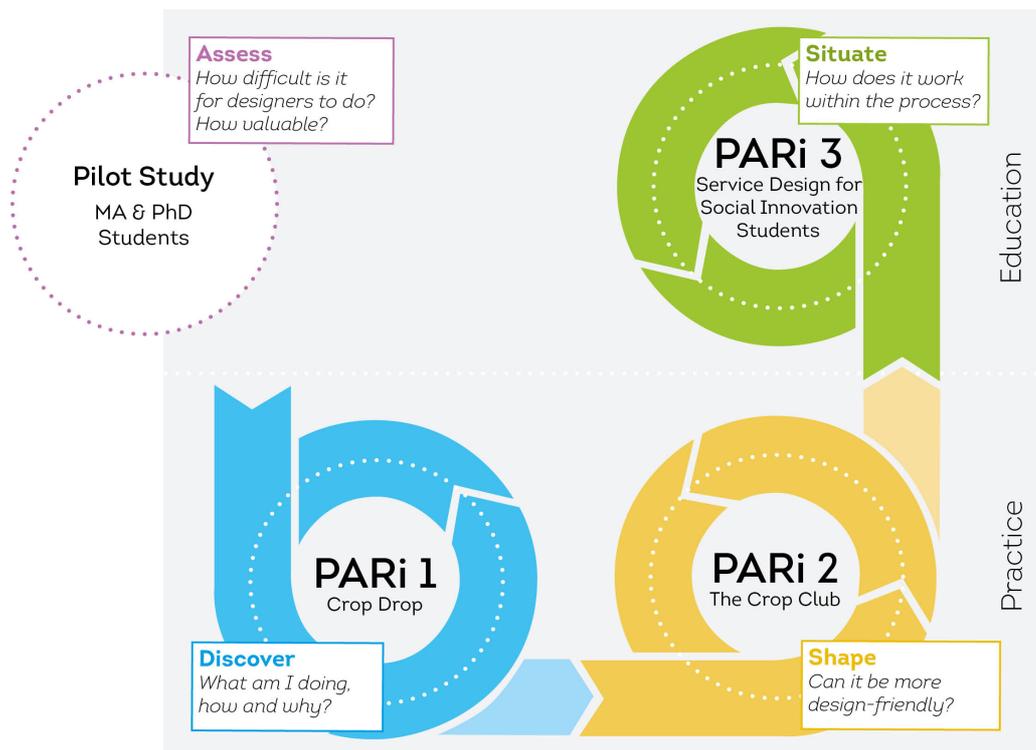


Figure 3.5 – Phase 3 PAR research design

3.2.3.1 The Pilot Study

As highlighted in Chapter 2, section 2.2.3.2, applied semiotic methods are usually implemented by market researchers, marketing professionals and semioticians. Therefore, before embarking on intervention inquiry, a Pilot Study was conducted to assess how comfortable designers felt about using semiotic methods and to what extent the methods would need to be adapted for ease of use.

Participant selection

Due to locality and relevance (see section 3.2.3.5 for selection criteria), participants were recruited from the 2014 Masters in Sustainable Design cohort at Loughborough Design School (three participants) and doctoral students with a design degree and working or researching in the Design for Sustainability field (six participants). Participants were invited personally to attend the session.

Data collection

The study was designed as a seminar/workshop, and it was conducted at Loughborough Design School. Details of the session format and activities conducted are provided in Appendices B1–B4. The workshop was captured on video and audio recordings. Participants

were also asked to provide feedback on the content, structure and flow of the workshop using a feedback form (see Appendix B5).

Data analysis techniques

The data collected in the feedback forms was collated to gather together all participants' responses under each corresponding topic/question in the form (see Appendix B6).

Feedback was analysed thematically, and results applied to the first PAR cycle's design.

3.2.3.2 Main Study: Participatory Action Research Interventions

The aim of this study was to assess the value of the *Con[text]* framework (Chapter 4, section 4.2.2) and to further develop it in a 'learning by doing' manner through its iterative application to practice. This consisted of engaging with other practitioners (designers and social enterprises) in a series of interventions to achieve the aim of this research: to investigate effective means to introduce a sociocultural lens to the design process, based on semiotic and cultural analysis methods (Chapter 1, section 1.3.2).

The study explored the application of the Initial Theory to design practice, aiming to challenge the framework and generate practical methods and tools that facilitate the implementation of sociocultural context research during the design process.

Due to the applied nature of research question 2 (section 1.3.3) and the overall research purpose – i.e. changing a social situation through the development of improved practice – Action Research was deemed the most suitable strategy for the main studies of this investigation. Action research is appropriate for situations concerned with the improvement of practice, and the improvement of local situations (Cohen et al., 2011).

Argyris and Schön (1989) describe the goals and methods of the action research tradition:

Action Research takes its cues – its questions, puzzles, and problems – from the perceptions of practitioners within particular, local practice contexts. It bounds episodes of research according to the boundaries of the local context. It builds descriptions and theories within the practice context itself (p. 86).

The researcher engaged with inquiry as a consequence of questions and concerns derived from several years of practice. As such, the researcher's primary motives were to generate contextual knowledge (theories and methods) to improve practice, testing that knowledge (by applying practically) and disseminating it to other practitioners by amplifying

participation in the research process (Tripp, 2005). While doing so, it was also important to bring benefits to the participants as a mutual exchange of interests, and together to generate change within the local sphere of influence.

Furthermore, empirical evidence from literature emphasises the suitability of action research strategies to PSS field studies, arguing that it can provide valuable benefits, especially with respect to the diffusion and uptake of sPSS, as demonstrated by the Sustainable LivingLabs model (Liedtke et al., 2014) and other examples described in Chapter 2, section 2.1.4.

3.2.3.3 PAR Research Characteristics

Action research can take a multitude of ‘shapes’ (Herr & Anderson, 2005). For this research, a Participatory Action Research (PAR) strategy was considered most appropriate as PAR core principles align with the characteristics of design approaches used in grassroots innovation: participation, co-creation and collaboration (Chapter 2, section 2.1.4).

Kemmis and McTaggart (2003) provide an overview of PAR key features (Table 3.3):

PAR Key Features
<ul style="list-style-type: none"> • <i>A spiral of self-reflective cycles</i>, in which participants plan a change, take action, reflect on the results, return to further planning and so on. • <i>A social process</i>, typically undertaken in education and community development settings, in which people explore the relationships between individual and social worlds. • <i>Participation</i>: people critically explore their own knowledge and interpretations (of themselves and their actions) and how this affects/constrains their sense of identity and agency. • <i>Practicality and collaboration</i>: participants examine their own social practices (such as patterns of interaction and social organisation) and seek ways to make these more equitable and satisfying. • <i>Emancipation</i>: PAR aims to free people from, or at least reduce the restrictions imposed by, unjust social structures that limit self-development. • <i>A critical approach</i>: People challenge limitations imposed on them through social media – such as oppressive language, discourse and ways of working or relating to others. • <i>Reflexivity</i>: PAR is dialectical – participants examine reality in order to change it; ‘a process of learning by doing’. • <i>Transformation of theory and practice</i>: neither is dominant. PAR aims to develop each in relation to the other.

Table 3.3 – PAR research characteristics (Kemmis & McTaggart, 2003)

Furthermore, by abiding adhering to PAR, the knowledge generated through this inquiry becomes valuable for further understanding the workings of symbolic representation within design practice in general terms (theory building), but also to produce change by being applied to a specific problem (sPSS) while conducting field studies.

The assumptions and positions of research conducted under participatory inquiry, in comparison with other major paradigms, are summarised in Table 3.4 (Denzin & Lincoln, 2011).

Issue	Positivism	Post-positivism	Critical Theories	Constructivism	Participatory
Nature of knowledge	Verified hypotheses established as facts or laws	Non-falsified hypotheses that are probable facts or laws	Structural/historical insights	Individual and collective reconstructions sometimes coalescing around consensus	Extended epistemology: primacy of practical knowing; critical subjectivity; living knowledge
Knowledge accumulation	Accretion – ‘building blocks’ adding to ‘edifice of knowledge’; generalisations and cause-effect linkages		Historical revisionism; generalisation by similarity	More informed and sophisticated reconstructions; vicarious experience	In communities of inquiry embedded in communities of practice
Goodness or quality criteria	Conventional benchmarks of ‘rigour’: internal and external validity, reliability and objectivity		Historical situatedness; erosion of ignorance and apprehensions; action stimulus	Trustworthiness and authenticity including catalyst for action	Congruence of experiential, presentational, propositional and practical knowing; leads to action to transform the world in the service of human flourishing
Values	Excluded – influence denied		Included – formative		
Ethics	Extrinsic – tilt towards deception		Intrinsic – moral tilt towards revelation	Intrinsic – process tilt towards revelation	
Inquirer posture	‘Disinterested scientist’ as informer of decision-makers, policymakers and change agents		‘Transformative intellectual’ as advocate and activist	‘Passionate participant’ as facilitator of multi-voice reconstruction	Primary voice manifests through aware self-reflective action; secondary voices in illuminating theory, narrative, movement, song, dance and other presentational forms
Training	Technical and quantitative; substantive theories	Technical; quantitative and qualitative; substantive theories	Resocialisation; qualitative and quantitative; history; values of altruism, empowerment and liberation		Co-researchers are initiated into the inquiry process by facilitator/ researcher and learn through active engagement in the process; facilitator/ researcher requires emotional competence, democratic personality and skills

Table 3.4 – Paradigm positions on selected issues (Denzin & Lincoln, 2011)

3.2.3.4 PAR Cycle Structure

Tripp (2003) argues that a full ‘action cycle’ entails four steps: Plan Action, Act Thoughtfully, Research Action and Evaluate Action (Figure 3.6).

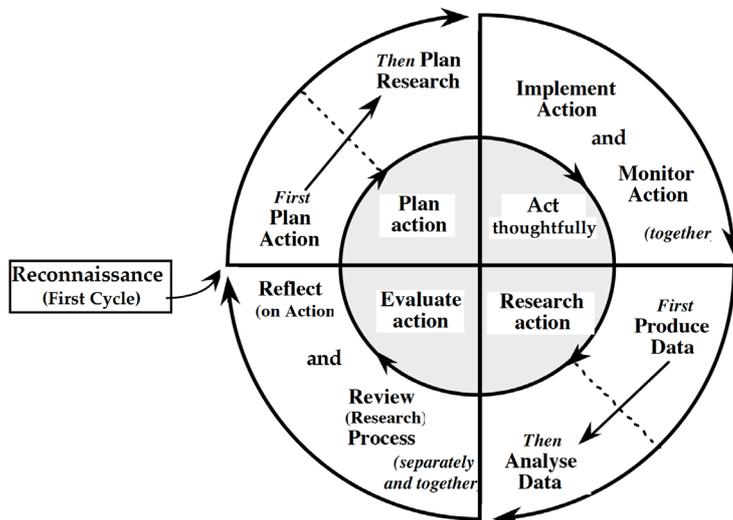


Figure 3.6 – Action research cycle (Tripp, 2003)

The structure adopted for each PARI cycle was based on Tripp’s (2003) four step model: Plan, Implement, Evaluate and Reflect, as illustrated by Figure 3.7.

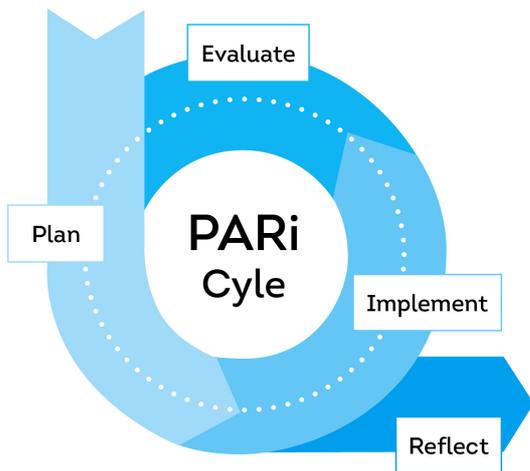


Figure 3.7 – PARI cycle structure

A final reflection undertaken by the researcher in each cycle, to account for cycle conclusions and recommendations for further investigation. These steps are expanded below:

Plan (Step 1)

This stage involved two main tasks: a) familiarising with the participants, and b) agreeing an Action Plan and a Research Plan.

a) Familiarise (reconnaissance) – The reconnaissance is a situational analysis that produces a broad overview of the action research context, current practices, participants and concerns, in order to prepare for the first step (Plan) of the PARI cycle (Tripp, 2005).

Familiarisation was achieved by means of meetings with participants, informal interviews, especially devised questionnaires and/or document analysis.

b) Planning the action and the research – The difference between applying and action ‘plan’ within the context of practice, and applying it under a research inquiry lens, is that one has to plan for both the change in practice (the intervention) and for the evaluation of the effects of the change in practice (summarised in Table 3.2).

Action sequence	Action taken in the field of	
	Practice	Inquiry
Planning of	a change to practice	the evaluation of results of the change to practice
Implementation of	the change to practice	data production, analysis and reporting
Evaluation of		a) the change to practice and; b) the action inquiry process

Table 3.2 –Difference between action in practice and action in inquiry (Tripp, 2005).

- Therefore, for each cycle, both action and research objectives were set, in order to assess progress at the Evaluation step (Tripp, 2005). While the action plan focused on agreeing with the participant the specifics of the intervention, the research plan anticipated how data was to be collected, analysed and validated.

Implement (Step 2)

The implementation step was where the design intervention was carried out. As well as implementing the *action* planned in the previous step, *research* activities related to data collection (practice-based, workshop, evaluation and feedback sessions) took place. The implementation step is reported primarily as a narrated account of the *action* (who did what, when, where, how and why) (Tripp, 2005), while the research activities are reported under the Reflection step of each PARI cycle.

Evaluate (Step 3)

Given that the PAR success is judged upon participants having a strong sense of development of their practices and a better understanding of them and the situation in which they are undertaken – rather than on faithfully completing all the steps (Kemmis & McTaggart, 2003), the evaluation step consisted of an assessment of progress prompted from reflection on the ‘change of practice’. However, as the research objective was to challenge and further develop the framework, the framework’s improvement was also assessed against the *research* objectives.

Therefore, progress – or research results – were evaluated by reflecting on how the *research* and *action* objectives set at the Planning (Step 1) were met. This is reported under two headings:

- *How did the action improve the framework?*
- *How did the framework improve practice?*

Reflect (Step 4)

In line with the research paradigm, a multi-perspective approach to reflection was adopted. Reflection was planned at two levels:

a) Self-reflective practice level – This entailed the researcher’s own accounts on both the action and the research. This concerned the intention to record, in a methodical manner, the process that the researcher was undertaking while acting as a consultant engaged with the client, in order to learn from her own practice by self-reflection (Schön, 1991).

b) Reflection on participatory action – Action research usually arises from a problem, dilemma or ambiguity in which the practitioner finds themselves, and the necessity to bring about change (Swann, 2002). Under participatory approaches, the problem and proposed solutions are jointly elaborated by the participant and the researcher. Therefore, a natural part of the process was to reflect together on the action implemented (what was achieved) and the research process (what it was like and how it can be improved). However, it was also important that both parts had the chance to reflect separately, in order to obtain more insightful feedback.

Joint evaluation and reflection discussions were captured in audio recordings and analysed thematically. The researcher also had to plan opportunities for participants’ own reflections, during and after the intervention. In the first two cycles, participants’ own

reflections were prompted by means of feedback questionnaires (Appendices C3 and D3). For the third cycle, student's logbook diaries and Reflection assessments (Appendix E6) were analysed. The evidence collected is reported in each cycle as participants' 'change of practice'.

Conclusion

The last step involved the overall reflexivity undertaken by the researcher alone before progressing onto the next action cycle. This is an important aspect of self-examination required by action research, where the researcher critically accounts for his/her influences and assumptions on the actions and results of the intervention (L. Cohen et al., 2011). This step also involved reflections on the research process and methods, and drew further research implications in order to inform the *action* and the *research* of the cycle that followed.

3.2.3.5 Criteria for Participant Selection and Spiral Progression

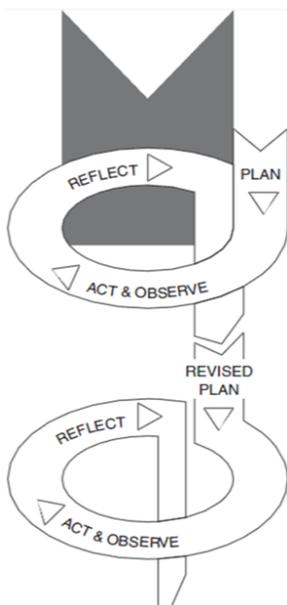


Figure 3.8 – Action research spiral (Kemmis McTaggart, 2003)

Action Research is conceived as 'a *spiral of self-reflective cycles*', in which participants plan a change, take action, reflect on the results, reflect on the action, return to further planning and so on. Figure 3.8 shows the process as illustrated by Kemmis and McTaggart (2003).

Although action research is characterised by cycles in which participants plan a change, take action, reflect on the results, return to further planning and so on, in reality the process is much more fluid, open and responsive than a neat, self-contained cyclical structure may suggest (Kemmis & McTaggart, 2003). Because success is judged upon participants having a strong sense of development of their practices, and a better understanding of them and the situation in which they are undertaken, rather than on faithfully completing all the steps.

Often many stages overlap, and initial plans become obsolete in light of 'learning from experience' (ibid., p. 381).

As such, this investigation's progression between cycles was primarily guided by findings, applying flexibility to original plans to accommodate 'overlapping' and 'change of direction'.

Under a cultural studies paradigm, sampling is aimed at obtaining insight about a phenomenon, not an empirical generalisation derived from a sample and applied to a population (M. Rogers, 2012). In this view, this investigation refers to the notion of sampling as ‘participant selection’ instead.

General criteria for participant selection

Tripp argues that action research ‘is a form of action inquiry that employs recognised research techniques to inform the action taken to improve practice’ (Tripp, 2005). McKay and Marshall (2001) provide direction on how to integrate the demands of research with the demands of practice, posing that in action research, researchers negotiate with the practitioners the collection of data in exchange for helping them solve a problem. Embracing a PAR research strategy has the benefits of introducing change to improve a local situation, and engage participants to work together towards a mutual exchange (McKay & Marshall, 2001).

On this basis, the researcher adopted an opportunistic approach to participant engagement, under the following criteria:

1. **Locality** – ease of access that allowed for engaging with participants in a fluid, personal exchange. Participants within the researcher’s own work/life sphere (in this case, the neighbourhood and the workplace)
2. **Relevance to study objectives** – participants who could provide relevant data to address research questions and meet the study objectives
3. **Amplified participation** – in order to disseminate knowledge and amplify impact, situations that offered opportunity to increase the number of participants were favoured

As discussed in Chapter 2, section 2.1.4, grassroots PSS innovations are initiated by a variety of ‘agents’ in society – e.g. public sector bodies, NGOs and community groups, but also social entrepreneurs. Further to the criteria named above, three different ‘participant types’ were sought for the main study:

- **Design students** engaged with sustainable innovation or grassroots innovation or research (due to service design methods being increasingly taught within the context of grassroots innovation, and the need to research how to build new skills and capacities in future designers, as highlighted in Chapter 2, section 2.4.1.)

- **Social entrepreneurs** (due to the growing number of individuals starting social enterprise ventures)
- **Designpreneurs** (due to many design professionals wanting to contribute to sustainability and create their own product-service ventures)

Flexible Design Research Progression

The Pilot findings influenced the Main Study design, setting as a priority to assert the value of the framework for supporting stakeholders before developing methods to build designers' skills and capacities. Accordingly, the research started in the context of practice (PARI 1) by engaging with a real-life case: a social enterprise PSS at implementation stage.

The first cycle's findings had considerable impact in the original design of the Main Study. The initial plan was to apply the framework iteratively in the same scenario (with the same participant) to 'test' user's responses to different 'framings' of the value proposition. However, the investigation found that working with codes at touchpoint and communications level alone (without affecting the offer or the service itself) created a misalignment between the perceived and actual quality of the service (further discussed in Chapter 5, 5.3.1.5). This was a pivotal point in the investigation, which required the researcher to adopt a wider view on the scope of application of the framework. The newly discovered possibilities to introduce change at a deeper level were embraced, and to fulfil the aspirations, aim and objectives of the research the original plan was reconsidered.

It was decided that, at the cycles that followed, the intervention should be introduced a step earlier in the innovation journey each time, in order to fully assess its value to affect the value proposition (the service offer itself), and not just its representations (brand and touchpoints). This decision impacted on the selection of participants for subsequent iterations: a second real-life case sPSS (PARI 2) was selected to assess the impact of the framework at PSS incubation stage; and design students (PARI 3) at PSS concept generation stage.

Figure 3.9 illustrates the different stages of intervention mapped using the Social Innovation Process (Murray et al., 2010). Further details on participant selection for each PARI cycle are discussed in Chapter 5, under each cycle's specific report.

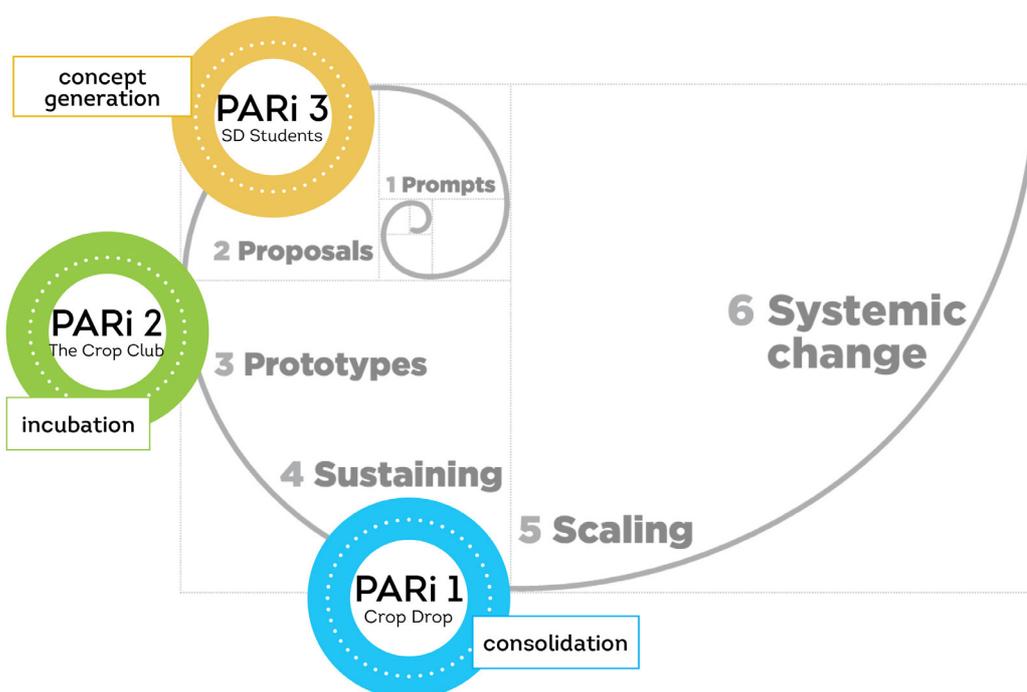


Figure 3.9 – PAR interventions (1–3) mapped using the Social Innovation process stages

3.2.3.6 Research Methods Used in Each Cycle

One can perform each of the cycle activities in many different ways. What kind of process one uses, and how one uses it, depends on aims and circumstances. Even with ‘the same’ aims and circumstances, different people may have different skills, intentions, timelines, levels of support, ways of collaborating and so on, all of which will affect the processes and outcomes of each cycle. Therefore, the important point is that the methods used are appropriate to the aims, practices, participants, situation (and its enablers and constraints) (Tripp, 2005).

The following sections provide specific details on the data collection and analysis methods adopted for each PARi cycle. Full descriptions of these were provided in section 3.2. To avoid repetition, the methods are named and highlighted (in bold) in this section.

PARi 1

Data collection

In order to ‘discover’ the means to apply the framework to practice, the researcher embarked on the self-examination of practice: i.e. to extract a method by making practice conscious by asking, ‘*What am I doing, why am I doing it? And How am I doing it?*’ (Herr & Anderson, 2005; Schön, 1991; Tripp, 2005). This concerned the intention to record, in a

methodical manner, the process that the researcher was undertaking while acting as a consultant engaged with the client, in order to learn from her own practice by self-reflection (Schön, 1991). This process was captured through **journaling** and **photographic records** of the process, the tools/methods used and reasons for selection.

Joint evaluation and reflection sections were captured in **audio and photo records**.

Transcripts of these sessions contributed to enrich the researcher's own journal accounts of the process, but also to elaborate on the participant's 'change of practice' together with **the feedback questionnaire** (Appendix C5) completed by the participant at the end of the cycle, to collect evidence of change of practice, reflection on research process and recommendations.

Data analysis techniques

Thematic analysis was used to analyse journal notes and transcripts of recordings of sessions, as well as data collected through participant feedback form.

PARi 2

Data collection – To familiarise with the business and participant, the **scoping questionnaire** and a semi-structured interview were administered. Working sessions, joint evaluation and reflection sessions were captured in **audio recordings**. The main intervention session and the peer evaluation were also captured through **photographic records**. Reflective **journal notes** were taken throughout the study. Transcripts of these sessions contributed to enrich the researcher's own journal accounts of the process, but also to elaborate on the participant's 'change of practice', together with **the feedback questionnaire** (Appendix D3) completed by the participants at the end of the cycle to collect evidence of change of practice, reflection on research process and recommendations.

Data analysis techniques

Familiarisation: document analysis of materials pertinent to the business provided by the participant (i.e. business plan, existing publicity and marketing materials, product use instructions, etc.). During *intervention, evaluation and reflection*, **thematic analysis** of journal notes was conducted, enriched by transcripts of sessions' audio recordings. This data was complemented with data from participants' **feedback forms** collected post-intervention.

Validity

The researcher's descriptive accounts of the implementation sessions were sent to the participants for validation of process and results, prior to collection of participants' feedback. To validate results in terms of achieved goal and proposed change of direction (results), a **focus group** consultation with peers was organised.

PARi 3

Data collection – The workshop and tutorial sessions were captured in **audio recordings** and **photographic records**. Feedback from students and tutors (about the intervention itself and other situational and contextual nuances) was collected through **semi-structured interviewing**. **Document analysis** (student's logbooks and reflective accounts) were used to understand (in the context of their learning experience) students' sense-making of the tools and methods used.

Data analysis techniques – Transcripts of the sessions and interviews were **analysed thematically**. **Document analysis** of the module guide, students' logbooks and reflective accounts was employed to obtain further insights. These were also **analysed thematically** and compared with data from the interviews and other feedback.

3.2.4 Phase 4 – Evaluation of Research Process and Outputs

As the framework was developed through the PAR cycles by application to specific case studies, it was considered an important step to conclude this investigation to assess the framework's relevance beyond these specific cases and disciplinary area of application (sPSS). Previous research suggests that a good way to approximate a more rounded picture of a framework effectiveness and impact would be to conduct a round table discussion with experts (Ceschin, 2014). Therefore, building on findings of Phases 2 and 3 of the research, and for triangulation purposes, the impact and relevance of the *Con[text]* framework was evaluated with experts in the area of Service Design for Social Innovation, through an individual interview and experts focus group consultation.

Participant selection

Expert interview – For the expert interview, Professor Anna Meroni was selected for her breadth of knowledge and experience in the areas concerning this research, and ease of access. She is an expert in tools and methods, and has extensive experience of research and

implementation of sustainable food production–consumption projects such as the Slow Food Movement and Feeding Milano among others.

Professor Meroni is an architect, designer and a scholar in service and strategic Design for Sustainability. She is Head of the POLIMI-DESIS Lab and the Master of Science programme in Product Service System Design at Politecnico di Milano. Her research has a specific emphasis on design activism for social innovation and place development, and she has been developing the concepts of creative communities and community-centred design. Since 2001, she has been principal investigator in several ongoing applied research projects such as: CIMULACT (2015–2018), TRANSITION (2013–2016), SPREAD Sustainable Lifestyles in 2050 (2011–2012), Feeding Milano (Cariplo Foundation, 2009–2013), Human Cities (EC, Culture, 2008–2012), City Scout (IT, CAMCOM, 2012), ‘The agricultural park’ (2005–2007) and HiCS (EC, FP4-Growth, 2001–2004).

Focus group – Gathering participants from a wide range of backgrounds but with the expertise and interest required for this study in a physical location can be challenging. For this reason, an opportunistic approach was adopted, and participants were drawn from attendees at ServDes 2016 (service design conference). Participation was by invitation only. The criteria for selection were: an active involvement, research interests or expertise in the area of Service Design for Social Innovation. Some participants have a specific research interest in sustainability, whereas others were more focused on service design methods. All participants had an interest in enhancing subjective well-being (sometimes expressed as ‘quality experiences’ in other disciplines such as service management) and delivering meaningful value through service design innovation. See Appendix F2 for participant details.

Data Collection – The researcher presented the research process and outcomes, and the participants were prompted to give their views upon three ‘prompting’ questions provided by the researcher. Data was captured on **video** and **audio recording** throughout the **focus group** session.

Data analysis techniques – Transcripts (Appendix F) of the formal and informal sessions were analysed thematically, classifying views under the themes corresponding to the questions posed to the group.

3.3 Research Validity and Transferability

According to Ladkin (2004), PAR research trustworthiness is achieved by including accounts to demonstrate emergence and enduring consequences of action or policies, accounts of how the research dealt with pragmatic issues of practice and practising, accounts of how the research deals with questions of significance and accounts showing how the research considers a number of different ways of knowing.

‘How do we know our choices are quality-based? There are in the end no clear foundational grounds. The best we can do is to offer our choices to our own scrutiny, to the mutual scrutiny of our co-researchers, to the wider community of inquirers, and to the interested public at large. Quality rests not so much on getting it right but on stimulating open discussion’ (Reason, 2006).

Guba and Lincoln (1994) proposed four criteria for judging the soundness of qualitative research and explicitly offered these as an alternative to more traditional quantitatively orientated criteria. The four criteria are credibility, transferability, dependability and confirmability.

Credibility or ‘quality’ of PAR research is determined by demonstrating congruence of experiential, presentational, propositional and practical knowing, and how the knowledge generated leads to action to transform the world in the service of human flourishing (Denzin & Lincoln, 2011).

Transferability refers to the degree of similarity between the reporting and receiving contexts of the research findings. For example, when the findings are reported in such a manner that can render them useful to the reader, who may wish to apply them in another related context. Transferability judgements on the part of the reader may be enhanced when the reporter of the results uses thick description, for example, including careful detailing of the time, place, and context in which the data has been collected.

Dependability of the study was ensured by describing the ever-changing context within which research occurs (Reason, 2006). The researcher is responsible for describing the changes that occur in the setting and how these changes affected the way the researcher approached the study. For example, the design of the main study was altered after the results of the first PARi cycle, as discussed in section 3.2.3.6.

Confirmability refers to the degree to which the results could be confirmed or corroborated by others. Throughout the investigation, the researcher sought to validate problem-framing, propositions and research findings by consulting and discussing with others. This approach ensured that the knowledge generated was trustworthy and relevant, but also provided a wider context to make decisions on research design and progression. The researcher paid particular attention to the cases and instances where the data contradicted prior observations.

3.3.1 Research Validity

While researching under the PAR paradigm, it is important that participant practitioners have a sense of collaborative advancement of practice before proceeding to the next stage. At least, they should feel that they have been valuably engaged in the elaboration process, and express positive expectations about the proposed interventions for change.

Throughout the investigation, the researcher sought to engage participants in a process of reflection about the social conditions, power relationships, global and local context of the problematic, providing opportunities to contribute to the research aim and objectives by jointly framing problems and proposing ideas to introduce change. The following sections expand this further.

Validation of the Initial Theory (Phase 2)

As a result of Phase 2, an Initial Theory was formulated by the researcher. The Theoretical Propositions were first validated by comparing them with the Critical Discourse analysis results, and through discussion and reflection on Phase 2 focus group session (see Section 4.3). The validation and confirmability is illustrated in Table 3.5.

Proposition	Critical Discourse Analysis	Phase 2 Focus Group	Validation
<i>Proposition 1.</i> Sustainable products and services may have a higher chance of being more widely understood and adopted if framed around the well-being discourse rather than the environmental discourse. This means making the goals of sustainable living (greater happiness and well-being) evidently obvious to their intended users.	Framing sPSS around environmental benefits and ideology alienates mainstream consumers. Social innovation and well-being framing is much more favourable to construct narratives suitable for those outside the sustainability 'universe of meaning'.	In order to enhance their appeal, sPSS must be meaningful and correspond to material reality, aiming to improve potential users' lives, by delivering material and symbolic value.	It was concluded that environmental benefits alone are not enough to entice wider audience uptake of sPSS.
<i>Proposition 2.</i> Sustainable offerings may appear more appealing and relevant to users when they are framed using valuable contextual meanings and cultural associations relevant to the target user group. This implies making available to designers the most favourable contextual cultural codes so that sustainable innovations can be represented as superior to competing alternatives.	It was found that <i>personal benefits</i> obtained through consumption are the most important, especially those that relate to the construction of personal identity.	Solutions that are framed around 'improving quality of life' are the most favourable for promoting sustainable products and services to wider audiences.	In order to enhance their appeal, sPSS must incorporate attributes to 'improve the quality of life' of potential users in a personal, tangible or subjective way.

Table 3.5 – Validation of initial theoretical propositions

The focus group consultation provided valuable feedback on and interesting insights that helped to illuminate the initial assumptions and contributed to validate the Initial Theory. It also provided grounds for reflection and validation: participants, in general, demonstrated support for the proposed research questions and influenced the design interventions planned for Phase 3 of the research.

Main study evaluation and validity (Phase 3)

Throughout the main study, confirmability was achieved by collecting feedback and presenting results back to participants for evaluation and validation. Figure 3.10 illustrates this process in detail.

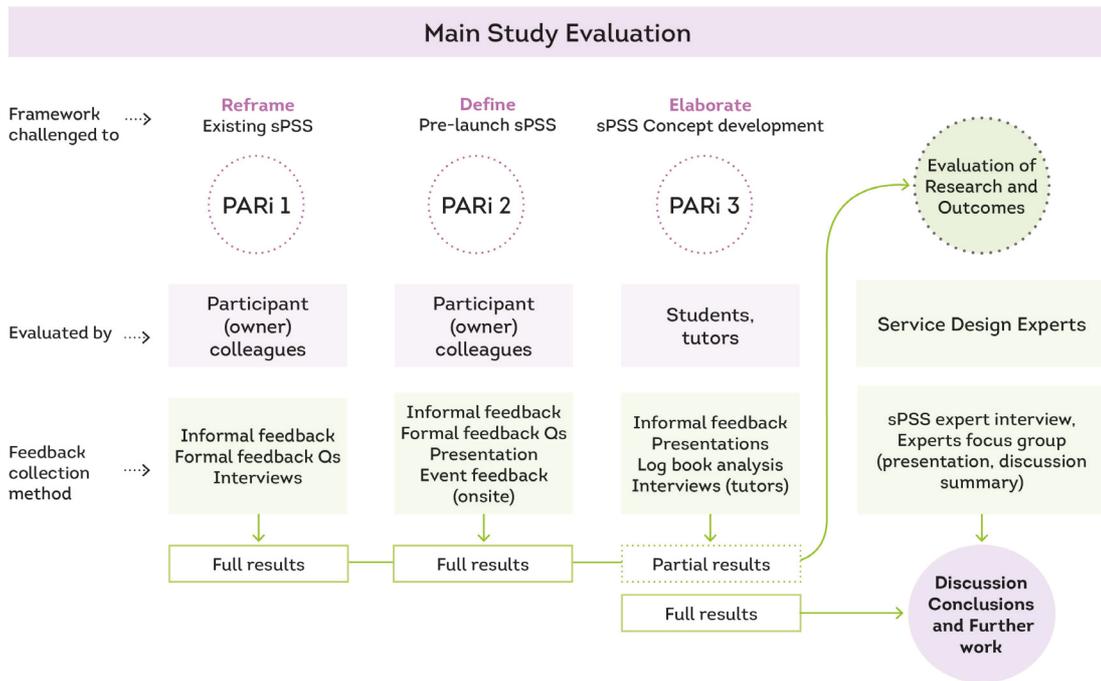


Figure 3.10 – Main study evaluation and validation process

3.3.2 Theory Transferability

Phase 4 of the research was dedicated to evaluating and assessing the impact of this investigation’s contribution in light of extant knowledge, and its wider applicability or transferability. This was achieved through a focus group session and an expert’s in-depth interview. Figure 3.11 illustrates the focus of discussion and evaluation for each study.

Results of these consultations provided the basis for the themes addressed in the Discussion (Chapter 7), and contribution to knowledge (Chapter 8, section 8.3).

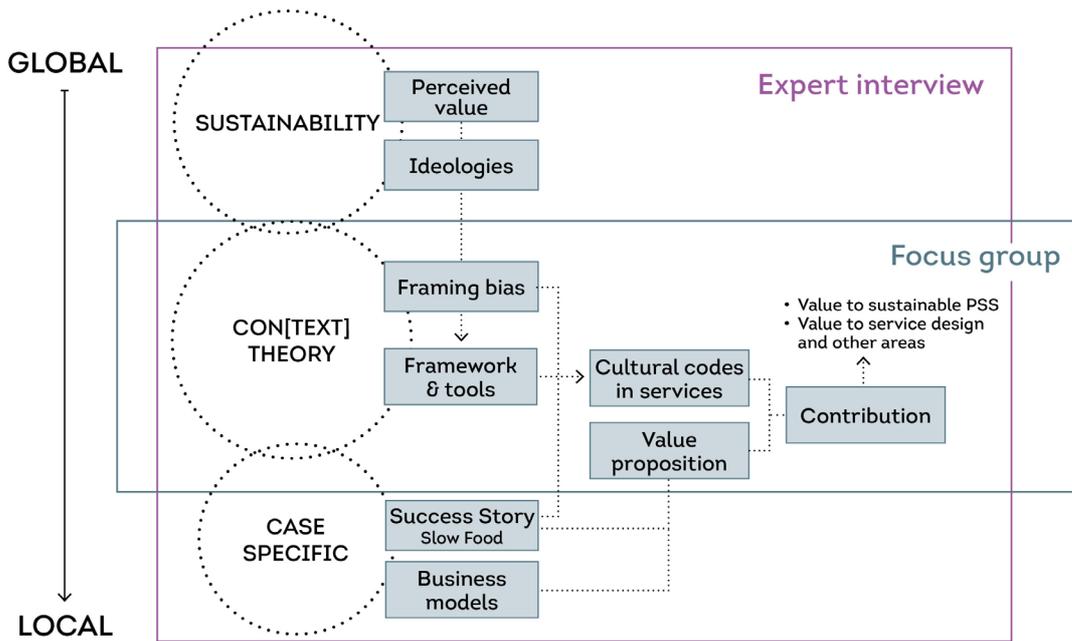


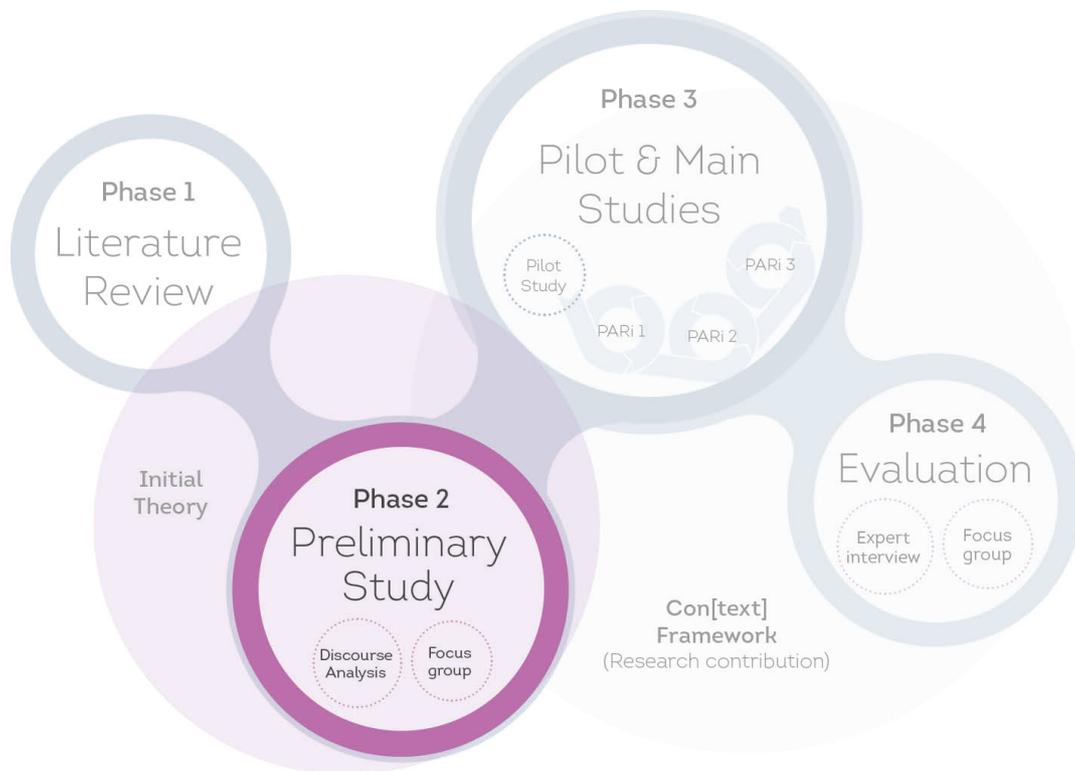
Figure 3.11 – Phase 4 research and contribution evaluation

3.3.3 Ethical Considerations

Reliable research needs to follow ethical considerations which relate to the standards and codes of conduct (Robson, 2002). Research presented in this thesis followed ethical standards as defined by Loughborough University’s Ethical Clearance Checklist (Appendix A1). It is recognised that investigators have a duty of care to participants. As per the checklist, all participants were informed of the objectives and aims of the research with a Participants Information Sheet (Appendix A2).

Questionnaires that were sent out via the online system also informed participants of the objective of the particular survey. In addition, participants were asked to sign a consent form (Appendix A3) either in person or electronically.

Chapter 4 – Preliminary Study



From the literature review (Phase 1), a clear concern arises about the perceived value of sustainable products and services, and the effectiveness of the sustainability discourse to mobilise societal change. As sPSS are generally positioned and marketed as ‘eco-friendly’ or ‘green’ choices, their appeal, diffusion and uptake is affected by the meanings of sustainability as a cultural category.

With this end, a Preliminary Study was conducted to respond to the first research question and in Objective 2 of the investigation (Chapter 1, sections 1.3.2 and 1.3.3), and develop an Initial Theory, framework, propositions and premises to guide and inform subsequent phases of the investigation (Main Study). As a first step, a Critical Discourse Analysis of sustainability representations (semiotic resources) was conducted to understand how the meanings are produced, what values and ideologies they represent and how these may affect people’s perceptions and behaviours towards sustainability. Subsequently, the Initial Theory was discussed with other design professionals and academics in a focus group session, to validate the researcher’s views via participatory consultation.

The following sections describe these stages of the Preliminary Study in more detail.

4.1 Critical Analysis of Sustainability Representations

Considering the central role of design and its influence over consumption practices, a foundational aspect of study for this research was to locate the meaning of sustainability as a 'lifestyle proposition'. While extant literature offers evidence on how the meaning of sustainability is currently perceived and negotiated by users (Chapter 2, section 2.1.5), research on the textual representations that contribute to such perception is scant.

A study of representations was conducted to understand *how* the meaning and cultural associations of sustainability are being produced, and the values and ideologies being mobilised and legitimised by different discursive frames. This study aimed to understand how this meaning is currently represented and how design outputs might be *affected by* and *contribute to* the sustainability discourse, in order to bridge the gap between design intention and user interpretation discussed in Chapter 2, section 2.2.4.1.

4.1.1 Aim and Objectives

The central questions for this analysis were: *what is the proposition of sustainability, and what underlying values and ideologies drive sustainability's proposition discourse? How are they 'framed' or represented, and how do these representations affect people's predisposition, attitudes and behaviours towards sustainable living?* By systematically analysing discourse representations, the meanings that might be generated by different discursive frames were uncovered, helping to better understand how design can advance the legitimisation of sustainability values and accelerate cultural transition.

The objectives were:

- To map a trajectory of the sustainability concept in culture (its past, present and emerging cultural associations) in order to update Design for Sustainability current understanding and assumptions
- To establish the positions and ideologies in tension within the discourse; and
- To uncover the most favourable discursive frames for legitimising the intrinsic values that support a wider societal transition to more sustainable consumption patterns

4.1.2 Method

The study investigated the sustainability discourse by analysing a set of multimodal representations of sustainability, using Semiotic Square and RDE analyses. Details of the data and methods are provided in Chapter 3, section 3.2.2.1.

Three scoping searches were conducted to gather semiotic resources. Archival (newspapers, magazines and billboards) and online material was searched first, using the keywords 'sustainable', 'eco', 'green', 'environmental', 'environmentally friendly', 'resource-efficient', 'organic', 'fair trade' and 'ethical'. The second search (online) added the word 'design' to each keyword listed above (e.g. 'sustainable + design'). This second search led to a range of specialist websites on sustainable design and business which featured advertisements framed around 'social innovation'. Advertisers ranged from the British Council, Hitachi, Unilever and IBM, to consulting firms such as Accenture. Finding these ads prompted a third search under the key phrases 'social innovation', 'smart solutions' and 'smart living'.

The resulting data set consisted of book and magazine covers (12), online magazines, blogs and news articles (12); print (14), online (7) and street advertising (3); transcripts of promotional videos and advertising (3); newspaper articles (5); and multinational brands' sustainability reports (3).

The data set was first openly coded and thematically classified under a Residual, Dominant and Emergent categorisation (Bourne Taylor, 1997; Bryson, 2013). Figure 4.1 exemplifies the resource categorisation and criteria.

Chapter 4 | Preliminary Study

- Around for some time, dated
- Out of step with cultural context
- Potential to revive residual meanings
- Heavily played codes in popular culture
- The mood of today
- Current norms
- New ways of thinking and styles of communication
- Not always consciously identified by users
- First clues and expressions of future norms

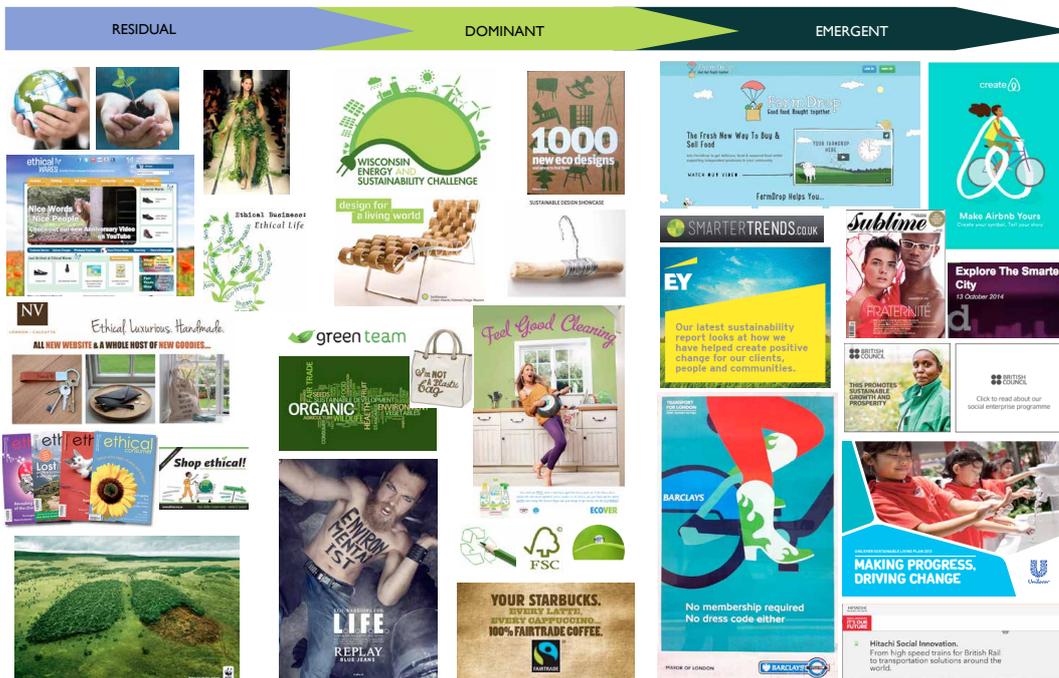


Figure 4.1 – Sample of Residual, Dominant and Emergent categorisation of semiotic resources.

This was useful for understanding how the meaning of sustainability has varied in its representations over time (diachronically), but most importantly, to identify the role that ‘resistant’ and ‘oppositional’ identities and ideologies play within the dominant culture, and how effective they might be in shifting or disrupting it (Williams, 1977).

The process of coding and interpretation of resources continued under an open, inductive, thematic approach (Braun & Clarke, 2006), guided by the research question, ‘*What is the underlying proposition of sustainability?*’ At this stage, two overarching themes clearly emerged: *planet* (environmental concern and protection) and *people* (improving quality of life). These seem to stand in opposition in terms of benefit (benefiting environment/planet vs benefiting people) which, in turn, correlated with an ideological opposition of values: *global vs local* – corporatism vs cooperatism (Hazlitt, 2012). The ‘global’ is thus the site of the institutionalised, the corporative, socio-economic globalisation and the mainstream media; in opposition to the ‘local’: the site of the individual’s lived experience, habits, aspirations, their social and material circumstances (Saukko, 2003). Table 4.1 offers a sample of this categorisation.

Characterisation	Themes	Illustrative text	Codes	Proposition
Planet (natural world)	Climate change, deforestation, biodiversity loss, extinction, pollution, resource depletion		Natural world Damage Violence Shock tactics Surrealism	There is only one planet and we need to take care of it for the sake of future generations
People (individuals within communities)	Organic Well-being Community Creativity Localisation High + low tech Interdepend- ence Sharing Technology- enabled democratisation and diversification Entrepreneur- ship		Naivety and ingenuity Rustic Minimal Home-made Amateur Urban + rural 2D Graphic Practical	We all benefit from each other. There could be a more personalised and meaningful way of relating while covering needs
Global (socio-economic system)	Consumerism Policy Science High-end green Clean techs Eco-luxury		Smooth lines, Polished and shiny surfaces Close-up photography Speed, light Urban Exceptional Silent	A sustainable future is achievable via large-scale systemic change and technological innovation
Local (the individual)	Commodifica- tion Low-end green consumerism Eco, fair trade, ethical and green consumption		Greens, browns, natural materials, nature, home, quotidian Family Suburban Everyday	To do your bit makes you a responsible citizen. Feel good by doing the right thing

Table 4.1 – Categorisation and coding of semiotic resources

Finding that discourse representations pose an unapparent opposition of interests between ‘planet’ and ‘people’ prompted the mapping of these cultural binaries in a Semiotic Square.

Binary opposites are used to convey meaning and they organise the social world (Lévi-Strauss). Greimas Semiotic Square can help to analyse the logical relationships between key semantic themes or concepts, and uncover hidden or naturalised logical relationships (Greimas & Fontanille, 1993). As Floch (2000) explains, mapping these conceptual boundaries can elucidate the conditions within which meaning is produced and interpreted. As such, this form of analysis reveals dynamic systems of signification. Thus, the ‘Semiotic

Square’ helped to uncover how the dilemmas, cultural contradictions and tensions posed by the pressing radical socio-economic paradigm shift towards sustainability are, at present, being reconciled through design representation, and how these frame different ideological positions. Here, ideologies are defined as the basic frameworks for organising the social cognitions shared by members of social groups and comprise social, cognitive and discursive components (VanDijk, 1999). They mentally represent the basic social characteristics of a group, such as their identity, tasks, goals, norms, values and resources. Hence, ideologies generate ‘in’ and ‘out’ social positions – groups who either support or oppose these characteristics (VanDijk, 1999).

4.1.1 Results and Findings

The following sections expand on the results of both analyses.

4.1.1.1 Residual, Dominant and Emergent (RDE) – Diachronic Meaning Analysis

The analysis was structured in three periods, reflecting two important cultural shifts in the sustainability discourse: Time 1: the ecology era, Time 2: the sustainability era and Time 3: the innovation era. These map the transformation of the meaning of sustainability over time, and from ‘marginality’ towards (potential) ‘popularity’ of individual engagement.

- **Time I (1962–2005) – The Ecology Era (Residual)**

This period brackets a time when environmental issues first come to public debate with Carson’s book *The Silent Spring* (1962), giving ground for the rising of the environmental movement. During this period, the concept of ‘sustainability’ is scarcely present in mainstream media, but representations of ‘ecology’ are found, especially around 1972 reflecting concerns after the oil crisis. This discourse is firmly rooted in environmental issues and presently active through well-established codes of activism and social movements (ethical consumption, boycotts, campaigning). The texts exhort ‘ethical’ consumption (i.e. considerate to the environment, does not harm animals and does not exploit people who produce it) with representations picturing the effects of climate change, natural resource exploitation and depletion, pollution and biodiversity extinction. The representations are figurative and vivid, employing metaphor and hyperrealism to create strong reactions and impressions. The discourse is situated in the global both in its concern

(the planet) and resistance (towards the systemic). The producing agents in this discourse seem to be mostly long-standing NGOs and activist groups (e.g. WWF, Greenpeace, Adbusters), therefore these representations are generally associated with the values and beliefs of 'hardcore' and 'radical' ideological individuals and groups, rendering engagement as marginal, rather than mainstream.

- **Time 2 (2006–2010) – The Sustainability Era (Dominant)**

In this period, the concept of sustainability gains widespread media coverage with the publication of the Stern Review (2006), and its message is popularised with Al Gore's *An Inconvenient Truth*, DiCaprio's *Blood Diamond* and other celebrities endorsing 'green' products and practices. As this era attempts to reconcile the global and the local, there is a clear discourse shift towards making each individual accountable for the 'planetary crisis'. The values of strong environmentalism are diluted as they become incorporated into the dominant discourses of capitalism. Sustainability is equated with 'responsible citizenship', privatised into 'individual action' (personal carbon footprint, recycling) and commodified through 'green consumption' (fair trade, eco-friendly). This is also the era of 'greenwash' – sustainability is a buzzword but lacks clear local meaning (we all need to do something but we are not sure what). These discourse representations consist of products and services deliberately 'green' in their appearance, blending diverse categories such as detergents, investments, holidays and children's toys all under a single, reductionist aesthetic. The producers of this dominant discourse are government and corporations, making it highly centralised and ubiquitous. Much of 'eco design' representations are caught up in this discourse, too, alongside many other eco-friendly offerings that cater for niche market segments of 'eco-minded', 'green' consumers. Both mainstream producers and consumers benefit from the scapegoatism (Akenji, 2014) offered by this paradox, because it allows for the perpetuation of status quo socio-economic arrangements and values, only disguising them with a superficial green veneer of 'social responsibility'.

- **Time 3 (2011–2014) – The Social Innovation Era (Emergent)**

This era is marked by a departure from the environmental and the global with a shift of discourse towards people and the local. It emerges as a response generated by disillusion and lack of trust by those in power to facilitate more fulfilling, sustainable and egalitarian lifestyles. This sentiment is being channelled through proliferating bottom-up, localised 'socially innovative' propositions. This is the discourse of peer-to-peer provision, networked

communities, the share economy, smart and resourceful living (e.g. access over ownership). Based on ingenuity, it seeks to turn concerns into opportunities and to produce economic and social value. Here, accessible technology (e.g. smartphones) acts as an enabler for communal self-organisation. This discourse is filled with a renewed spirit of hope for more decentralised and advanced (high- and low-tech) ways of producing and consuming, picturing them not only as 'possible', but as places of more meaningful, democratic, enriching and satisfying life experiences. There is a rediscovery and reinvention of age-old practices as means for self-expression and individualisation and a search for interconnectedness and meaning. The discourse builds on the language of innocence, spontaneity, transparency, rural idyll and the imagination, with bold use of colour, hand strokes, children, farm animals and bicycles widely used in illustration, storytelling and animation to envision positive scenarios.

In this discourse, sustainability as *environmental protection* is not predominant, but featured alongside other dimensions that make up *quality of life* (i.e. enriching experience, democracy, community, significance). What is predominant and clearly stated in this proposition are the *personal* and *social* benefits to be gained. The ideology seems to be that of 'people-powered' solutions. In 2011, Ricken Patel, director of social activism platform Avaaz.org comments: 'We have no ideology per se. Our mission is to close the gap between the world we have and the world most people everywhere want. Idealists of the world unite!' (Pilkington, 2011).

The producers of these discourses were, initially, independent entrepreneurial set-ups, co-ops and the NGOs that support them. A few have rapidly scaled up and disrupted entire categories due to their great appeal (e.g. in 2011, Airbnb announced its one millionth booking), hence, increasingly, government, large corporate brands and mainstream media are becoming more interested in social innovation, appropriating the codes – due to their favourable popular resonance – to enhance their credibility and reputation.

4.1.1.2 Semiotic Square Analysis – Dilemmas and Positions

The semiotic analysis was started by mapping the four key semantic concepts (planet, people, global, local) that emerged from the thematic classification of representations (Table 4.1) in a Semiotic Square (Figure 4.2).

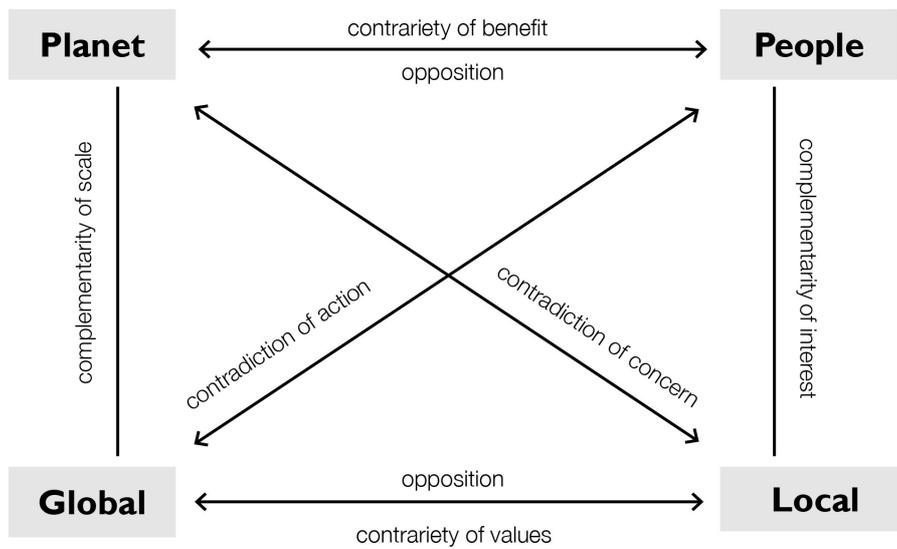


Figure 4.2 – Semiotic Square analysis, key semantic binary oppositions

By placing representation examples that attempt to reconcile the tensions and dilemmas between the main polarities (planet–people and global–local), four further positions were identified: environmentalism, technophilia, altruism and ingenuity, which form the outer diamond in the square (Figure 4.3). Further analysing each of these positions permitted an elucidation of the underlying meanings and ideologies that each frame may support.

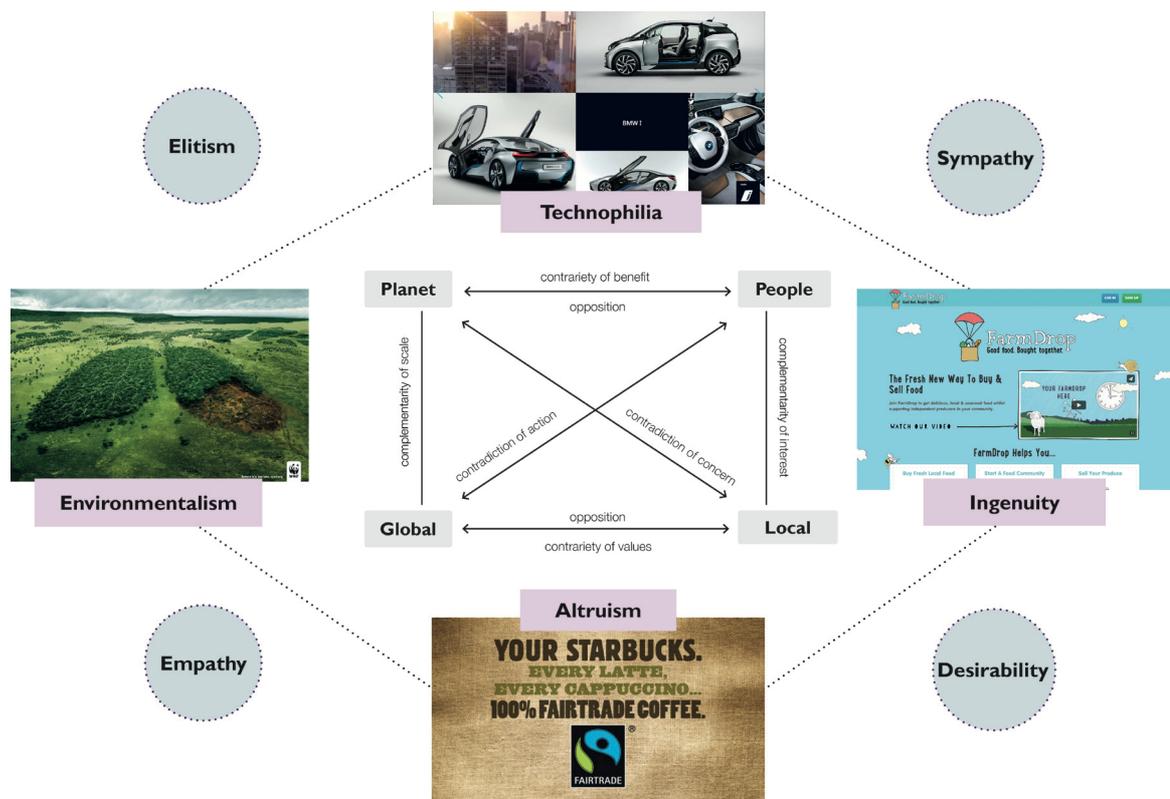


Figure 4.4 – Semiotic Square mapping of conceptual binary oppositions, ideological positions and resulting ‘effects’ or predispositions

Environmentalism

The tension between the planet (protection) and the global (economic overexploitation) generates **radical attitudes** of engagement with sustainability. Provocative, incisive and anti-regulation, these positions and attitudes are not likely to disappear, but to gain favour as the dominant sees its power position threatened by raising societal awareness of injustice and inequality. Although this ideology possesses the capacity to overturn the dominant cultures of consumption, their success depends on their ability to reach a critical mass of following – a great challenge, as for mainstream society, living according to these ideological values is perceived as ‘unpractical’ and ‘abnormal’, due to the high level of commitment and ‘sacrifices’ required.

Radical attitudes represented by the fashion brand Replay in their 2014 ‘Eco Warriors for Life’ advertising campaign (Figure 4.5) blends consumerism (jeans, fashion model) and sustainability values. Here, ‘rebellion’ is morally dignified by its association to environmentalism ideology, but the material outcome encouraged (engagement with sustainability) is commodified via consumption.

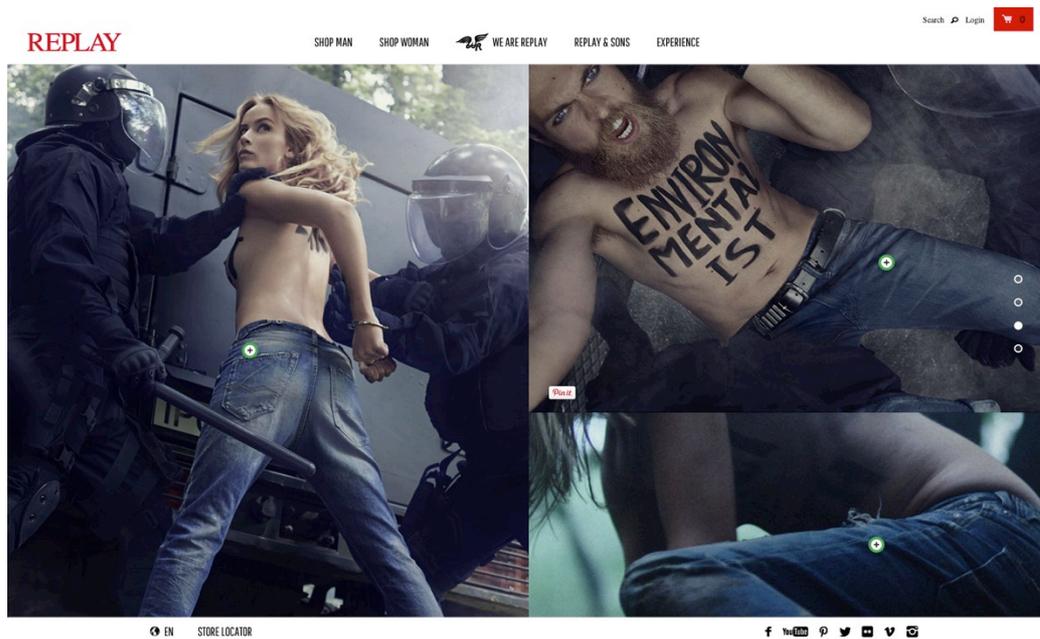


Figure 4.5 – Radical attitudes represented in the Replay campaign ‘Eco Warriors for Life’ (2014). Source: Screen grab from <http://www.replay.it/life>

Technophilia

Figure 4.6 exemplifies how high-end technological innovation (solar panels, electric cars, expensive home retrofitting) can mediate between the tension planet–people. But high-tech representations generate an **elitist attitude**, where only a few who can afford the exclusivity of such luxuries are promoted to ‘living the future today’. This excludes the mainstream sector of society until these commodities become affordable and accessible, translating into a self-exclusion due to non-accessibility.



Figure 4.6 – Design leverages the introduction of expensive ‘clean techs’ by representing them as luxurious and desirable. Source: BMW i8 advertising, featured in <http://www.autosaur.com/>

Altruism

In the tension global–local there is a deep opposition of values. On the one hand, people are constantly bombarded with seductive advertising that encourages self-indulgence in the ‘here and now’, and on the other, ineptly prompted by unpersuasive messages to reduce consumption ‘for the sake of future generations’. Those in positions of power attempt to shift responsibility to the individual by appealing to moral consumption. They ‘privatise’ the environmental debt, commodifying participation and action through consumerist values, generating a **sympathetic attitude** (Figure 4.7). Self-righteous and self-serving, altruism ideology serves to pacify the conscience of the powerful and the middle classes alike. This framing is highly ideological as it does not correspond to a material reality in its proposition: no change of values means no change in behaviours.



Figure 4.7 – Altruistic representations may lead to sympathetic attitudes. Source: Starbucks billboard advertising.

Ingenuity

Most people are driven by a desire to improve the quality of their lives – be it finding a partner or eating better – motivated rarely by greed and more often by seeking to satisfy intrinsic human needs: subsistence, protection, leisure, participation, affection, freedom, understanding, creation and identity (Max-Neef et al., 1989). These are defined as local concerns, as they correspond to the lived experience of the individual and their circumstances. The representations that reconcile the people–local emphasise quality of life and interdependency, which provoke a **predisposition for integration and empowerment** (Figure 4.8) – that which seeks to solve simple, everyday problems and make improvements by being resourceful, creative and cooperative. This frame opens people’s sensitivities for engagement through proximity and familiarity, thus generating trust, openness, acceptance and, potentially, popularity.



Figure 4.8 – Ingenuity representations present better predispositions to integrate values and actions. Source: screen grab from www.farmdrop.co.uk

4.1.2 Discussion and conclusions

At present, the dominant view of sustainability – which is represented by many expressions in the spectrum ranging from hardcore activism to green consumption – is guided by the ideology and values of ecological environmentalism understood as protection of the natural environment. As a lifestyle proposition, aligning the meaning of sustainability to this ideology can have unintended implications in terms of mainstream appeal and uptake. On the other hand, the emerging association of sustainable innovation and practices with social innovation and ubiquitous digital technologies is shifting the meaning of sustainability away from environmental ideology and closer to the intrinsic values that support human flourishing and well-being. This frame is also proving far more effective for mainstream diffusion and appeal.

For the planet: environmental ideology has niche appeal

First, the tensions between the global (planet) and the local (people) analysed here help us to see the contradictions that may be creating the ‘value-action gap’ (McKenzie-Mohr, 2013). When sustainability is equated with environmental protection it is bound to remain niche because it is situated in the global (i.e. a complex problem, caused by many, harming nature which is outside one’s control). Although the values of this ideology resonate with people and inform their views on social justice and environmental problems to a certain extent, they generate ideological attitudes that only translate into radical lifestyle change for the few rather than the many. ‘Protecting the planet’, though imperative, does not correspond with the material reality of a Western individual as they go about their daily

routine. (Here, it is worth noticing that people are constantly influenced by the global and ‘happy’ to make the global their concern when the global presents opportunities rather than problems. It is likely that the concern would not translate into behaviour change until it became a local problem).

Messages such as ‘protecting our home’ use emotionality in an attempt to imbue the global with local meaning, but have little impact in behaviour because they are not grounded in material reality and therefore devoid of local, experiential meaning. For example: while I can ‘eat organic’ and judge whether there is a difference in the taste of the produce in question compared to non-organic produce, I cannot ‘experience’ the effect of my household recycling. Conversely, I cannot experience the effect my reduced consumption of electricity has on climate change, but I can see that my efforts have cut my bill by a third. The further removed from personal experience, the more reliant we become on the dominant ‘global’ discourses to mediate the meaning of sustainable consumption for us. Therefore, current media messages, products, services and policies framed on the ‘global’ may well be rendering us unable to implement more radical lifestyle changes, because there is no correlation between this discourse and our ‘local’ values and priorities (to improve our lived experience or subjective well-being).

Secondly, environmental ideology mobilises minority (resistant or morally compliant) rather than mainstream groups. While these groups find differentiation and identity in environmentalism’s moral values (i.e. believing they are supporting a ‘good cause’ or ‘being good’), their positioning benefits the dominant culture, which dismisses their claims as radical, utopian and niche. For example, the *Guardian* reports: ‘Sustainability played a role at London Fashion Week – just don’t call it “eco”’ (Pattinson, 2014).

Therefore, aligning sustainability to this ideology is what might be keeping it in the fringe and preventing mainstream societal change.

For people: well-being benefits have universal appeal

The value of happiness and well-being as indicators of a ‘good life’ has been steadily on the rise (NEF, 2014; The Hartman Group, 2013a). This is reflected in people’s pursuit and longing for healthier, more fulfilling and more enriching lifestyles, as well as in the number of government policies that account for a greater emphasis on well-being increasing worldwide (Bhutan’s framework for National Happiness, The Happiness Index, etc.). Therefore, a greater impact might be achieved by framing sustainable innovations and

practices around a proposition that presents personal benefits that 'enhance our quality of life' (subjective well-being), rather than making environmental protection the primary proposition for sustainability.

The 'local' framing of many social innovations serves as a fine example of a more holistic approach to framing the meaning of sustainability, which incorporates and unifies the values of environmentalism with those of personal and social well-being. This proposition challenges consumerist values in terms of what it means to 'live well'. While it is centred on people's well-being, it does not seek to pursue it at the expense of the environment. Instead, it builds on obtaining benefits for the individual that benefit the wider community and their socio-economic and natural environment.

As Manzini has been championing for over a decade (2003, 2006), bottom-up social innovation that offers access to local provision networks, fosters interdependence and reduces reliance on global, unsustainable provision systems provides more meaningful opportunities for engaging with sustainability while enhancing people's quality of life (e.g. growing and buying local food and other goods or learning to make and repair, for example, are meanings that correspond to material reality).

What we can learn from the social innovation discourse is that sustainable innovation and practices that satisfy these universal personal concerns can offer a much more meaningful, relevant and appealing 'value proposition' of sustainability, actionable through desirable and life-enhancing provision platforms.

Therefore, design output that equates sustainability with people's well-being may be better positioned to have a larger impact. It will also contribute to legitimise and reinforce the intrinsic values that support societal and environmental flourishing (Ehrenfeld, 2013; Jackson & Victor, 2013).

To conclude, this critical and systematic analysis shed some light on the values and ideologies that are mobilised through design representation, exposing the weaknesses and strengths that different discursive frames offer for promoting wider societal adoption of more sustainable modes of consumption. In that, the study articulated extant arguments and concerns about the poor engagement that a discourse framed on environmental benefits generates and why. It also found that a better predisposition for wider engagement may be gained by reframing sustainability around the universally appealing well-being discourse and values.

While design is not responsible for the framing of the sustainability discourse in its entirety, given its central role within the production–consumption spectrum it cannot remain neutral in its influence. Design affords privileges and responsibilities in legitimising the values and cultural practices that underpin human activity. Therefore, Design for Sustainability should adopt a more strategic position in order to benefit and aid wider society – not just a small sector – by seeking to legitimise the intrinsic values that underpin human flourishing.

4.2 Initial Theory

The following subsections present the Initial Theory, which was informed by Phases 1 (Literature Review) and 2 (Preliminary Study) of this investigation. The Theoretical Propositions, Theory Premises and the Initial Theoretical framework or the application of this Initial Theory to practice are contextualised within sPSS diffusion and uptake in particular.

4.2.1 Theoretical Propositions

As discussed in Chapter 2, section 2.4.1, this research proposes the implementation of semiotic and cultural analysis methods to the design process to obtain insights (cultural codes) that can help sustainable PSS innovations to be more rooted in their sociocultural context and so enhance their perceived value (relevance and desirability). Therefore, contextual data (sociocultural meanings, associations and aesthetic codes) needs to be available to the designer from the outset in order to develop design innovations that are welcomed and valued in the innovation’s context.

Equally, as codes vary from culture to culture – and even within a product/service category – a deep understanding of contextual signifiers is also key to ensure that sustainable PSS succeed in the culture where they will operate. Therefore, semiotic interventions need to consider code mapping at global and local level:

1. A **macro (global)** level that deals with the *semiotic* aspects in terms of how these innovations are primarily promoted and understood at a global, cross-category level. This meaning is intrinsically linked to the wider intrinsic pursuit of

well-being in a globalised culture – i.e. *how relevant, in the eyes of the users, is the innovation to improve their quality of life?*

2. A **micro (local)** level that deals with the *aesthetic* associations in terms of how the innovation is represented in the user’s particular social context. This meaning is related to the sensibilities, identification and social aspects of consumption as lived experience – i.e. *what symbolic value does the innovation offer to the user in a social context? What would its adoption ‘say’ about him/her and how is this meaning constructed?*

For research purposes, these aspects were turned into two corresponding theoretical propositions (Figure 4.9):

Proposition 1. GLOBAL meaning – (Semiotic Sense). Discursive Frame, ideology and values. Sustainable products and services may have a higher chance of being more widely understood and adopted if framed around the well-being discourse rather than the environmental discourse. This means making the *values* and *benefits* of sustainable living (greater happiness and well-being) evidently obvious to their intended users.

Proposition 2. LOCAL meaning – (Target Group Codes). Expressive Frame, representation of values. Sustainable offerings may appear more appealing and relevant to users when they are framed using valuable contextual meanings and cultural associations relevant to the target user group. This implies making available to designers the most favourable contextual cultural codes so that sustainable innovations can be represented as superior to competing alternatives.

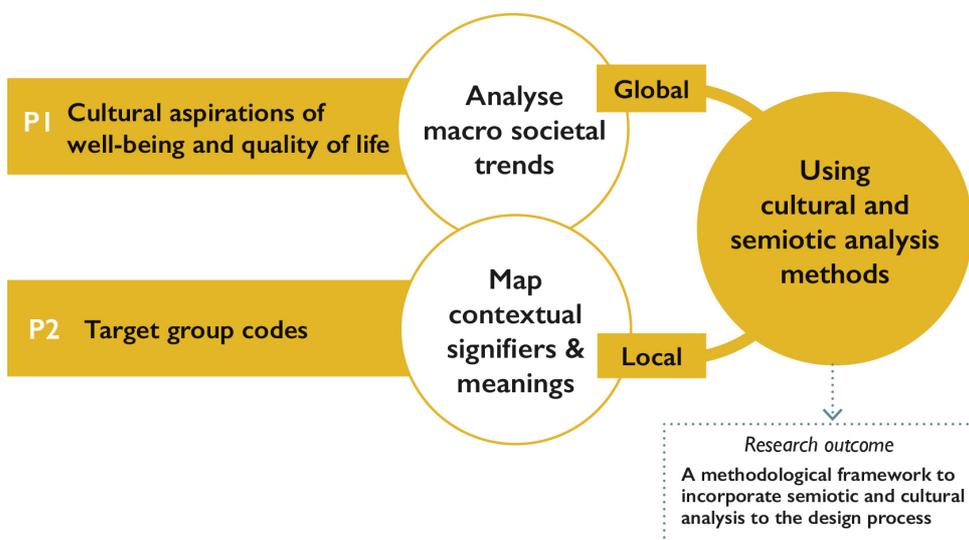


Figure 4.9 – Theoretical propositions

As the scope of this research was limited to theory-informed methodology development, these are presented as *propositions* and not hypotheses to be tested. Their purpose was to orientate the researcher throughout the development of theory, and the application of theory to practice.

In the next sections, the theoretical propositions are explored in the context of appeal and diffusion of sPSS.

- **Macro (global) meaning: how relevant do these innovations appear to the user?**

Widening adoption of sustainable lifestyles implies ‘winning over’ users who are currently not interested in, or who ignore, these practices. To extend the cultural resonance, and encourage diffusion of sPSS, it is necessary to create associations that reside outside the niche ‘sustainability universe’ of meaning. But if the meaning is not to be constructed around this concept, what other (more favourable) meaning associations exist for them? And how can we tell which meanings will position sPSS as of higher value than competing options?

Assuming that sPSS innovations have been designed to reflect intrinsic values (detailed in section 2.1.2) as well as environmental benefits, these innovations can be driven by a meaning change informed by wide societal trends, for example, the pursuit of a more dematerialised concept of well-being. It is proposed that:

Proposition 1. Sustainable products and services may have a higher chance of being more widely understood and adopted if framed around the well-being discourse rather than the environmental discourse. This means making the *values and benefits of sustainable living: greater life satisfaction (happiness) and quality of life (well-being)* evidently obvious to their intended users.

Norman and Verganti (2014) state that ‘meaning-driven innovation starts from the comprehension of subtle and unspoken dynamics in sociocultural models and results in radically new meanings and languages – often implying a change in sociocultural regimes’ (p. 90). Since most people are concerned with their own (and their loved ones’) well-being and life satisfaction, these drive aspirations as such are universal motivators for lifestyle choice cross-culturally. At this historical point, one of the most evident sociocultural

changes is the rising interest in a more dematerialised pursuit of life satisfaction and well-being (H. S. Brown & Vergragt, 2015; The Hartman Group, 2013b). This opens a window of opportunity to reinforce the intrinsic values underpinning lifestyles of sustainability. As such, these expressions present a strong platform of meaning upon which to build *personal benefits* for sPSS.

Therefore, to be perceived as relevant, the meaning (or value proposition) of the sPSS should be to offer 'greater well-being and life-satisfaction' by highlighting the aspects that enhance the lifestyle of the potential user. For example, LeTote.com service provides women with access to fashionable garments and jewellery. For a modest subscription fee, users gain access to a wider range and number of items than they could potentially afford to buy. Here, the personal benefit is provided through *access* instead of *ownership* and the user's experience is personally enriched (a benefit that can potentially boost their subjective well-being) beyond the environmental benefit of reducing landfill waste.

It is evident that *how* these benefits are framed and articulated in the value proposition and the narrative of the innovation is very much a matter of design.

- **Micro (local) meaning: what symbolic value do they offer to the user?**

Even when an sPSS has good inbuilt *personal benefits*, it is still quite possible that it will not be perceived as a *desirable* option for the user if it lacks the *allure* or symbolic value that other competing options provide. As identified in earlier sections, the main barrier for potential sPSS users is the cultural shift necessary to *value* an ownerless way of having a satisfaction fulfilled, as opposed to owning a product (Goedkoop et al., 1999). Because products provide satisfaction also as symbols of status, identity and belonging (Hamilton, 2010; Crilly, 2008), for customers to *value* these options, sPSS need to carry symbolic features (or benefits) that satisfy the user's social, psychological and emotional needs. It is proposed that:

Proposition 2. Sustainable offerings may appear more appealing and relevant to users when they are framed using valuable contextual meanings and cultural associations relevant to the target user group. This implies making available to designers the most favourable contextual cultural codes so that sustainable innovations can be represented as superior to competing alternatives.

Using the example described in the previous section (LeTote.com), Table 4.2 postulates how different sPSS benefits (or features, henceforth used interchangeably) might fare from the user's perception, based on Psychological Distance (discussed in section 2.1.6.3)

Benefit/Feature	Example	Perceptual connection	Emotional distance
Environmental	Cuts landfill waste	Bigger-than-self	Far
Functional	Saves money	Relative	Closer
Symbolic	I look good and fashionable	Intimate	Closest

Table 4.2 – Classification of sustainable PSS benefits using LeTote.com as an example

While people may agree that it is important to 'cut landfill waste' (*environmental benefit*), they may not be prepared to commit to lifestyle changes that mean they should sacrifice 'looking good and fashionable' (*symbolic benefit*), even if it 'saves them money' (*functional benefit*). Conversely, they may be more willing to sacrifice functional benefits (such as 'saving money') in order to prioritise symbolic benefits ('looking good and fashionable'). The symbolic value is intimately related to the construction of our identity, and consequently tends to carry heavier weight against other features. This might explain why it feels 'sacrificial' when we prioritise other features over the symbolic ones. As the feeling of worth and identity is relegated, life satisfaction decreases and there is a feeling of losing out (Hamilton, 2010).

As symbolic features help us to construct identity in a sociocultural context, in order to build symbolic features into sPSS it is essential to understand the 'social rules' (codes) at play by researching that particular context. When sPSS experiences are designed and represented using contextually relevant codes and high-value signifiers, they 'feel' in tune with what is socially considered 'progressive' and 'aspirational' in their context. Then the chances that these innovations will satisfy the emotional, social and psychological needs of the user are considerably higher. For example, London's farmers' markets are perceived as enriching experiences where shoppers 'delight their senses' with carefully crafted, bespoke and authentic choices. This could be attributed to the great deal of effort producers invest into presenting themselves in the best possible light, crafting engaging personal stories, aesthetically pleasing stalls, consistent branding, uniforms and packaging, as well as providing a quality, more environmentally friendly product.

4.2.2 Initial Framework

Figure 4.10 illustrates how the theoretical propositions are integrated to the design process, using the widely adopted Double Diamond model as an example.

It is assumed that semiotic and cultural analysis should be implemented at the Research phase indicated in Figure 4.10. However, as culture is in flux and meanings are constantly being reinterpreted by users, it is recommended to conduct analysis at regular periods to keep the value proposition relevant for the users (Valencia et. Al, 2014).

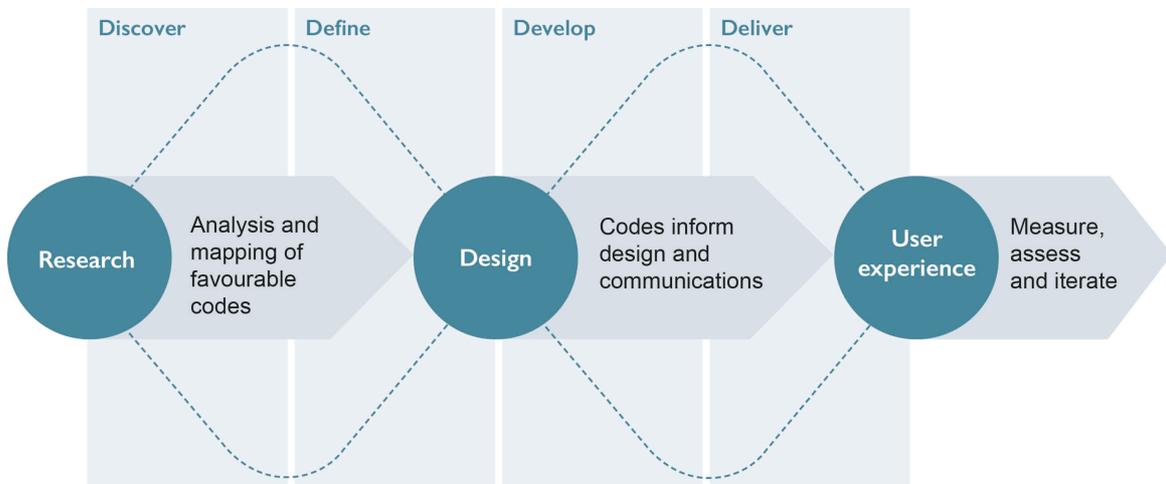


Figure 4.10 – Initial Theory for using cultural codes research in the design process (Santamaria et al., 2016)

To facilitate the application of the Initial Theory to design practice, a conceptual framework was developed (Figure 4.11). The framework builds on Hall's (1980) Decoding–Encoding semiotic process and Evans' (2014) methods for applying these methods (Chapter 2, section 2.2.3.2), throughout three key stages in the design process: Research, Design and User Experience. The framework also incorporates the Theoretical Propositions (section 4.2.1) and a design direction (or intent) – i.e. reinforcing intrinsic values which support lifestyles of sustainability.

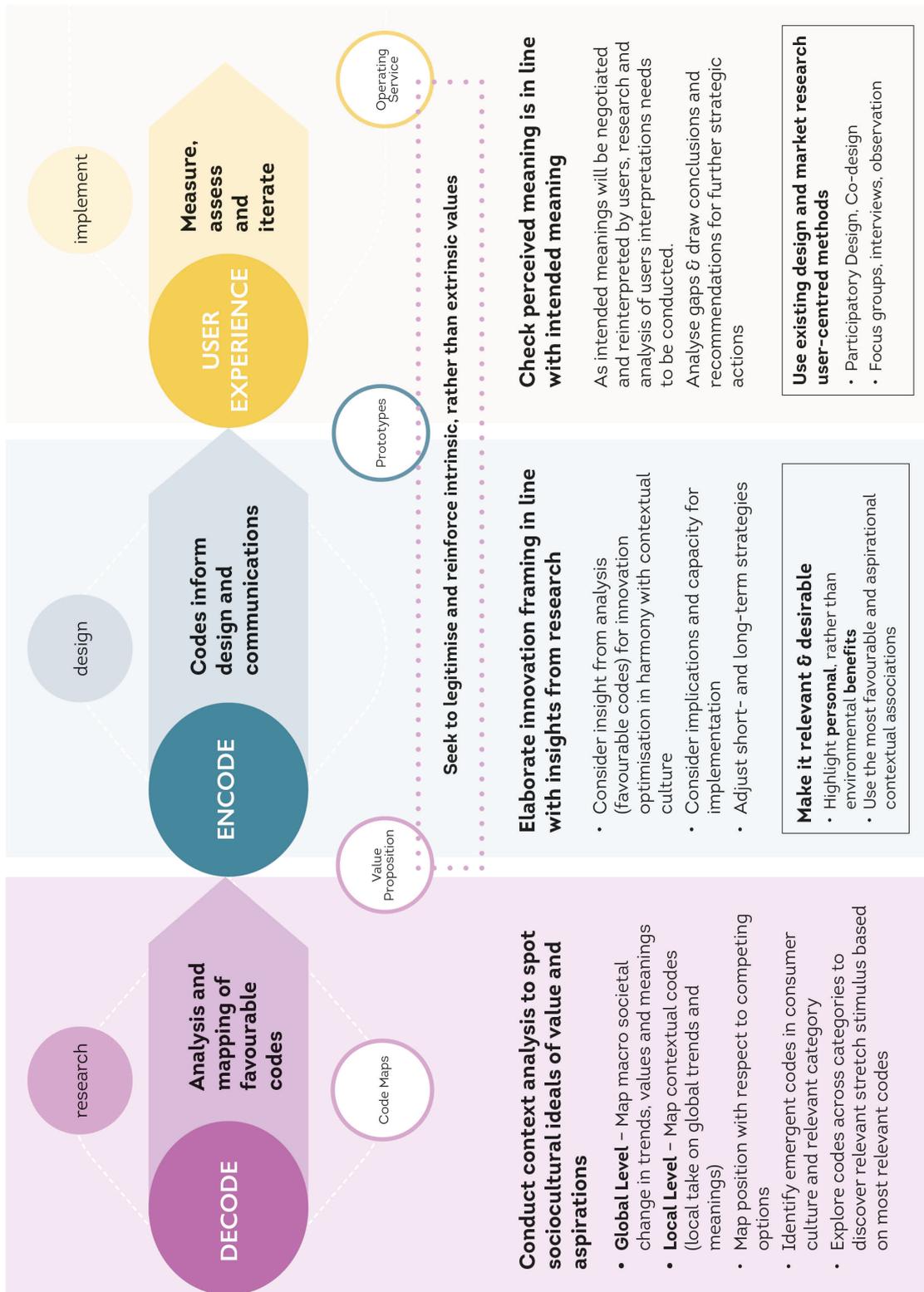


Figure 4.11 – Con[text], a framework to add semiotic and cultural analysis to the design process

4.2.3 Theory Premises

In light of the above, this Initial Theory highlights the relevance and potential impact of implementing cultural context analysis to map and identify favourable cultural codes during the design process, as a strategy to enhance the *design* and *value* of PSS innovations that contribute to sustainability and well-being.

Its premises are as follows:

1. **Sustainable PSS need to be designed and promoted in a culturally relevant way**, where contextual symbolic aspects of consumption are taken into account. In order to **maximise user's deep satisfaction**, they must be developed to satisfy the socio-psychological as well as utilitarian and practical needs of the user, hence incorporating added value for the user in the creation of identity (symbolic features). Especially, it should seek to promote the values associated with intrinsic motivations which underlie happiness and subjective well-being.
2. **The designer's role is extended to encompass a more conscious understanding of cultural reproduction**, which requires not only dealing with the concept generation and development of the innovation itself (technological and operational dimensions), but also with the cultural associations, ideology and consequences that the innovation bears for its context and users (sociocultural dimension).
3. It is proposed that designers are to extend their concern of practice beyond the formulation of concept and into the diffusion of these innovations. For that, **designers need to familiarise themselves with theories and methods used in communication practices, as well as consumption theories and cultural analysis**. Extending the role of the designer into this field of action implies greater involvement in the development of value propositions – i.e. the 'design of meanings'. This requires them to be competent to deal with the cultural deconstruction, cultural codes, cognitive framing and political aspects implied in the representation of values.
4. If designers are to develop culturally relevant 'value symbols' (to shift perception of sustainability in culture), it is essential that they are equipped with theories and resources to understand how value, desirability and legitimacy are created in sociocultural contexts, and how this affects symbolic aspects of sustainable consumption. A more proactive design action in this respect can offer greater opportunities for wider diffusion of sustainable innovations by enhancing their

perceived value. Furthermore, it extends the artefact's purpose from fulfilling a need into changing lifestyles by establishing new habits and value associations.

4.3 Initial Theory Validation

The previous study built on critical analysis techniques and was conducted solely by the researcher. In order to follow PAR paradigm and best practice, sharing findings with other colleagues to 'complete the picture' promotes inclusiveness, knowledge-sharing, and most importantly, an opportunity to involve other practitioners in the reconnaissance and elaboration of the problematic.

A Focus Group participatory session was conducted with the following objectives:

- To validate results and findings of the critical analysis
- To generate a sense of collaborative 'framing' of the research problem and reflect upon the proposed theory before progressing to Phase 3 (Development of Design Intervention)
- Inform the direction of the Main Study by validating and refining the Initial Theory

This session was aimed at producing a 'guiding structure' by consulting what aspects should be considered when researching symbolic value construction during the design process of sPSS. The objective was to open the topic to participatory discussion, and the framing of the problem together with colleagues.

4.3.1 Results and Findings

The PAR session was conducted in the context of a Design summer school, held at the Aegean University in Syros, Greece in September 2014. The session was scheduled on the fourth day of the course, to allow potential participants to get to know the researcher as a person, the objectives of the consultation and thus encourage interest in participating. Participants were recruited from the staff and students attending the summer school by open invitation. A total of 10 participants attended, and three participants provided in-depth comments and feedback (Figure 4.12).



Figure 4.12 – Participants who followed up session for in-depth discussion.

This session was aimed at producing a ‘guiding structure’ for interpreting the Initial Theory’s relevance in terms of its application in design practice, by consulting what aspects should be considered when researching symbolic value construction during the sPSS design process. The participants were handed information sheets (see Appendix A2) prior to the session, to introduce them to the problematic posed by the lack of competitiveness (appeal and uptake) that sustainable products and services have in current mainstream society.

Following a 20-minute presentation of the problematic and proposed theory (Figure 4.13), they were given a set of questions to reflect upon, and 10 minutes to write down two or three ‘ideas’ about what designers can do to improve the appeal of sPSS innovations. This exercise was followed by a 15-minute open discussion where participants shared their individual ideas, and these were ‘grouped’ and aggregated on a whiteboard, so that everyone could see, to aid discussion.

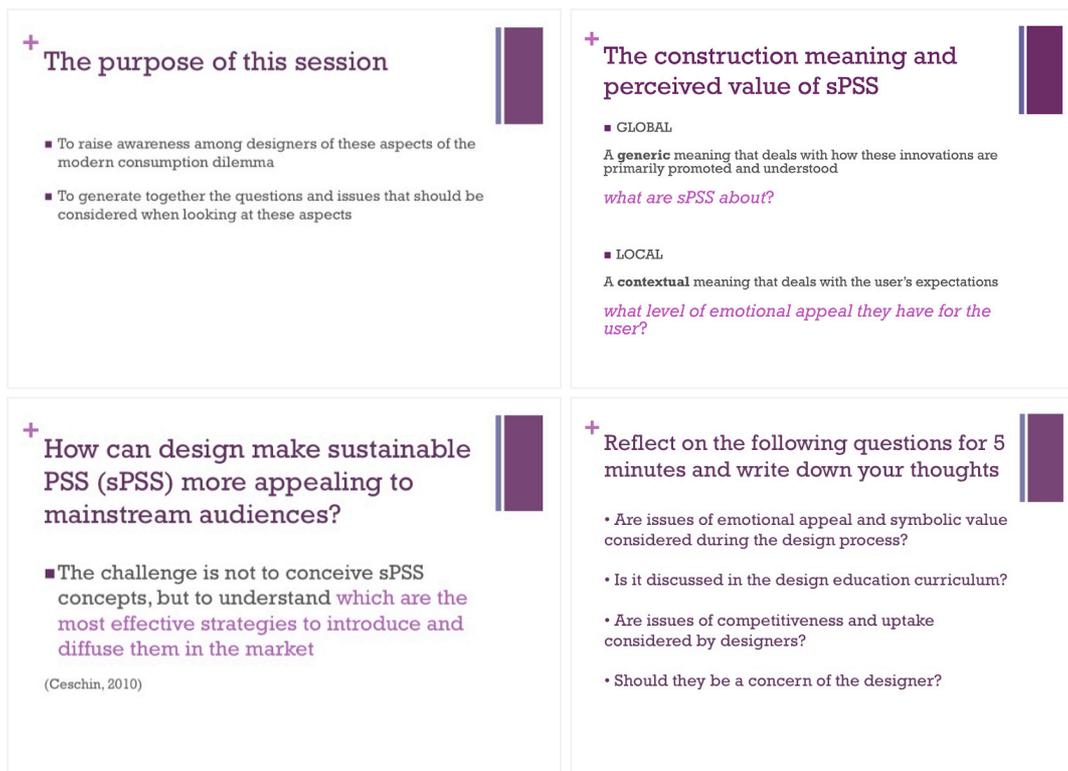


Figure 4.13 – PAR Consultation presentation slides

The points raised and discussed are detailed below.

- **Lack of awareness about commercial sales of sustainable products and services**

In general, the participants seemed to be unaware about the problematic of low uptake of sustainable products and services. When presented with evidence, even experienced researchers (some professors) demonstrated a lack of awareness of how sustainable offerings are faring in comparison with competing choices.

Participant DF, for example, raised comments about statistics presented by the researcher that evidenced a low percentage of sustainable products sales, and questioned whether these were representative enough.

‘Did you find any excellent sales in some category, for example that is doing better that can serve as an example?’ (DF)

Researcher: Yes, there are categories that are doing better and are those related to personal well-being and health. The rising sectors are organic foods and cosmetics.

Although most participants were unaware of this problem, on reflection they considered it to be part of the wider problematic of mainstream adoption of sustainable practices at systemic level. However, most also agreed that design has a role to play in making design innovations more appealing, recognising that it is futile to develop sustainable innovations that generate no interest or uptake in potential users.

- **Designers agreed that sustainability features should be ‘embedded’ rather than being purposely used to ‘sell’ the innovation.**

*‘Your product could be the best sustainable product in the world but if it is so expensive it stays on the shelves, and if it’s not appealing it won’t sell. But in my opinion, it’s not enough that the product is sustainable, it has to be competitive in price, it has to be made in good style, it has to be functional, so I’m not sure, unfortunately, in our stage or in most developed countries I think people are not in the stage that they could just buy a product just because it’s sustainable. **You have to lead them, or the designer has to lead them to somehow, maybe sounds strange, hide the sustainability under all these things and they buy the product and they experience it, they experience, ah! This sustainable product is very good, so they will buy it again. But the first time, maybe they only buy it because it’s cheap, or it looks good, or it’s very functional.**’ (AS)*

When faced with the question of whether designers consider competing options during the design process, most were puzzled and reflected that they most often don’t.

When asked how they would go about ensuring that their sPSS innovations were more attractive than competing options, it was clear and evident that none of the participants had considered this issue during the design process. Nevertheless, upon a brainstorming prompt, some suggestions on how they would approach it were offered (Figure 4.14): co-design, benchmarking, guerrilla marketing, increasing user satisfaction and personal benefits. Note that the proposals came up in that order, from the generic to the more particular aspects of user perception.

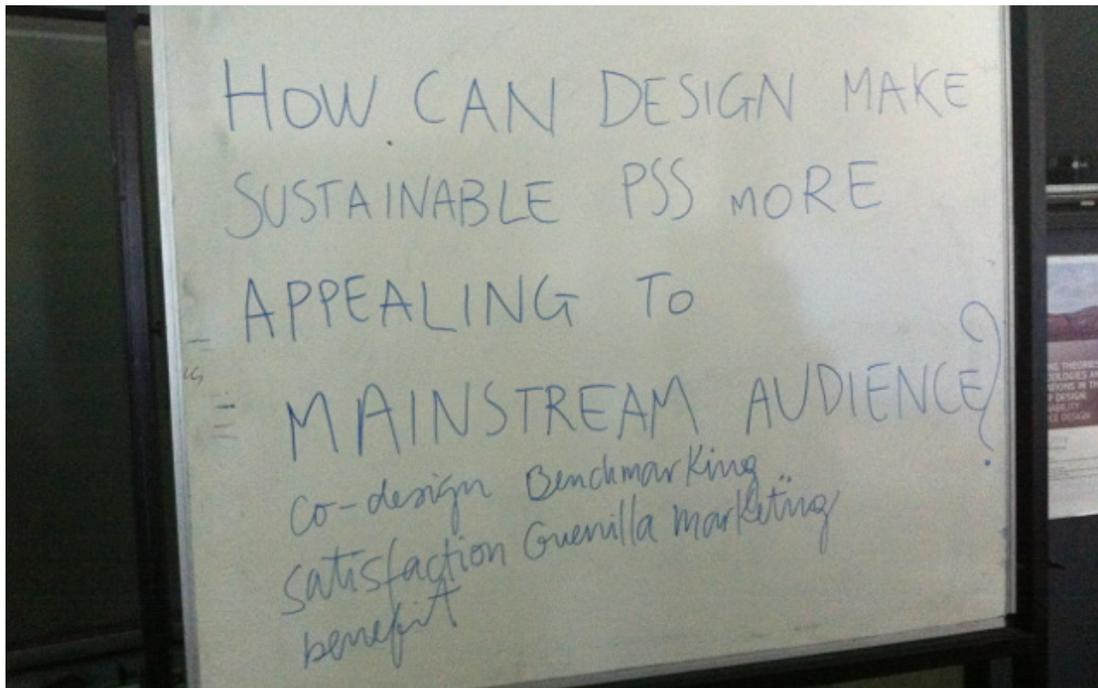


Figure 4.14 – Participants proposed ideas to tackle improving appeal and uptake of sustainable PSS

Co-design techniques

Participant EA has a background in product design and is completing a masters' degree in sPSS. She offers co-design as an approach for users to 'own' their solutions.

'my first thought is that if you want to make something more appealing to a user, maybe you should engage him in the process, engage him in terms of asking him what he wants, or maybe thinking about what he wants before he knows it'. And when you involve him to the process of designing the actual service, the actual product, little by little he gets the benefit and he gets the confidence so he can trust you and you don't have to overdo it with aesthetics and semiotics and he will be part of the process so that will be appealing to him because he was a part of it. And that will become an output of you and him. (EA)

Benchmarking

Participant A, who has a business degree, offers benchmarking and looking at successful case studies to analyse and learn strategies.

'I think it's also a question of benchmarking as well, it's also looking at the system, what are the parts that make it xxx that integrate into PSSs to make them better. An example is . . . food box xxx that allows to choose xxx product customisation . . .

Finding new ideas, ideas that work and incorporating them into the PSSs, things that are proven successful, like incorporating best practices.’ (AS)

Guerrilla marketing

Participant EG proposed Guerrilla Marketing as a low-cost solution. This is an advertising strategy that focuses on low-cost, unconventional marketing tactics that yield maximum results (Levinson, 1984). Participant L disagreed, but seemed to have incorrect knowledge about the technique, or to mistake it for something else.

‘Against unsustainable PSS, if you want to promote the . . . sustainable PSS, hitting the rivals with their own weapon could be one of the answers. What I’m talking about is using the power of media, the power of branding, the use of advertising especially since it holds that if you really want to promote sustainable PSS I don’t think you have the budget of the rivals, so the techniques of them, for example guerrilla marketing could be one of the solutions, if you want to really make this phenomenon more appealing.’ (EG)

‘I think this approach can also backfire. Guerrilla kind of advertisement is all what Greenpeace is all about and it has backfired for them so I don’t think it’s good as an approach . . . or like the models started to not use fur and then it backfired . . .’ (LR)

- By and large, symbolic and aesthetic aspects were not brought up as design strategies that could be utilised to enhance the innovation competitiveness and appeal. Neither cultural references (codes) were mentioned explicitly, but there was mention of using ‘familiar’ references that could be gathered, it was suggested, using co-design methods to elicit user needs and satisfaction requirements.

User satisfaction (benefits)

It was widely agreed that user satisfaction is paramount to measuring the ‘success’ of the innovation, and therefore it is the ultimate goal. Participant SB offered an example to articulate a rational approach to decision-making, whereas participants EG and AS were more concerned about delivering higher user satisfaction than competing options as a strategy.

‘So, we kind of convince people that “if you own this, and you’re only going to use it for two hours on some of the 365 days, whereas if you have opportunity to own its functionality (use the service instead) it’s better for everybody.’ (SB)

'Well the main message is . . . it should be more beneficial to people in the end . . .'
(EG)

'What does the consumer actually want? Satisfaction.' (AS)

Participant D offers the concept of 'the golden circle' (Sinek, 2011). Sinek argues that there is a common pattern of innovation in leaders that have managed to introduce radical change: that is going from the 'why', to the 'how', to the 'what'. With this approach, the participant is thinking in the direction of 'framing' the offer according to a target, but also proposing that value alignment occurs first, and design solutions that materialise that proposition follow later:

'So, in some ways, what I want to suggest is that maybe the way to find how to convey messages that are relevant to our target – and I mean, this is still a research on the mind, on the human being – and, I don't know it's still not even about this is a product or this is a service or this is sustainable or this is not sustainable.' (DF)

- When the issue of 'satisfaction' was problematised, the symbolic aspect of modern consumption came up, generating debate on the ethics of satisfying 'needs' or satisfying 'wants'. There was a generalised agreement on the role that mainstream media and advertising play in generating unnecessary 'wants', fuelling overconsumption and influencing consumption choices.
- **Desirability came up as a controversial topic, generally perceived as a marketing technique to 'tempt' and 'deceive' users.**

This term is loaded with negative connotations as it is seen as an instrument of consumerist culture for creating unnecessary wants.

'I think that if we try to sell sustainability in the traditional ways and using the mechanism of consumerism it will lose its purity. It might be kind of a romantic idea but . . . it should have a purity to it and not lose it, not being . . . in your presentation you said "desirable". And I was thinking, why desirable? Why the thing that I want but not the thing that I need?' (EA)

The word 'desirability', therefore, seems to be highly associated with manipulation. It is worth noticing that *aesthetics* and *desirability* may be stigmatised concepts within the Design for Sustainability discipline discourse and may be perceived as illegitimate tools to

increase the appeal of sustainable innovations, because they are seen as instruments of consumerism:

'Yes, it is a point, it is a way, it is a method, but if you want to see sustainability as a way of thinking and a way of being as [SW] said, you can't use the same techniques as someone from consumerism would use. It's like not being true to yourself, not being true to your movement and your product and what you are trying to sell.' (EA)

There was evidence that these issues are hardly considered, and that the researcher had opened up a new avenue to be critical and self-reflective about our practice:

'Sometimes I think we are in a bubble of our own, just thinking about this . . . You can do this again, because you know, today you have raised awareness about the present. Maybe we'll think about it and after three days we will have something more to discuss!' (EA)

Researcher:

'How would the sceptic take this? And then by answering the devil's advocate, you make your design better.'

4.3.2 Discussion

While the previous two stages frame the problematic of diffusion and uptake of sustainable products, services and systems from a research perspective, digging into the root of the problem and opening up the analysis of sustainability as a category of meaning in culture, this stage grounds the Initial Theory within design practice. After all, there is no point in generating theories, frameworks and methods at academic level if design practitioners do not acknowledge the need for using them.

The results of the session provided evidence to back the initial the assumption that most sustainable designers are currently short of knowledge, methods and skills to strategically construct symbolic features during the sPSS design process.

Communication, branding and business development of the proposition aspects of PSS seem to be handled instinctively, at least in these kind of grassroots, social enterprise scenarios: designers are probably 'thrown in at the deep end' without an understanding or knowledge of basic theories or tools. Only participants with industry experience were able

to elaborate on these concepts assertively. Academics were aware of their importance and suggested these aspects should be incorporated into PSS/service design education.

It was also clearly demonstrated that, especially for new designers, making a conceptual framework available does not mean that they will make use of it. There must be an understanding of the reasons why this should be implemented, which are linked to the philosophy of Design for Sustainability, its values and educational foundation.

Design as a vehicle for legitimising cultural practices is a new concept for many. Without an understanding of the values that designers are legitimising through their practice, and how this process takes place, it is hard for designers to act strategically to enhance sustainable innovation features that encourage appeal and uptake. Moreover, it compromises responsible practice, as designers seem innocently unaware of the ideologies and values they contribute to legitimise through their practice, and how that is achieved.

4.3.2.1 Limitations

Participant sample

In general, the participants' expertise was mostly academic, rather than practice-based. It is assumed, by the responses of those participants with more industry experience, that the results of the study are more biased towards views from academics and students. On this basis, generalisations 'lack of awareness' of the problematic cannot be made.

Session location, timing and flow

There was ample willingness to participate, but the session was scheduled at the end of two long lecture sessions and participants were rather tired. The time allocated was too short to initiate deep discussions. However, participants tried their best to engage and interesting insights emerged from the group session. The three participants, who willingly provided more time for in-depth discussion, were highly stimulated by the initial conversation and provided very helpful data in compensation.

4.3.3 Conclusions

In summary, the main objective of this stage was to stimulate discussion within the sustainable design community about issues of poor uptake and diffusion of sustainable

innovations, within the more general problematic of accelerating the uptake of sustainable lifestyles in wider society.

The consultation also provided valuable insights that clarified and confirmed some initial assumptions regarding criticality and reflexivity in DfS practice, discourse, ideology and in PSS designers' concerns, capacities and skills. In that, the objective of this study was met.

Furthermore, this study helped to refocus the strategies to be adopted for Participatory Action Research in subsequent stages of the inquiry, as further discussed in section 4.4.1.

4.4 Preliminary Study Conclusions

The aim of the Preliminary Study (Phase 2) was to elaborate a joint framing of the research problem and to validate the proposed research approach (Initial Theory) with other professionals.

The literature review conducted as a first stage of the investigation (Phase 1) was a good starting point for problem-framing, locating the conflicts and contradictions posed by sustainability representations in consumer culture and its implied consequences for design. It clarified both the consensus and the discrepancies that exist between the diverse disciplines that study sustainable consumption and clustered them in themes of argumentation. But it also made evident that a discourse analysis of representations was needed to illuminate how the meaning of sustainability has evolved through time, how representations of this concept express certain cultural and ideological values, and which discursive frames are most favourable to make the concept of sustainability appealing to wider audiences.

In that, the semiotic analysis (section 4.1) articulated extant arguments and concerns about the poor engagement that a discourse framed on environmental benefits generates and why. It also found that a better predisposition for wider engagement might be gained by reframing sustainability around the universally appealing well-being discourse and values.

However, before progressing to the next stage of research, it was important to find out whether the sPSS design community agreed with the researcher's interpretative analysis, and if they felt that the proposed initial theory was worth developing to improve design practice.

In this, the participatory consultation provided valuable feedback and interesting insights that contributed to validate the Initial Theory, and to plan further development of the initial conceptual framework described in section 4.2.

The Preliminary Study, thus, was wrapped up at this stage, taking into the next stage of the investigation premises that were recognised and accepted as of concern for Design for Sustainability, and a demonstrated willingness and openness by researcher and participants to improve design practice in this respect.

4.4.1 Implications for next research phase

This phase of the research concluded, having identified the problem and the need to develop a robust method and design-friendly tools to ‘decode’ sociocultural contexts and ‘encode’ or frame sPSS innovations with contextually relevant meanings as a strategy to enhance their relevance and desirability.

While the conceptual framework proposed an initial model for implementation of ‘Decoding’ and ‘Encoding’ during the sPSS design process, empirical knowledge of the impact/benefits and implications of implementation of this Initial Theory to design practice needed further investigation.

The participatory consultation provided suggestions for further research. These are as follows:

- **Presenting the research topic and problem**

It is recommended that the problem is framed as ‘how to elicit user psychological and social needs’, rather than presenting it as ‘how to make sPSS innovations more appealing, or competitive’.

- **Aesthetics and semiotics are too vague/wide a concept**

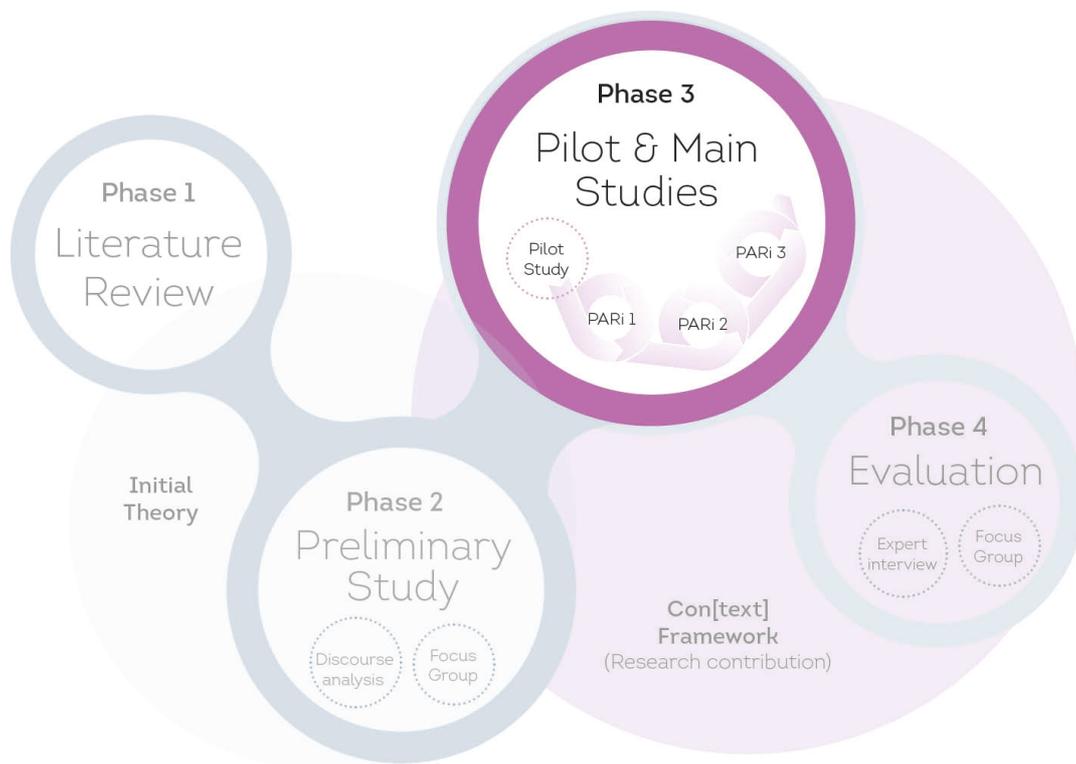
It would be best to explain/demonstrate the importance of symbolic value added by design by providing examples with images/case studies.

- **It was suggested that it might be useful if the research outcome (methods, tools, framework or process) is either an improved version of existing processes already familiar to designers, or an extension to complement existing tools and processes**

There was a realisation that it is not possible to 'load' the designer with a list of recommendations or more factors to consider while designing. Providing some sort of contextual research tools for eliciting users' socio-symbolic aspects to complement existing design research techniques seems a natural place to start (i.e. tools for collecting contextual cultural and aesthetic references during the user research phase).

Therefore, the next research phase focused on challenging the framework's validity through iterative application to practice, and developing practical tools that can be used alongside existing design processes to support designers in the elaboration of meaning.

Chapter 5 – Pilot and Main Study: Developing *Con[Text]*



The previous phase of the research (Phase 2) confirmed the need to further develop the Initial Theoretical framework, as a means to introduce ‘decoding’ (cultural context research) and ‘encoding’ (framing) practices during the design and development of sPSS innovations. Consequently, Phase 3 of the investigation focused on answering the second research question (Chapter 1, section 1.3.2), by seeking to develop support for design practice.

While the conceptual framework offers a broad suggestion of ‘proposed steps’, it is still uncertain *which* existing approaches (from all the methods and strategies currently used in marketing semiotics) could be most useful to fulfil this task and *how* they can be deployed alongside existing design processes and methods commonly employed for bottom-up, sPSS innovation. Especially central to this investigation is how to build strategic capacity in designers to strengthen their impact towards a sociocultural paradigm transition to greater sustainability and well-being.

5.1 Aim and Objectives

This study responds to Objectives 4 and 5 of this research (Chapter 1, section 1.3.2), aiming to develop design interventions that empower designers to elaborate more aspirational and meaningful sPSS innovations, capable of encouraging the adoption of more sustainable lifestyle practices, particularly focusing on improving users' quality of life as outcomes.

To achieve these objectives, the study explored the application of the Initial Theory to design practice, seeking to generate practical methods and tools that facilitate the implementation of sociocultural context research during the design development process. The objectives were:

- To develop practical means for implementing the *Con[text]* framework, so that it can be used alongside existing PSS design processes and tools
- To raise awareness among designers and social entrepreneurs of the sociocultural and symbolic aspects of consumption, highlighting the opportunities for design to legitimise values and social practices that underpin sustainability, happiness and well-being

As the overarching aim of this research is concerned with improving Design for Sustainability practice in this respect (by designers and other stakeholders), especially to introduce change in the existing situation and not merely record and observe, the studies build on Participatory Action Research (PAR) strategies and best practice. The background that gives rise to the selection of this approach is explained in Chapter 3, section 3.1.

This phase of the research consisted of a Pilot and a Main study, the latter comprising three design interventions: PARi 1, 2 and 3 (Figure 5.1).

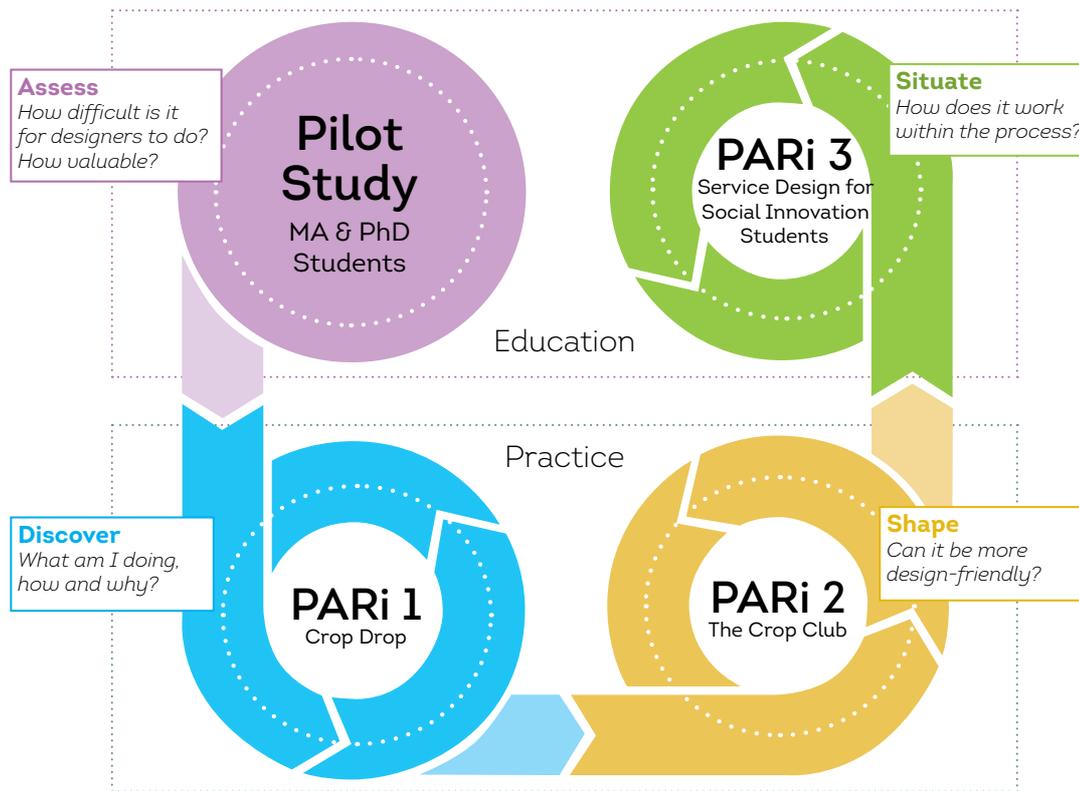


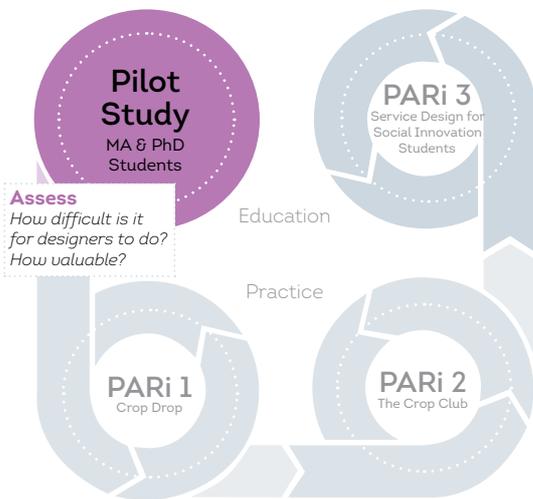
Figure 5.1 – Phase 3 Studies design

The Pilot Study was conducted in the context of design education. It investigated designers' attitudes towards the role of designers as cultural intermediaries, framing theories and applied semiotic methods in order to inform the design and direction of the Main Study.

In response to the results and findings that were obtained, the Main Study sought to develop the *Con[text]* framework through three Participatory Action Research intervention (PARI) cycles. PARI 1 and PARI 2 were conducted in the context of design practice to build empirical evidence (as example case studies) of the framework's application (*how*) as well as its strengths and weaknesses (*benefits*). The third cycle (PARI 3) was conducted in an education setting, to understand how the framework can be implemented alongside existing service design methods (Appendix G) and complement them throughout the design process. The rationale for the study design and selection of participants was discussed in Chapter 3, section 3.2.3.5.

The following sections report on these studies in more detail.

5.2 Pilot Study



As discussed in Chapter 2 section 2.2.3.2, applied semiotic methods are usually implemented by market researchers and semioticians. Therefore, as a first step, it was considered necessary to conduct a Pilot Study to assess how comfortable designers felt with the proposed theories and methods, and to inform the design of the Main Study (development of the *Con[text]* framework through subsequent interventions).

The Pilot Study was conducted with the following objectives:

- To understand designers' attitudes towards using cultural analysis and semiotic methods as 'design methods'
- To gain insight on how these methods can be best adapted/shaped for implementation within design teams
- To locate any issues or gaps that need to be addressed prior to engaging framework in 'real life' design interventions (Main Study)

Details on participant selection, data collection and analysis methods are provided in Chapter 3, section 3.2.3.1.

5.2.1 Process

The study was designed as a seminar/workshop, and it was conducted at Loughborough Design School. Participants were provided with an Information and Preparation Sheet (see Appendix B3) in the week prior to the session.

The session consisted of two parts:

- 1) A one-hour lecture/presentation which provided the background to the principles of semiotics and introduced the Initial Theory to address the problematic of mainstream appeal and diffusion of sustainable PSS;

- 2) A two-hour practical session with activities aimed to introduce designers to the use of cultural analysis and applied semiotic methods (Figure 5.2).



Figure 5.2 – Pilot Study session

The activities conducted were based on the initial conceptual framework developed in Phase 2 of the research (see Section 4.2). The type, objectives and format of the activities undertaken are detailed in Appendix B1.

5.2.2 Results and Findings

The feedback that participants provided was analysed thematically (as detailed in Chapter 3, section 3.2) and findings were grouped under three main topics: Semiotics Topic/Concepts, Conceptual Framework and Session Flow and Content. The main points raised at the session were as follows:

- **Topic/Concept**

Participants appreciated the knowledge given about semiotics and its relationship to design and cultural representation. They were well engaged with the topic and the feedback

reported that it was *interesting, relevant* and that they felt curious about the subject and wanted to investigate it further and know more:

'Original, new knowledge.'

'Introduction was very helpful as semiotics was/is rarely/never considered when creating communications.'

There was also consensus that the area is broad, and that more *time* and *examples* were needed to grasp the concept and to fully understand the impact of semiotics concepts in design practice:

'I wish there was more time to discuss this [the topic].'

'Could be more describing with more hands-on examples. The area is broad and difficult to grasp.'

'Provide case studies of semiotics applied to design companies to make workshop participants understand soon the benefit of the session.'

The feedback indicates that semiotics as a topic is highly relevant to design practice, and designers are willing to learn more about how it works and how its principles can be applied to improve design practice. The issue of lack of 'time' and 'examples' indicates that a single session, or an overview, is not enough to develop these types of cultural analysis skills, which has led us to argue later in this thesis for their inclusion in design education programmes.

- **Semiotic Methods and Tools**

Contrary to the assumption expressed in Chapter 2, section 2.2.3.2 (semiotics methods might need to be adapted for their use within design teams), it was found that designers felt at ease with the use of the methods:

'The tools were quite useful'

'Simple, easy to understand'

'Very systematic and fluid'

This was an important finding that impacted on the original objectives and planning of the Main Study. While it was initially planned that the Participatory Action Research cycles would focus on 'adapting' the Theoretical Framework to design practice, the pilot session

revealed that the focus should be orientated towards developing the **skills and competencies** necessary to conduct the analysis more thoroughly, and to **clearly demonstrate the relevance and benefits** of its implementation to sPSS design in practical and tangible terms.

- **Session Content and Flow**

Participants provided very helpful feedback in terms of how the session was conducted, the activities undertaken and the session length. There was consensus about the issue of the limited time provided, both to grasp semiotics concepts and to conduct the activities and to reflect upon the usefulness and purpose of the session.

'It might be worth to allow more time for the activities but also to wrap up the session.'

'We need more time for the workshop, also to analyse.'

'Manage time better, although I realise how difficult this is given the richness of the material. It would have been good to have more time for the final discussion at the end. Maybe allocate more time for the next one?'

However, it was expressed that the session was, overall, well conducted, engaging and useful.

'Content was explained and demonstrated well. I was very clear on what I was supposed to be doing.'

'Overall the presentation was good, clear and straightforward.'

'Positive that it was a workshop and not just info.'

In summary, the findings about the format and content of the session indicate that a lecture-plus-workshop format worked well. However, contents might need to be delivered with more time, introducing concepts and providing activities to build on them over several consecutive sessions.

5.2.3 Discussion

The Pilot Study clarified two important points:

1. The methods were perceived as ‘designer-friendly’ and do not need much adaptation. However, it may be desirable to develop certain ‘aids’ (tools or templates) to facilitate this kind of understanding during the design process.

While the main findings highlight that designers are able to use these methods without special adaptation, the connection between ‘design intention and interpretation’ – i.e. how symbolic value may affect the value and perception (and therefore potential uptake) of their output is weak. Without this understanding, it is difficult for designers to see value in strategically elaborating symbolic features for sPSS. This point, therefore, confirms the findings of the PAR session conducted earlier in the research, as reported in Chapter 4, section 4.3.2

2. There is a need for sustainable designers to acquire and develop certain critical principles, theories and skills to be better equipped to deal with the socio-symbolic impact of their output. The focus should be on developing capacity and understandings, rather than on methods and tools.

This evidence highlighted the importance of incorporating theories and methods into the educational design curriculum, in order to *build* designers’ critical capacity – rather than just methods and tools – to *understand, map* and *strategically incorporate* socio-symbolic and cultural meanings as part of the design process.

5.2.4 Pilot Study Conclusions

As a first step, a Pilot Study was conducted to inform the Main Study design. The objective was, first and foremost, to gain understanding of how designers would respond to using applied semiotic methods in practice, and to what extent these methods would need adapting for use in a design context.

The pilot identified the following two key issues:

- On the one hand, designers found the approach (semiotics) original, relevant and interesting, but a bit difficult to grasp. However, they enjoyed the activities and found the methods easy to use.
- On the other hand, it was identified that the framework’s value to support design practice needed further clarification (where does it fit in, and how specifically does it help?). Empirical evidence to back the anticipated benefits to stakeholders was

also highlighted as an important factor to encourage designers to incorporate these methods into their practice.

5.2.4.1 Implications for next research steps

These important findings contributed to informing the design of the PAR interventions planned for the Main Study. It was decided that it would be valuable to start by challenging the framework through application in real-life scenarios to improve its robustness, build case studies of its application and obtain empirical evidence of its value to stakeholders.

Other practical considerations for further research were as follows:

- Allow more time for activities (workshop) and for concept-grasping
- Incorporate more case studies/examples to illustrate concepts and benefits of using the method
- Adapt/contextualise framework to purpose and design agents' language (designers, social entrepreneurs, policymakers, etc.)
- Shift research focus from building elaborate tools to finding ways to build capacity and skills

Further to what the Pilot Study revealed, what remained unanswered was what specific methods (from all existing applied semiotics and cultural analysis tools) were most adequate for the implementing the framework's recommendations to practice.

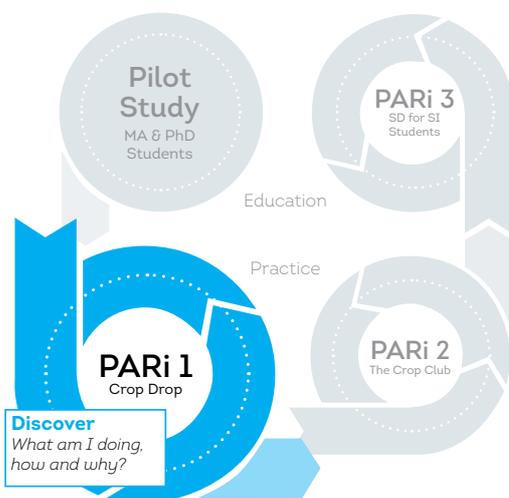
5.3 Main Study Participatory Action Research

As previously noted in section 5.1, the study responds to Objectives 4 and 5 of this research. As such the objectives were:

- To develop practical means for implementing the *Con[text]* framework, so that it can be used alongside existing design processes and tools
- To raise awareness among designers and social entrepreneurs of the sociocultural and symbolic aspects of consumption, highlighting the opportunities for design to legitimise values and social practices that underpin sustainability and well-being

The study was planned as a series of interventions, resulting in three cycles of Participatory Action Research (PARI) that assessed the impact of the framework at different stages of sPSS development. The first two cycles were implemented in the context of design practice, by engaging with social enterprises (PARI 1 and 2). The third cycle was situated within design education, where the researcher engaged with students in Service Design for Social Innovation (PARI 3). As outlined in Chapter 3, section 3.2.3.4, the cycle was structured as a four-step process: Plan, Implement, Evaluate and Reflect. Cycle progression and participant selection were driven by the learning obtained between cycles (see Chapter 3, section 3.2.3.5). Therefore, learning and recommendations are reported at the end of each cycle in order to inform the next steps of the research. The following sections describe the progression of the investigation through all PARI cycles.

5.3.1 PARI I – Discovering the Method



This study constitutes the first of three PAR interventions (PARI).

The aim was to extract a record of the processes, methods and tools used by the researcher while applying the framework’s *Decode* (cultural context research) and *Encode* (value proposition framing) phases recommendations to practice.

Research plan

The first cycle aimed to ‘discover’ practical means to conduct contextual research for the purpose of sPSS and similar innovation design. Furthermore, it was necessary to consider the practical and the design management aspects required to introduce these methods for design research in a bottom-up, social enterprise context.

The *research* objectives for this cycle were as follows:

- To identify means to conduct contextual analysis based on semiotic methods, while following the *Con[text]* conceptual framework recommendations
- To assess, in the context of design practice, the relevance and value of the framework as a lens to understand users and their sociocultural context
- To consider the practical and the design management aspect requirements and implications of introducing these methods in a grassroots social enterprise context

Criteria for participant selection

In order to meet the objectives of this study, and in line with the criteria for participant selection discussed in Chapter 3, sections 3.2.3.5, the researcher identified Crop Drop as a suitable participant to provide a collaborative setting for the joint elaboration of the diagnosis of the situation, and the nature of the change to be implemented through design intervention.

Crop Drop is a vegetable box scheme that operates in the London Borough of Haringey, and is part of the Growing Communities Hackney network, a non-profit organisation dedicated to promoting local and sustainable food production and consumption. These social enterprise initiatives provide people with access to more sustainable ways of consuming fresh produce, reducing the carbon footprint generated by production and transportation in comparison with that offered by supermarkets, for example. Eating seasonally and locally also strengthens links between producers and consumers, reduces waste and improves local growers’ livelihoods and the biodiversity of the local area. This venture model can be categorised as a Product-orientated PSS (2.3.1.1) because users subscribe to a provision service in order to obtain the product.

The fact that the business owner (participant) was already relatively knowledgeable of the context and the PSS value proposition, and had explored most other traditional methods to understand customers (e.g. surveys, focus groups) made her suitable to quickly judge the value of the framework to reveal new and relevant knowledge. Moreover, as the business

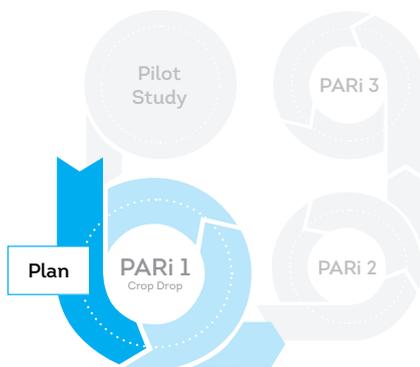
was already operational, the researcher was freed of engaging with service design and implementation issues and could focus fully on the elaboration of the theory by entering a ‘discovery mode’ – i.e. the collection, creation and *assemblage* of tools and processes to implement cultural research and analysis. For these reasons, and due to ease of access (3.2.3.5), Crop Drop presented a good opportunity to engage in PAR at a local, community level. Upon invitation, the participant accepted to explore collaboration on the basis that she felt some strategy would benefit the business, as she was struggling to attract a sufficient number of customers. This laid the ground perfectly for PARi 1 action. During this study, the researcher worked with the founder of Crop Drop (Figure 5.3) for a total period of nine months on a once-a-week basis.



Figure 5.3 – Crop Drop. Local, non-profit social enterprise

Data collection and analysis methods – Details are described in Chapter 3, section 3.2.3.6.

5.3.1.1 Plan (Step 1)



As previously outlined (Chapter 3, section 3.1.1), the planning stage allows the researcher to familiarise herself with the business, set objectives and plan the intervention ‘action’ and ‘research’ aspects (data collection and analysis) jointly with the participant.

Familiarise

An informal meeting was arranged between the participant and the researcher to get to know each other, discuss the purpose of the intervention and set research goals and action objectives for PAR intervention.

Prior to the meeting, the researcher provided the participant with the scoping questionnaire, designed to gather business background information such as product category and competitors (see Appendix C1).

At the first meeting (Figure 5.4), the questionnaire and other existing documents (publicity material, customer feedback previously collected online, existing business and marketing plans) that the participant brought with her were discussed and analysed. Incomplete parts in the scoping questionnaire and other information gaps were discussed in verbal form and audio-recorded. Notes on emergent issues and preoccupations were jotted down, and ‘first issues’ to be addressed were picked out.



Figure 5.4 – Familiarising and planning with the participant

The researcher introduced to the participant the concept of sPSS, and showed her a range of commonly used tools in 'design thinking' (service blueprint, customer journey, stakeholders map and user personas). Out of all these, the participant considered the service blueprint and customer journey map as helpful tools to map/structure business processes. The conceptual framework was also briefly introduced as a 'context mapping' tool – a research method to better understand users and her business context. It was necessary to explain how these methods differ from more conventional market research methods (e.g. surveys, focus groups) and what could be obtained (tacit sociocultural 'clues' that influence a customer's choice).

The participant expressed an interest in exploring 'context mapping', in the hope that this intervention could help her make better-informed decisions and devise strategies for growing the business. The participant was open about her expectations:

'I want to sell more of the bigger bags because they are more profitable. I would like to attract to more families, perhaps, because I think they need more produce.'

Setting objectives

In order to evaluate the impact of the action and the effectiveness of the research, the following objectives were set:

The *action* objectives:

- **To structure business operations**, resources and capacities, using existing service design tools/templates (Appendix G), over a collaborative platform
- **To research context**, guided by the framework's Decode phase (context mapping)
- To produce design trials that incorporate insights drawn from the contextual research, guided by the framework's Encode phase (incorporating codes into design)

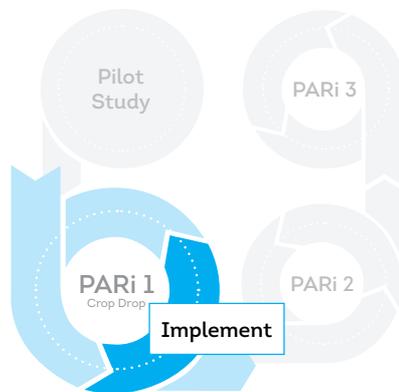
Action plan

A plan for intervention was set around the *action* objectives, as illustrated in Table 5.1.

What	Why	How
a) Structure business operations, resources and capacities	Understand current and future operations. Size capacities and resources needed to serve more customers	Create a service blueprint and customer journey map, using existing service design tools/templates
b) Research context and adjust business model/proposition in light of results	Find out if current offer and service structure is contextually relevant or should be adjusted	Map the context using the framework's recommendations (Decode phase)
c) Produce design trials that incorporate findings from the research	Explore how framing the offer differently can affect its perceived value	Redesign key service touchpoints using the framework's recommendations (Encode phase)

Table 5.1 – PARI 1 cycle Action Plan

5.3.1.2 Implement (Step 2)



The intervention was implemented following the Action Plan (Table 5.1), as follows:

a) Structure business operations, resources and capacities

As a first step, the researcher created a service blueprint using sticky notes (Figure 5.5), a method widely adopted in service design practice (see Chapter 2, section 2.3.2, and Appendix G).

This quick draft was later formalised online, using the free collaboration platform *RealTimeBoard.com* (Figure 5.6), where existing and 'wished' operations, the customer journey and service touchpoints were mapped. The online platform allowed all participants to edit and update the service blueprint at their convenience.



Figure 5.5 – Service blueprint mapping

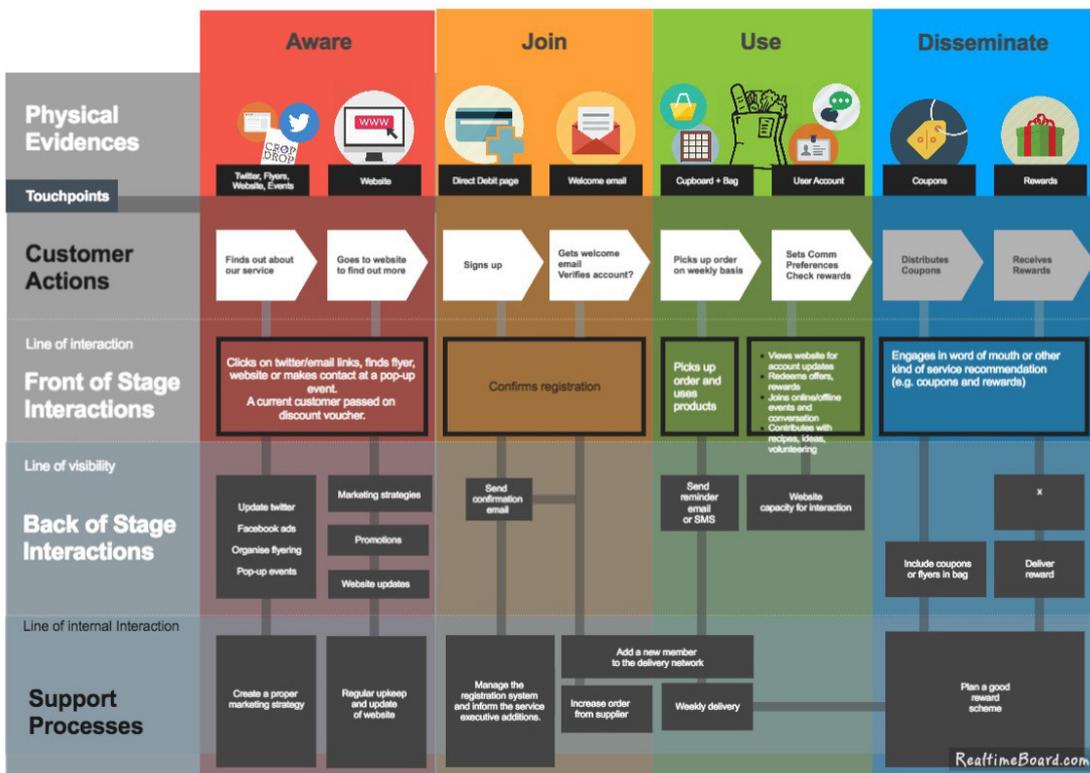


Figure 5.6 – Service blueprint further developed online, using collaboration platform RealTimeBoard.com

As a second step, the service touchpoints were located and categorised (Table 5.2) using the **customer journey** structure as mapped in the service blueprint (Figure 5.7):



Figure 5.7 – Service touchpoints categorised through the customer journey

Customer Journey Stage	Aware	Join	Use	Bond
Touchpoints	<ul style="list-style-type: none"> Local publicity Social media 	<ul style="list-style-type: none"> Website Welcome letter 	<ul style="list-style-type: none"> Collection point (cupboards) Delivery bags 	<ul style="list-style-type: none"> Social media Volunteering

Table 5.2 – Crop Drop’s service touchpoints

In line with the participant’s expectations of attracting new users, it was decided that the touchpoints within the ‘Aware’ and ‘Join’ phases were a priority for attention. That posed a good opportunity to implement the *Con[text]* research intervention, to better understand potential users’ needs and aspirations prior to embarking into touchpoint redesign.

b) Research context and adjust business model/proposition considering results

Once the business structure and operations were organised, the researcher could start the contextual analysis, following the framework’s Decode phase (Figure 5.8). The aim was to identify and map the most relevant ‘cultural codes’ (implicit verbal and visual clues) with potential to appeal to a wider range of potential users than the Crop Drop’s customer base. In preparation for conducting the analysis, both the participant and the researcher gathered existing data (multimodal resources) according to the plan: i.e. visual materials related to her industry and others that she considered relevant to her business (news clippings, photos, adverts, website screenshots, book covers, magazines images, billboard

ads, pictures of products, packaging, delivery vans, etc.). This formed an initial ‘data set’ for contextual analysis (see Appendix C3).

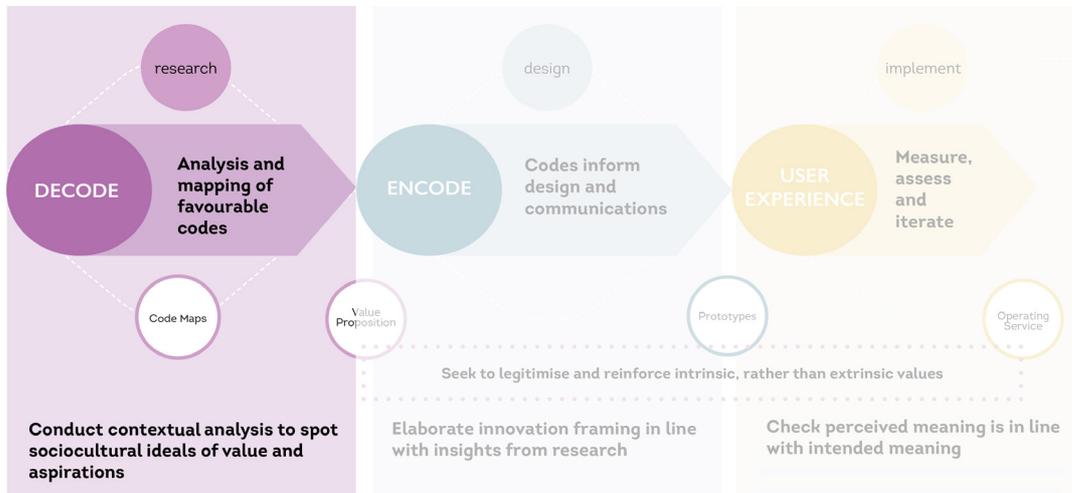


Figure 5.8 – Conceptual framework ‘Decode’ phase

The researcher recorded the framework’s implementation process as a series of activities:



Figure 5.9 – Decode: Global level

Activity 1 – Identifying macro societal change in trends, values and meanings

Following the framework’s guidelines, the analysis started by mapping meanings at global level (Figure 5.9). In this case, this meant to map the meanings of the food category at its broadest level to understand generic meanings, trends and associations related to food consumption as a social practice, and to identify the position of Crop Drop’s offer within this category.

By asking the question: ‘*what is food about?*’ the intention was to make explicit some unconscious

‘assumptions’ (associations and meanings) about food consumption. These are implicit, rather than explicit because they have been ‘naturalised’ or ‘normalised’ through socialisation processes (p. 41). To this task, the data set of semiotic resources (previously gathered by the researcher and the participant) was categorised under two broad overarching themes: *nutrition* and *pleasure*.

By analysing the representations of food, it was found that, at one end of the spectrum, food was represented as nutrition – its most *factual* level, as a necessity for human survival.

However, at an emotional, visceral level, food is also associated with the *pleasure* derived from satisfying that need. To understand how people might derive behavioural attitudes related to these conventions, a lens that considered ‘users as social beings’ was used. This lens prompted the observation that the ‘pleasure of eating’ can be enjoyed *alone*, or *together* with others, further breaking down the category in more specific ‘subcategories’ or themes.

Mapping cultural stereotypes and myths (dominant expressions)

These four concepts (nutrition–pleasure, together–alone) were used to form an axis based on Greimas Semiotic Square model (p. 95), with the intention to uncover naturalised myths and cultural dilemmas by building on four logical relations. Next, stereotypical representations (relevant to the UK) were placed in each quadrant to illustrate the notions between the quadrant polarities – i.e. ‘nutrition–alone’, ‘nutrition–together’, ‘pleasure–alone’ and ‘pleasure–together’. Guided by the stereotypical representations, and asking ‘it feels like . . .’ each quadrant was labelled (Table 5.3). The label concepts were further elaborated into more detailed descriptions of the characteristics associated with each concept.

Polarity	Represents	Associations	Frequency
Nutrition–Alone	Wholesome	Authentic, natural, energising, restorative, healthy	Habitual
Nutrition–Together	Convenience	Habit and routine, unavoidable chore, necessary	Habitual
Pleasure–Alone	Indulgence	Treat, self-indulgence, letting go, ‘me time’, naughty temptation	Occasional
Pleasure–Together	Special	Celebration, quality, luxurious, sleek, well-presented, tempting	Occasional

Table 5.3 – Semiotic categorisation of food ‘meanings’ as polarities

Last, Crop Drop was positioned within the Broad Category Map axis, to consider its perception from the point of view of potential customers in relation to other market offers (Figure 5.10).

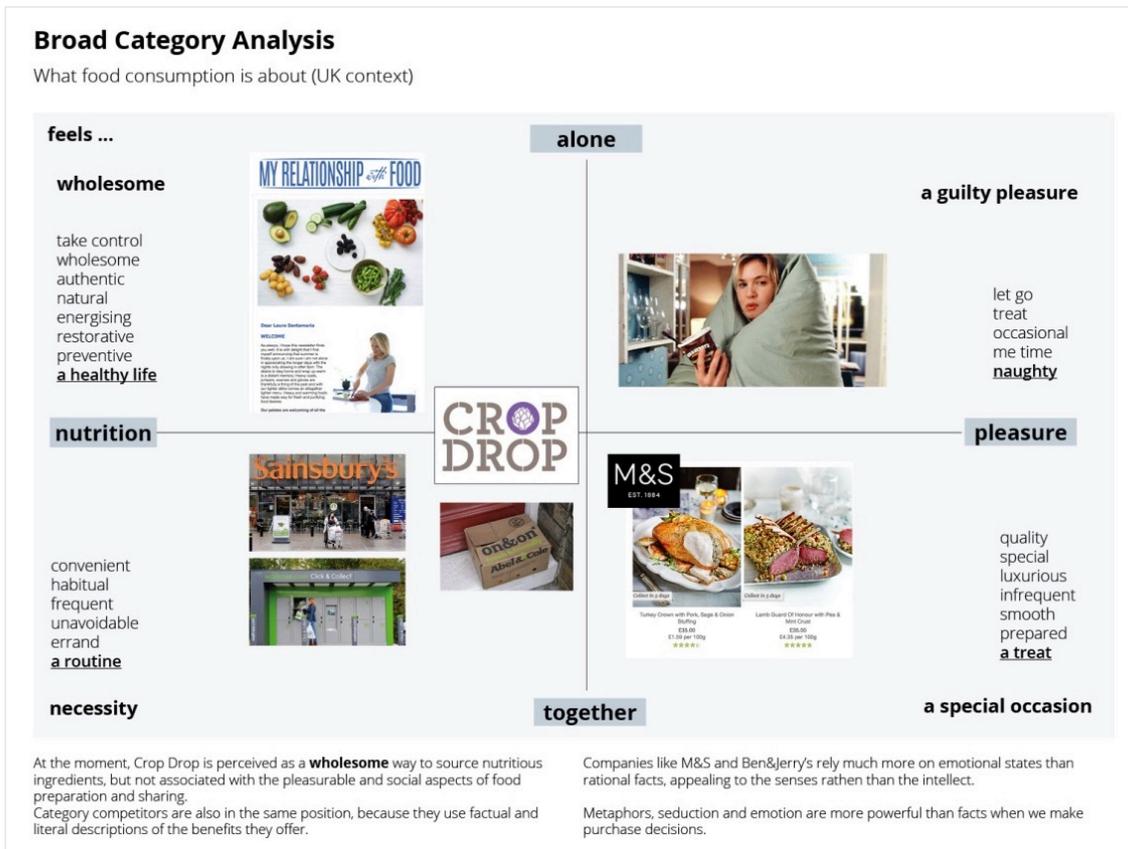


Figure 5.10 – Broad Category analysis axis

It clearly emerged that Crop Drop is positioning itself as a convenient way to access ‘wholesome’ foods. As this is Broad Category analysis, it is necessary to break it down further by considering these aspects more closely.

DECODE

Conduct contextual analysis to spot sociocultural ideals of value and aspirations

Global Level – Map macro societal change in trends, values and meanings

Local Level – Map contextual codes (local take on global trends and meanings)

Map **position** with respect to **competitors**

Identify **emergent codes** in consumer culture and relevant category

Explore **codes across categories** to discover relevant stretch stimulus based on most relevant codes

Figure 5.11 – Decode: from global to local

Activity 2 – Mapping local take on global trends and meanings

Mapping the oppositional paradigmatic expressions

The second step is intended to analyse how global meanings are represented at local level (Figure 5.11). Very relevant in a globalised culture is to understand how these associations influence values and behaviours. Crop Drop is rightfully claiming to be a local supplier. It is therefore interesting to consider how the global comes to be represented in Crop Drop’s specific context of operation. Being local means,

by opposition, not being global. Therefore, the ‘wholesome’ meaning was first mapped on a spectrum ranging from the global (widespread or mainstream) to the local, adding some visual references (representations of offerings) at each end of the spectrum (Figure 5.12). Observing those references closely and analysing their similarities made evident that the *global* offers are about ‘ease of access’ and ‘convenience’; and that the *local* expressions offered ‘speciality’, ‘crafted’ and ‘artisan’ (quality and personalisation) in opposition to the commoditised global offers.

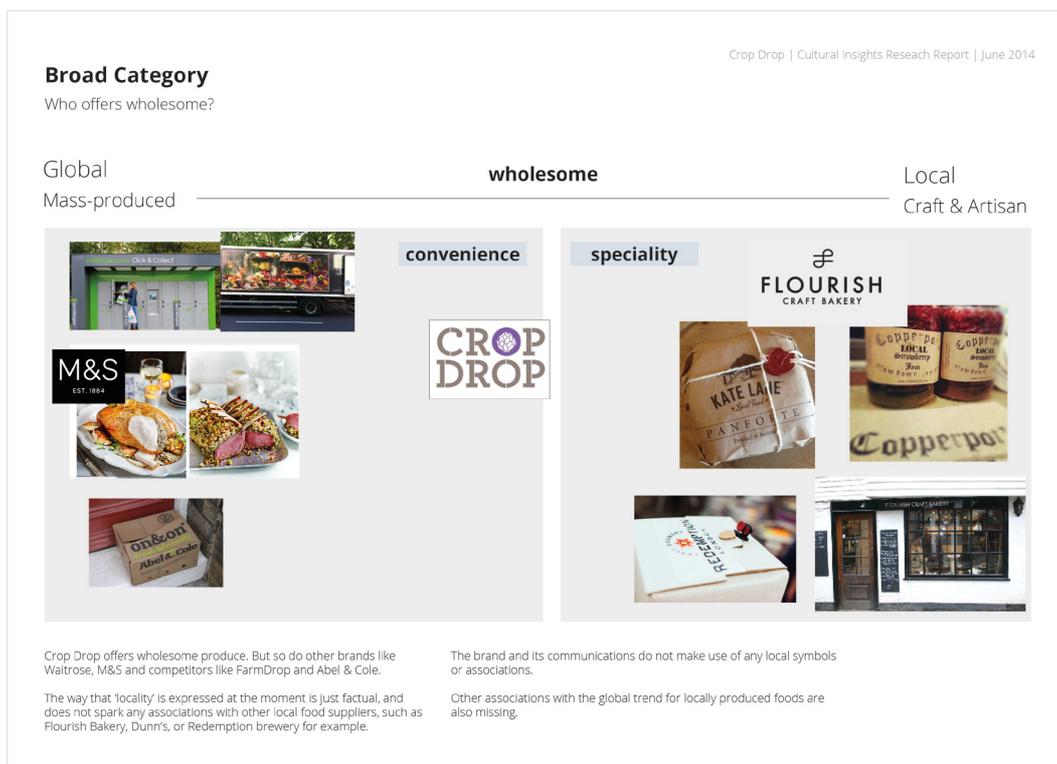


Figure 5.12 – Mapping the Global-Local expressions of wholesome as value propositions

Activity 3 – Defining the ‘Local’ paradigm

Next, the global-local opposing paradigmatic positions were explored, by mapping the underpinning values and possible network of associated concepts that people may have come to acquire through past experiences, hearing other people and in the media. As these associations are triggered instantly and almost always unconsciously by stimuli (visual or other) (see Chapter 2, sections 2.2.4 and 2.1.6), by deconstructing them they are made explicit and exposed.

For this purpose, the ‘binary opposition’ semiotic operation was employed (Table 2.5). It places main concepts at the top, and deconstructs the ‘implied, tacit and naturalised’

meanings and cultural associations by listing related concepts of both paradigms (Figure 5.13).

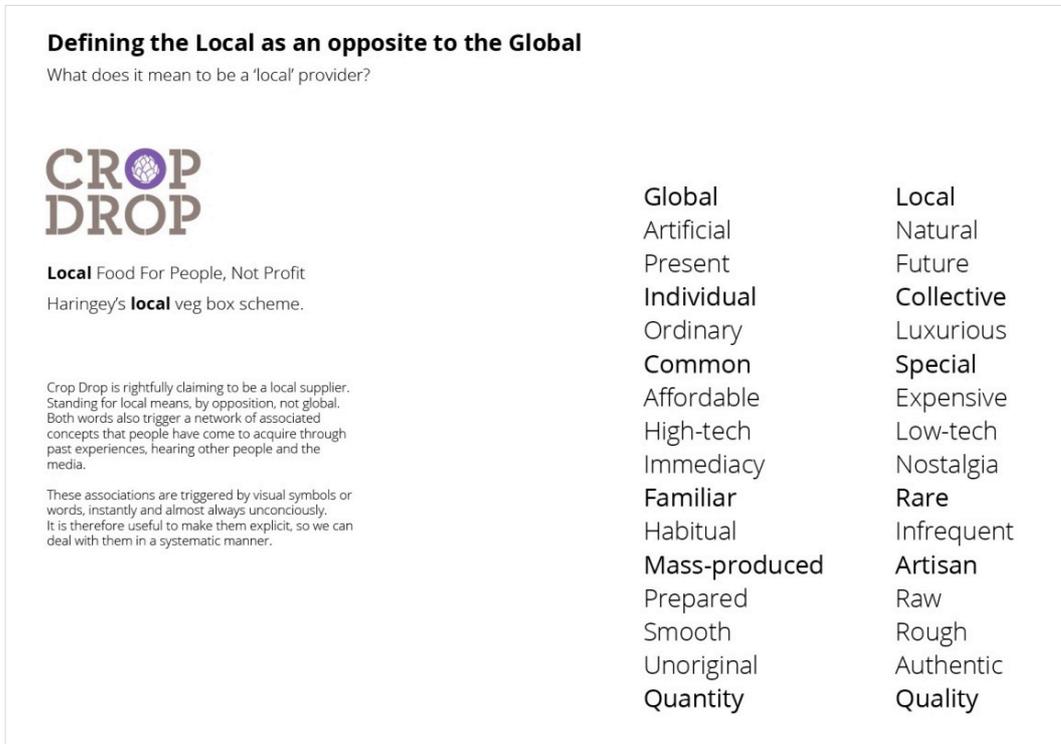


Figure 5.13 – Paradigmatic associations

DECODE

Conduct contextual analysis to spot sociocultural ideals of value and aspirations

Global Level – Map macro societal change in trends, values and meanings

Local Level – Map contextual codes (local take on global trends and meanings)

Map **position** with respect to **competitors**

Identify **emergent codes** in consumer culture and relevant category

Explore **codes across categories** to discover relevant stretch stimulus based on most relevant codes

Activity 4 – Mapping positioning against category competitors

For this step, an axis was used to map category positions (Figure 5.14). Four ‘factors’ that shape this category were used to map positions in the axis:

Limited Choice vs Wide Choice; Aspirational vs Convenience.

Due to its position as a start-up enterprise, Crop Drop is only able to offer a much more limited range of products than other competitors, i.e. schemes/brands offering a similar system/product. However, if it is assumed that people need other groceries besides

vegetables, this weakness could be turned around by ‘elevating’ the perception of the offer to ‘a special selection of quality vegetables’. To do that, it becomes necessary to reposition

the brand away from the 'convenience' space (where it currently competes badly with the global offers), and towards the 'speciality' end of the spectrum (Figure 5.15).

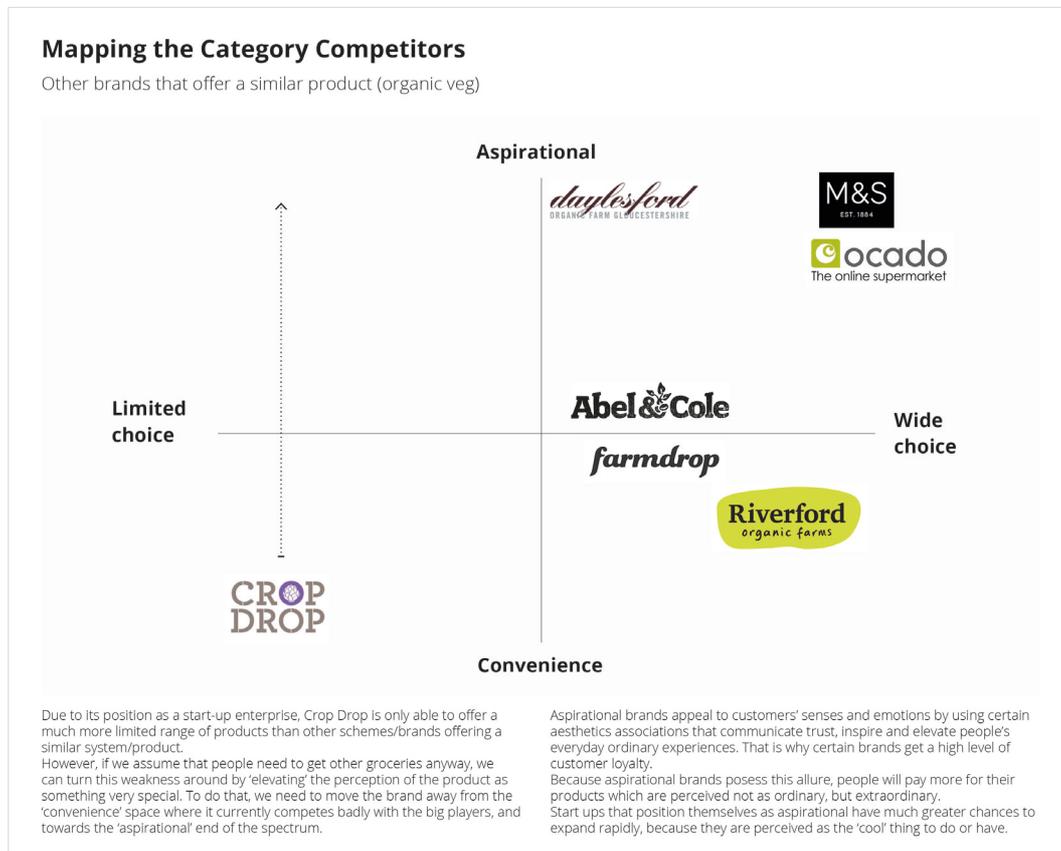


Figure 5.15 – Category competitors mapping

Aspirational brands appeal to customers' senses and emotions by using certain aesthetics associations that communicate trust, inspire and elevate people's everyday ordinary experiences. It is the *symbolic value* of the brand as expressed through semio-aesthetic associations that makes them aspirational. Therefore, people are willing to pay more for their products, which are perceived not as *ordinary*, but *extraordinary*.

Start-ups that position themselves as aspirational have much greater chances to expand rapidly, because they are perceived as the 'cool' thing to do or have.



Figure 5.16 – Decode: emergent codes

Activity 5 – Exploring emergent codes in consumer culture and relevant category

Next, the emergent codes for the category were explored (Figure 5.16) by conducting a diachronic analysis – i.e. the changing meaning of *artisan* and *local* concepts in culture.

Meanings are not fixed entities, and as cultures are always in flux; discursive frames and representations of values are constantly evolved and transformed by producers and users (p. 43). Consequently, within any cultural moment, Residual, Dominant and Emergent expressions coexist as varied expressions of the same

concept represented in different styles. Hence the concept of what is considered ‘contemporary’ or ‘fashionable’, and what is not. Figure 5.17 illustrates the Residual, Dominant and Emergent analysis of artisan and local food representations. Crop Drop appears to be placed in the Residual space, which means that it might be perceived as slightly dated compared to competitors.



Figure 5.17 – Residual, Dominant and Emergent expressions of artisan and local

DECODE

Conduct contextual analysis to spot sociocultural ideals of value and aspirations

Global Level – Map macro societal change in trends, values and meanings

Local Level – Map contextual codes (local take on global trends and meanings)

Map **position** with respect to **competitors**

Identify **emergent codes** in consumer culture and relevant category

Explore **codes across categories** to discover relevant stretch stimulus based on most relevant codes

Figure 5.18 – Decode: related categories

Activity 6 – Exploring related categories’ codes

As discussed in Chapter 2, section 2.1.2, in general terms, people make coherent choices within different areas of their lives, guided by the values they hold (Wolsko et al., 2016). Consequently, eating wholesome, local and speciality vegetables expresses values in just one aspect of their consumption practices – i.e. it is only ‘a piece of the puzzle’ that ‘fits’ among many other pieces (brands, practices) to form a person’s lifestyle and identity. The purpose of exploring related categories (Figure 5.18) is to gain a

wider understanding of the related ‘pieces of the puzzle’. Its purpose is twofold: first, to identify the discourses and representations that the others in the same ‘space’ (especially the successful ones) are using, in order to map ‘codes’ (favourable associations) that could be useful to potentially enhance Crop Drop’s value proposition. Secondly, the exercise can

help spot opportunities for partnership and collaboration with like-minded organisations that might not have been obvious before.

Exploring related expressions of ‘speciality’ and ‘authenticity’ as a global trend

Along with the vintage movement, the craft beer phenomenon is one of the largest and most successful global trends of local expression across cultures (Figure 5.19). Both are associated with a trend towards the artisan and bespoke, nostalgia towards a pre-mass consumption and pre-globalisation era, underpinned by the pursuit of personalisation and individualisation as a response to generalisation and standardisation.

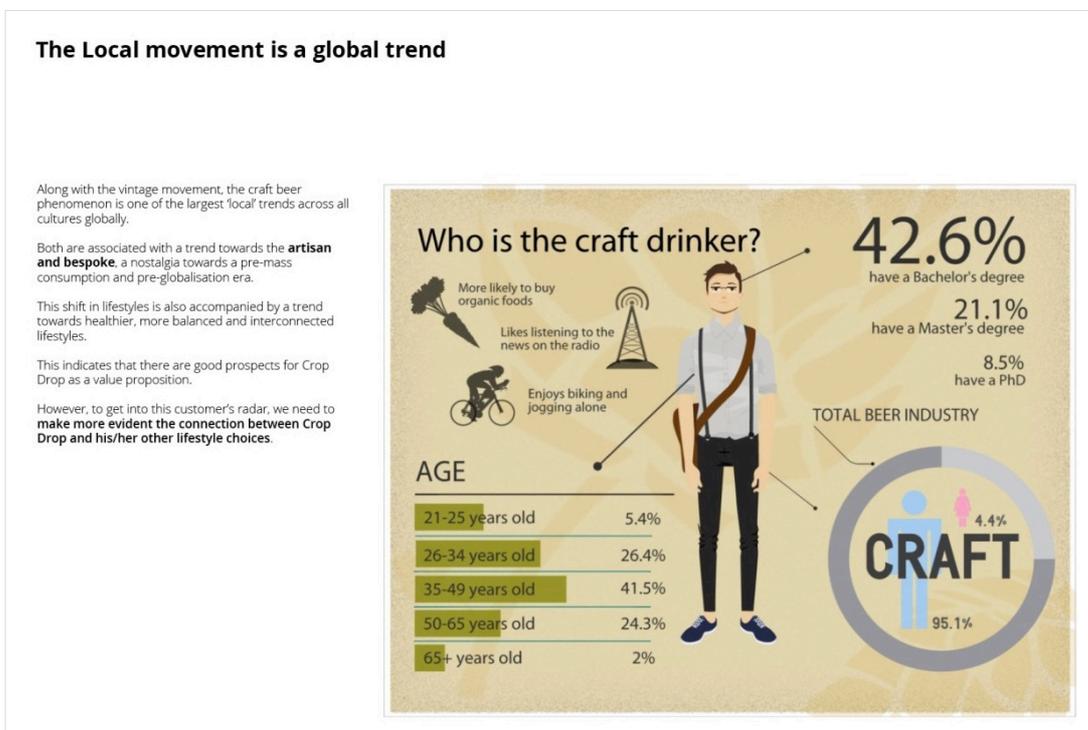


Figure 5.19 – Exploring related categories: craft beer is a global trend of local expressions

Consequently, the shift in values is expressed by a trend towards healthier (natural vs artificial), more balanced (richness and diversity) and interconnected (making sense with others) lifestyles. This indicates good prospects for Crop Drop’s offer. In fact, Crop Drop is already expressing literally these values; however, it might be necessary to reframe the offer to fit the user group’s expectations and ideals of ‘quality’ and ‘speciality’ more closely.

Activity 7 – Identifying potential user groups

Exploring customer groups, and spotting which group’s values align closer to Crop Drop’s offer

Crop Drop wants to sell a larger volume of veg (or larger bags). Therefore, secondary research was conducted to gain insight into the neighbourhood population, trying to identify which households are more likely and willing to eat veg on a more regular basis, but also open to the concept of eating seasonal, unconventional veg, which means they are resourceful and creative with their cooking.

Borough statistics were consulted and four customer types were profiled, using statistical figures and illustrative ‘persona’ stereotypes (Figure 5.20): Singles and Young Couples, Young Progressive Families and Settled Families, subdivided into lower-middle and middle-higher income groups. From the four groups, it was decided that the ‘Young Progressive Families’ were a good match to Crop Drop’s value proposition. The participant considered this group to be a ‘natural progression’ of her largest customer group, the ‘Singles and Young Couples’.

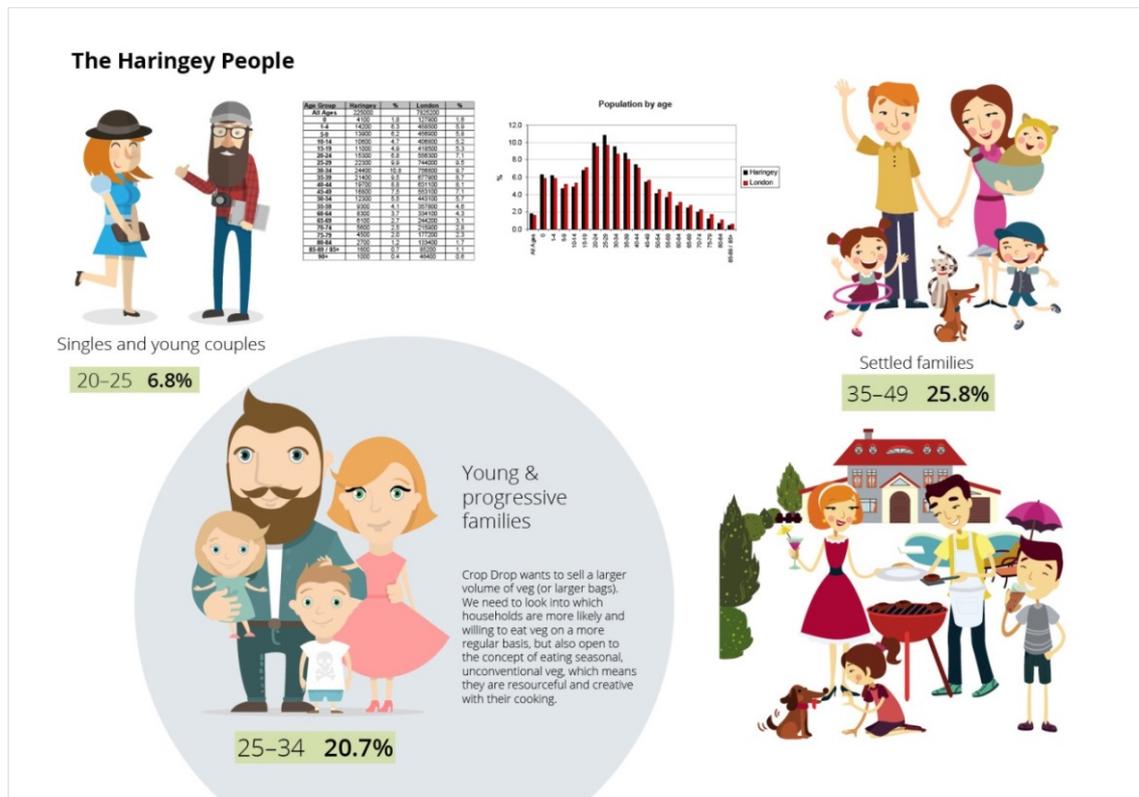


Figure 5.20 – Potential user group stereotypes

Activity 8 – Mapping the target group codes

Understanding users' lifestyle 'puzzle'

Stereotypes are widely used both in marketing (customer profile) and service design (user persona). Personas are descriptive examples of typical target groups who have similar aims, motivations and behaviours, and can be elaborated at different levels of complexity (Massanari, 2010). They are a good tool for human-centred approaches where the user is the focus and empathy is key to understanding their needs (T Brown, 2009).

In general terms, social innovations will conduct user research and draw these profiles to summarise insights. In this instance, we were interested in mapping the lifestyle choices that are popular within our target user group, i.e. other brands and social practices that users have incorporated into their lifestyles, because these carry the symbolic meanings that define this specific group's social identity. **These clues are most important to understanding how this user group constructs their social identity through consumption** and constitute the data to be analysed in order to extract the codes that regulate this particular group. To be perceived as relevant, any innovation intended to appeal to this group must be perceived as 'fitting' within other choices, and meet this user group's semio-aesthetic expectations.

Therefore, the advantage of mapping the users' lifestyles visually, beyond being useful for understanding what these users are interested in, is how the choices they make are represented and how these symbolic meanings are constructed (through visual and other codes).

Figure 5.21 illustrates the case. The collection of images on the right of Figure 5.21 are '**signifiers**' of this customer group's cultural codes – which bind them together and as a social group, but also apart from other groups by means of a differentiated **aesthetics**, **values** and **practices** expressed in these representations (Bourdieu, 2010). These codes need to be mapped and analysed in detail, and should inform the value proposition and service design in order to make it relevant and appealing to this user group.

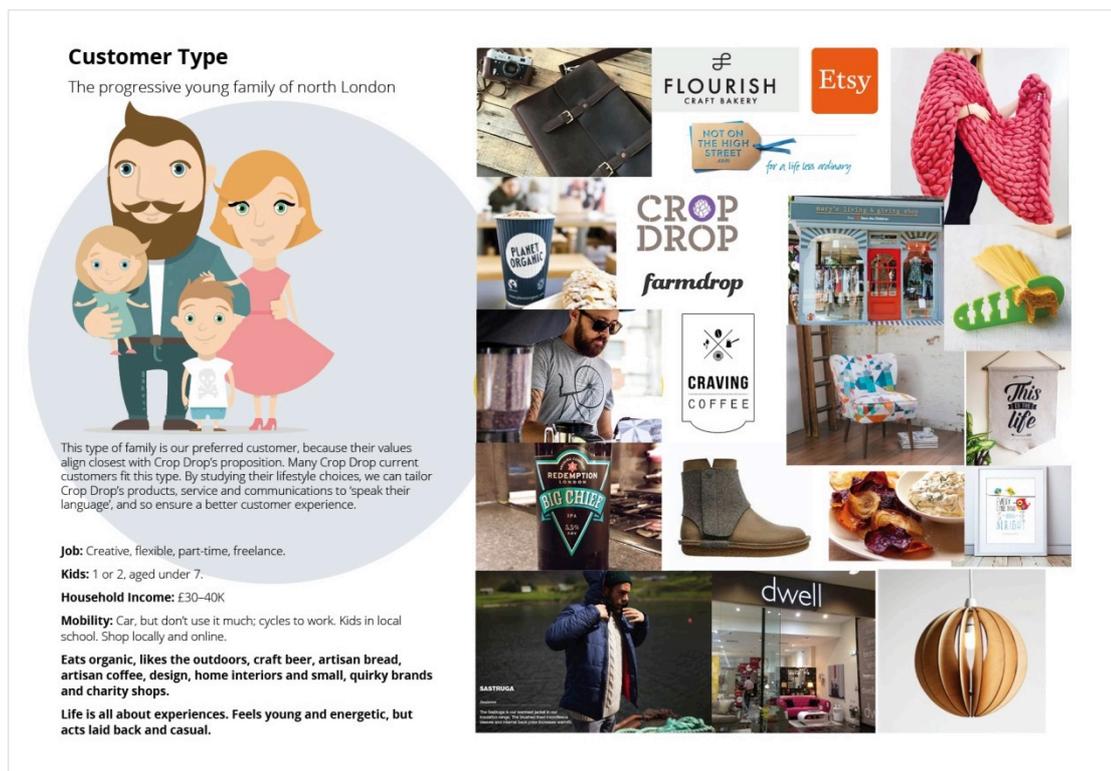


Figure 5.21 – Visual mapping of lifestyle choices

By understanding these codes, it was possible to begin drawing some strategies to frame Crop Drop's offering to fit more closely to the user group's expectations and aspirations.

Activity 9 – Producing a reference 'Contextual Code Map'

The visual references mapped in the previous step were analysed, deconstructing them and classifying them into three groups: *Aesthetic Codes* related to matters of style and taste (Figure 5.22), *Valued Lifestyle Practices* related to what is normal and enjoyable to do for people in this group (Figure 5.23), and *Appreciated Values* related to the underlying values associated with quality of life (Figure 5.24). From the analysis of each group, themes of signifiers (representations) emerged, and these are illustrated with explicit examples so that they can serve as reminders of how each 'theme' is manifested in this particular context.

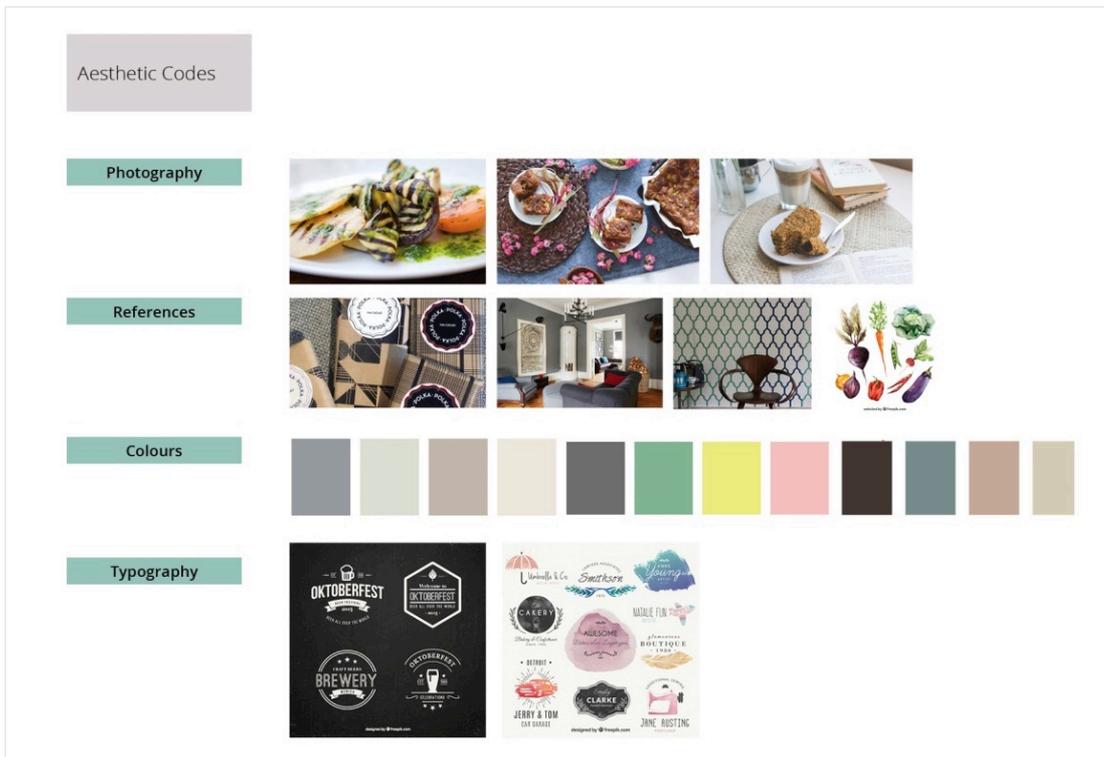


Figure 5.22 – Aesthetic codes mood board showing sample signifiers

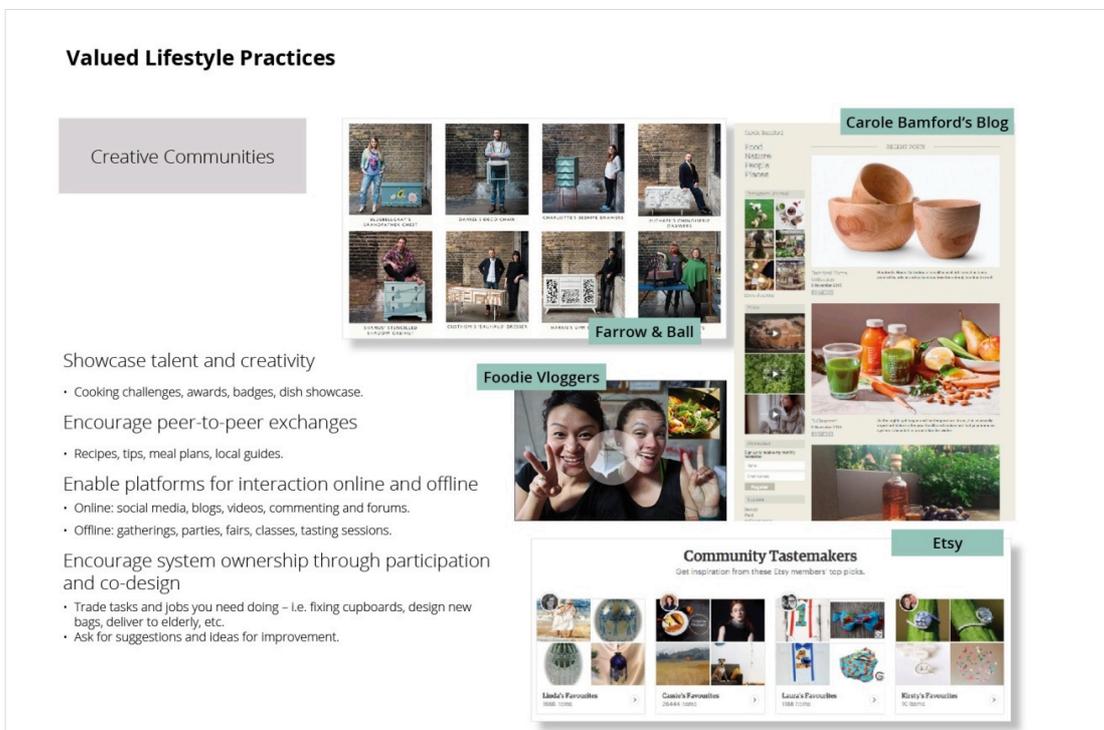


Figure 5.23 – Valued practices of the 'in-group'

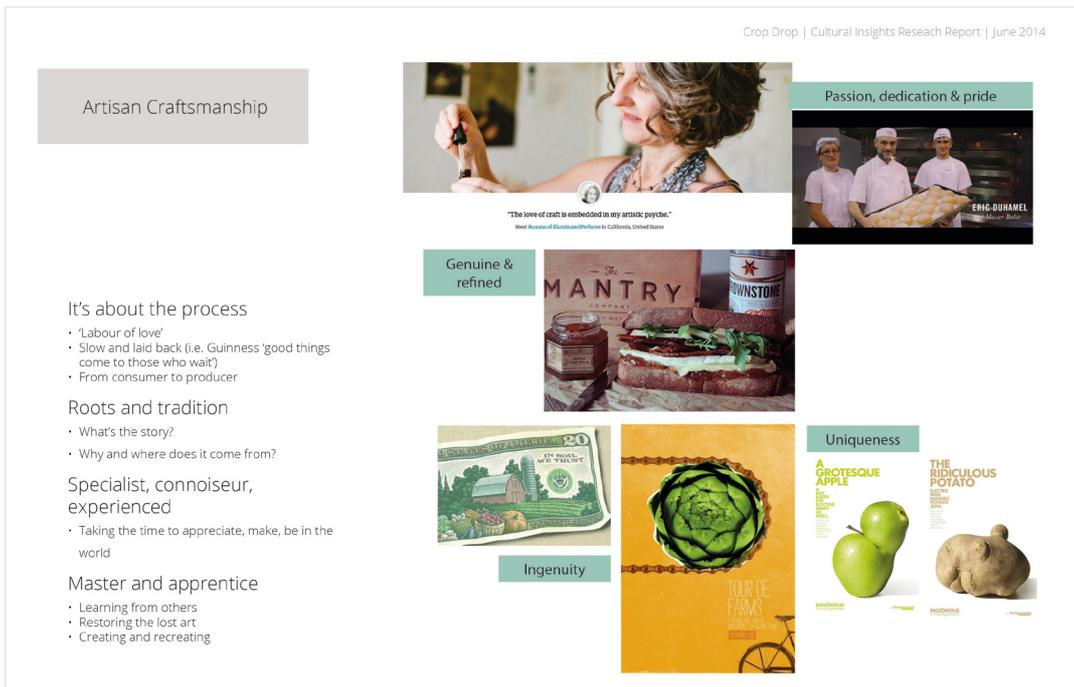


Figure 5.24 – Underlying values associated with 'quality'

Activity 10 – Summarising insights

As a last step, a summary was produced and titled 'recommendations' to be followed up in the Encode phase (Figure 5.25).

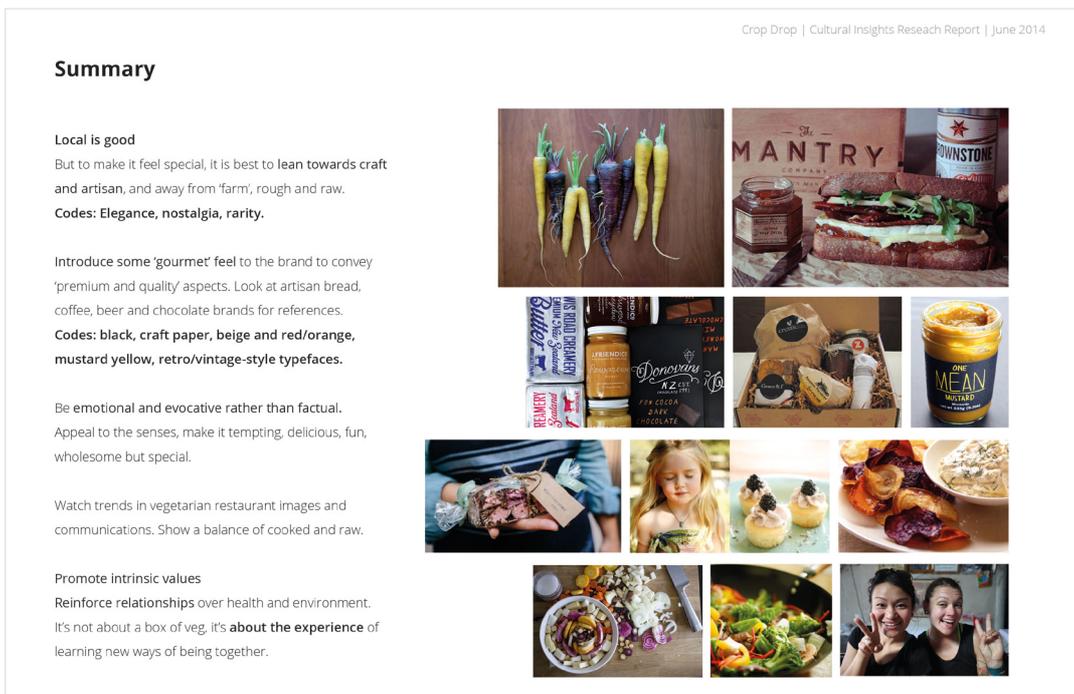


Figure 5.25 – Summary recommendations

c) Produce design trials that incorporate findings from the research

The redesign exercise represents the ‘Encode’ phase of the framework (Figure 5.26), by incorporating insights collected through the contextual research and code mapping into design trials or prototypes. The aim was to bring the service touchpoints in line with the favourable codes identified through the analysis to improve the sPSS visibility, credibility and appeal.

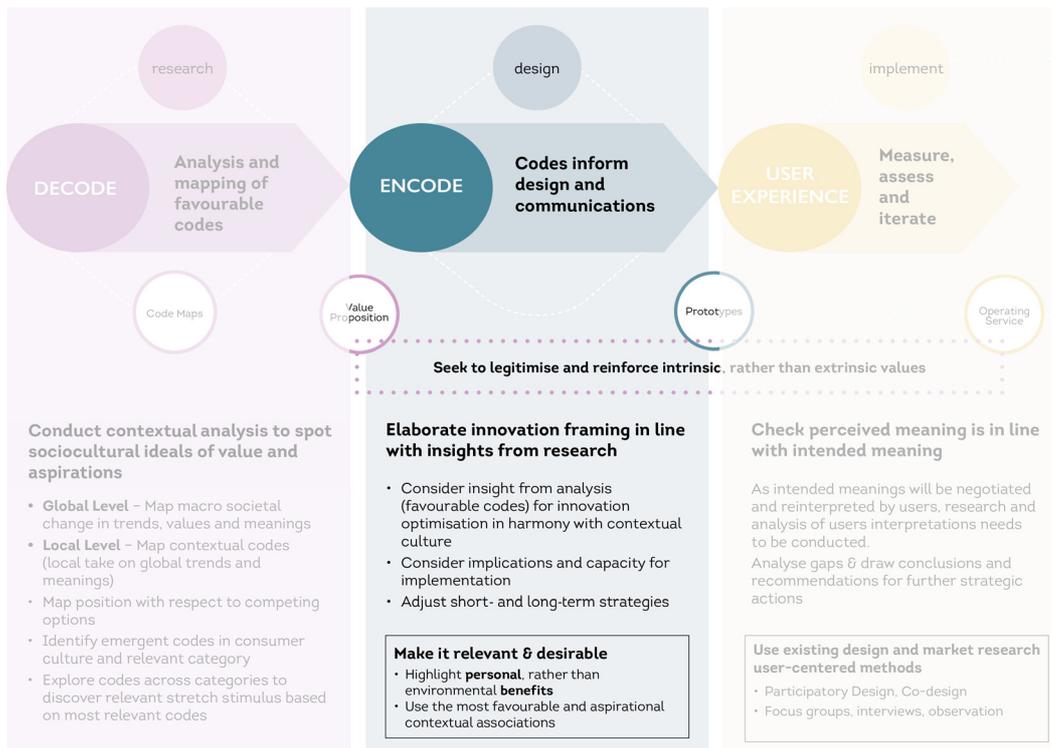


Figure 5.26 – Conceptual framework Encode phase

Due to research purposes discussed at the planning stage (section 5.3.1.1), prototypes were based on the touchpoints within the ‘Aware’ and ‘Join’ customer journey steps. This implied the *redesign* of publicity campaign materials (a poster and flyer), website interface and a customer ‘welcome’ email. The redesign aimed at reframing these touchpoints by following the theoretical propositions and incorporating insights elaborated through Decoding.

This approach was favoured due to:

- The participant’s limited budget to spend on trials – minimising resources is key to deploying this strategy. Therefore, graphic and web design work to be provided by the researcher on a pro bono basis

- Possibility of measuring potential impact by comparing inquiries with previous campaigns

Redesign of touchpoints

The first touchpoint redesign concentrated on publicity campaign material (poster and flyer). Existing materials and distribution strategies were analysed, with the following results:

- *Poster*: seems a valid and effective strategy for brand awareness and presence in the local area. It was decided that the poster size (A4) worked well, as most poster boards in the neighbourhood would not provide enough space for a larger size.
- *Flyer*: This item was discussed extensively, questioning its validity as an effective vehicle for brand awareness and perception. The participant usually hands them out in the street, or posts them through letterboxes. This practice, coupled with the flyer format (A5, light paper stock) caused this piece of publicity to be perceived as unsolicited mail and easily discarded. This is mostly ineffective as far as legitimising the service as 'special' and 'authentic' is concerned.

The process started with the flyer redesign. It was necessary to make it visually striking yet sophisticated and unique, so we opted for producing a postcard instead, printed on a thicker and more special stock of paper to better convey a quality feel, and to encourage people to keep it. The poster design followed the style of the flyer, although there were doubts about this decision as the craft textured background could make the poster recessive when placed on the neighbourhood display boards.

CROP DROP

Crop Drop veg-box scheme makes it easy for you to buy ethically, eat seasonally and cook with the best quality vegetables.

Fresh and Delicious
As a member of Crop Drop you receive a weekly bag of organic vegetables that come direct from local farms, are super fresh and bursting with flavour.

“Cauliflower that tastes like it did when I was a kid?!”

Not-for-Profit
We're small and local, serving Haringey only. We're building a community around sustainable food, involving local people in running the scheme and supporting food-growing sites in our favourite patch of London.

Sign up now and each week we will leave a selection of tasty vegetables at your local drop point for you to come and collect.

Prices start at £8 per week

Visit cropdrop.co.uk
Email veg@cropdrop.co.uk
Call 07432 588 734

Is Your Local Drop Point

CROP DROP

Crop Drop veg-box scheme makes it easy for you to buy ethically, eat seasonally and cook with the best quality vegetables.

Fresh and Delicious
As a member of Crop Drop you receive a weekly bag of vegetables that come direct from farms, are super fresh and bursting with flavour.

“Cauliflower that tastes like it did when I was a kid?!”

Not-for-Profit
The way we eat has a massive impact on the planet. This is a sustainable alternative that supports small organic farms, creates shorter supply chains, reduces food miles, waste and packaging.

We're small and local, serving Haringey only! We're building a community around sustainable food, involving local people in running the scheme and supporting food-growing sites in our favourite patch of London.

Seasonal and Local
All produce is sourced from farms as nearby as possible, always certified organic or farming to organic standards. The selection will vary each week and will move with the seasons so you're always guaranteed a surprise each week!

Sign up now and each week we will leave a selection of tasty vegetables at your local drop point for you to come and collect.

Drop Points
Drop Points are located around Haringey. Visit our website to find a drop point near you.

Prices start at £8 per week

Visit cropdrop.co.uk

Local food for people, not profit.

M. 07432 588 734
E. veg@cropdrop.co.uk
W. cropdrop.co.uk
T. @cropdrop

Figure 5.27 – Existing publicity material

hello winter

**EAT
IN TUNE WITH
THE SEASON.
FEEL STRONGER.
BE THE CHANGE.**

The reason for eating locally-sourced and seasonal is that you get the best tasting, healthiest and most nutritious produce available. Nature's wisdom.

If you've been thinking of going more seasonal and local in your diet, now it's easier than ever to get started.

Each week Crop Drop will leave a bag of organic, tasty veg for you to collect at your local drop point.

Prices start at £8 per week.
Sign up today.

cropprop.co.uk

**CROP
DROP**
live the seasons

**CROP
DROP**

hello winter

**CROP
DROP**
live the seasons

*big changes
can start with
small steps*

The first reason for eating locally-sourced and seasonal veg is to get the best tasting, healthiest and most nutritious produce readily available. Nature's wisdom.

The second, to discover veg that you didn't even know existed. That means no more of the same old boring veg on your plate.

So, if you have been thinking of going more seasonal and local in your diet, now it's easier than ever to get started.

Prices start at £8 per week.
Sign up today.

cropprop.co.uk

Winter's local best
Red Kale
Purple Kohlrabi Arran
Victory Potatoes
Golden Beetroot
Crown Prince Squash

Figure 5.28 – Redesigned publicity material (winter campaign).

The research intention was to produce some design trials as an attempt to translate insights into representations, by following the guidelines provided by the theoretical framework.

Here is how these were materialised into the design of publicity material:

Application of Thesis Propositions

As indicated in Chapter 4, section 4.2, two theoretical propositions guided the implementation of the framework to practice. These were applied as follows:

Proposition 1

P1 – Sustainable products and services may have a higher chance of being more widely understood and adopted if framed around the well-being discourse rather than the environmental discourse. This means making the *values* and *benefits* of sustainable living (greater happiness and well-being) evidently obvious to their intended users.

On this basis, the wording was adjusted in line with Proposition 1, using a well-being rather than an environmental discourse. Table 5.4 summarises changes introduced.

	Before	After
Strapline	'Local food for people, not profit'	'Live the seasons'
Main message	Crop Drop	Hello Winter
Sub text	Crop Drop veg-box scheme makes it easy for you to buy ethically, eat seasonally and cook with the best quality vegetables	Eat in tune with the season. Feel stronger, be the change.
Main text		Big changes can start with small steps
Highlight		Winter's local best

Table 5.4 – Changes in language to bring representations in line with Proposition 1

The way in which the value proposition is represented has great influence on how the service is experienced, even before use (Fitzsimons et al., 2008; Wolsko et al., 2016). Depending on how the service is framed, users will unconsciously 'recall' associations (factual and emotional) stored in their brain from previous experiences (meaning networks, cognitive mental maps) (Kahneman, 2012; Lakoff & Johnson, 2003), that predispose them to 'feel' a certain way towards what is being proposed.

Crop Drop's original strapline is 'Local food for people, not profit'. Due to its campaigning tone, it could be argued that this statement proposes a specific ideology – that food supplying must not be a 'profitable' activity, a stance and an assumption which might resonate well with certain audiences that understand this statement and whose values align to the sociopolitical implications of this ideology. This, in turn, might exclude other user groups whose interests, for example, could be to start incorporating seasonal and local ingredients into their diet for health-related reasons. On the one hand, the statement adds value by proposing a 'non-corporate' approach to food retailing, but it also subtracts value by implying a certain 'amateur' approach. However, if that same statement is framed with an aesthetic that is in line with other 'reputable referents' (aligned to the user group's lifestyle choices), then the value proposition of Crop Drop appears much more appealing and trustworthy (Wolsko et al., 2016).

It is worth clarifying that there is no right or wrong statement – framing should correlate with the objectives to accomplish. However, because framing predisposes the user, affecting their perception of value, receptivity and appreciation, it is paramount to be aware of the effects and implications of choosing certain framing options over others.

Proposition 2

Radical innovations need to be rooted in certain 'cultural clues' for users to understand them (Light & Miskelly, 2014; Wang, Liu, & Qi, 2014). The second step for constructing relevance into the new design was to follow the second proposition.

P2 – Sustainable offerings may appear more appealing and relevant to users when they are framed using valuable contextual meanings and cultural associations relevant to the target user group. This implies making available to designers the most favourable contextual cultural codes so that sustainable innovations can be represented as superior to competing alternatives.

Based on the code-mapping exercise carried out in the previous cycle, some of the most favourable codes were selected and incorporated into the design outcome. The resulting design evokes crops and 'land' using warm and emotional references. Figure 5.29 illustrates some of the codes selected and how they were used.

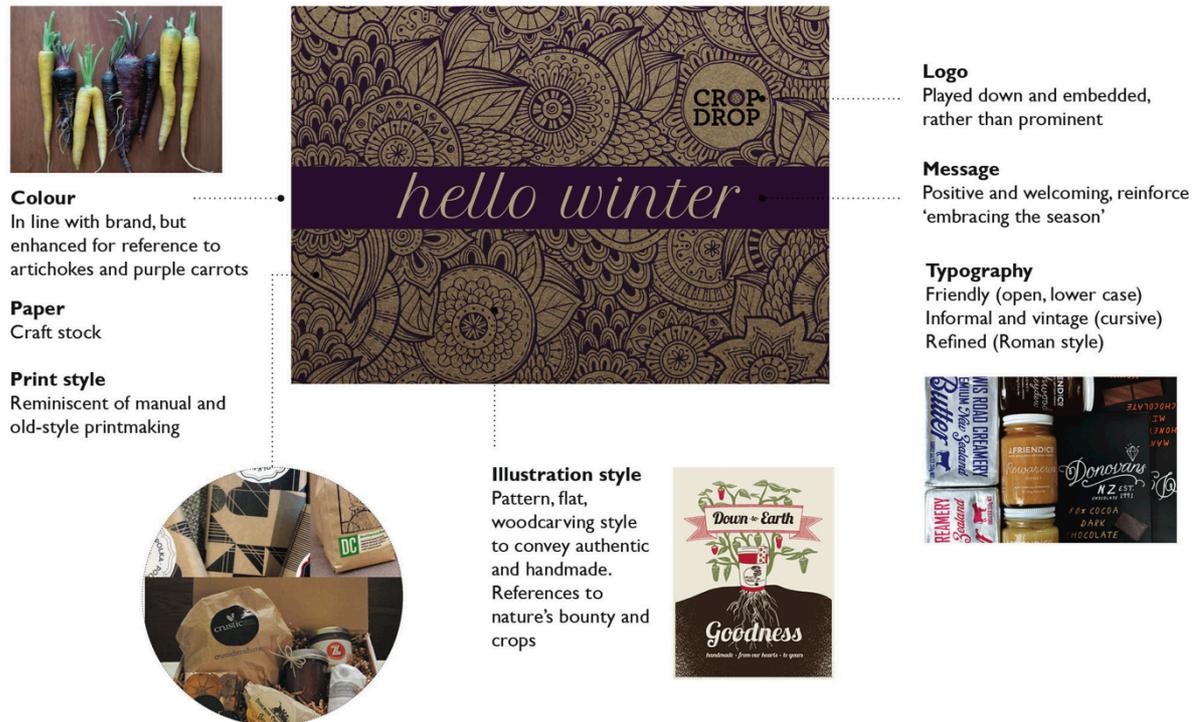


Figure 5.29 – Example of codes incorporated into the postcard redesign, following Proposition 2

The website was the most underdeveloped of all touchpoints and in the most urgent need of redesign, as this is the platform users access to join the service. With its dated design, it was clearly not in line with users' expectations and signifiers, and it did a poor job of legitimising the service qualities (Figure 5.30).

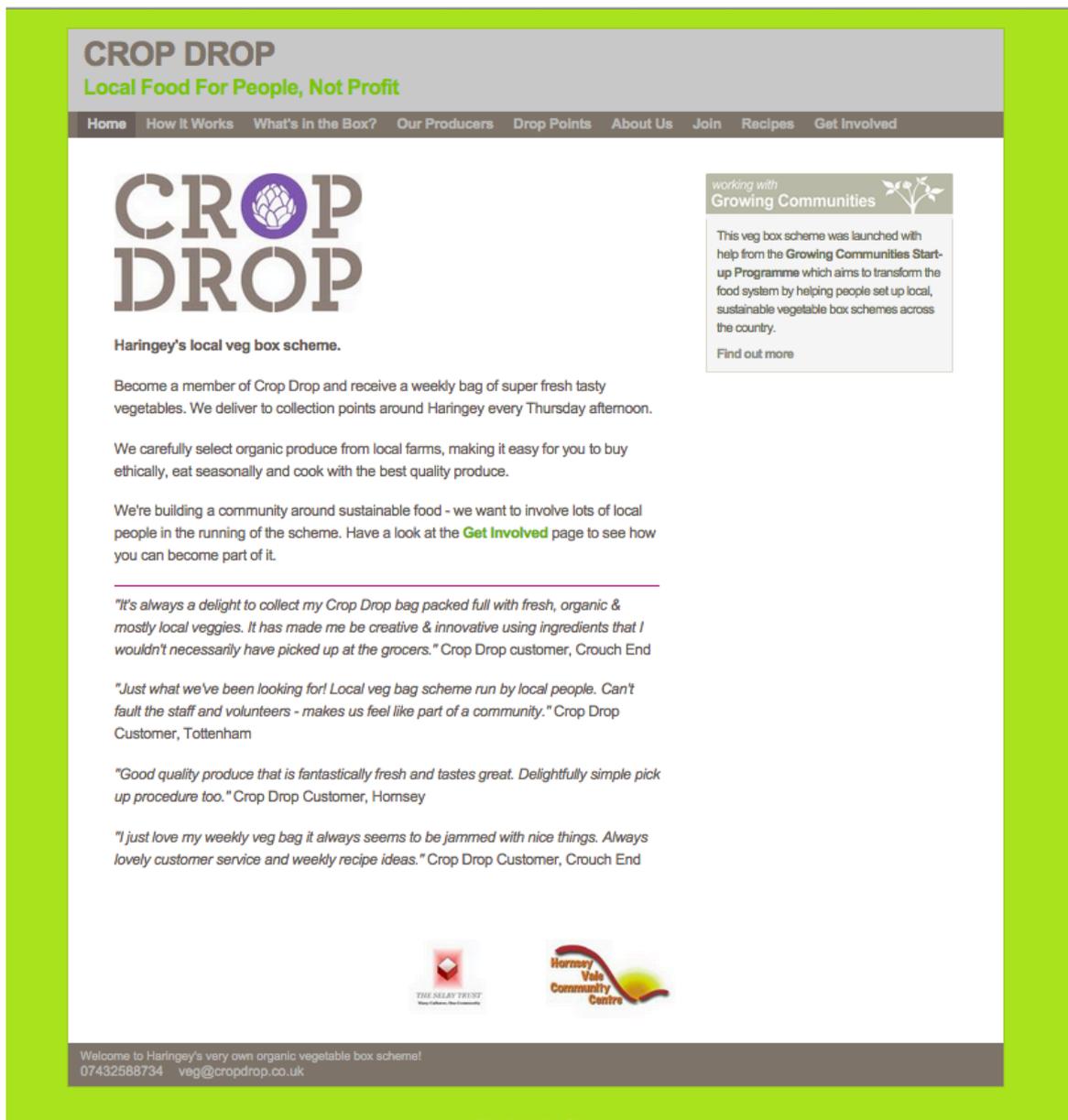


Figure 5.30 – Website interface prior to redesign

The website redesign (Figure 5.31 and Figure 5.32) incorporated the *aesthetic* codes, but also allowed us to work with codes related to the users' *appreciated values* and *practices*. The most salient are:

- Ample display of visual imagery of fresh produce and tantalising meals, but also people
- Homepage company video incorporating a short presentation of the company, to communicate company values at an emotional level

- Featuring the owner prominently, to make the experience feel much more personal and welcoming but also to reinforce a sense of 'dedication, passion and love' – characteristics of small business owners and craftsmanship
- Featuring suppliers more prominently, to communicate transparency and collaboration
- Blog and social media feeds provide a sense of community, participation, openness, and keep adding to the site fresh and relevant content
- A Recipe section, where recipes are tagged by season and type of produce, so that users can easily find inspiration

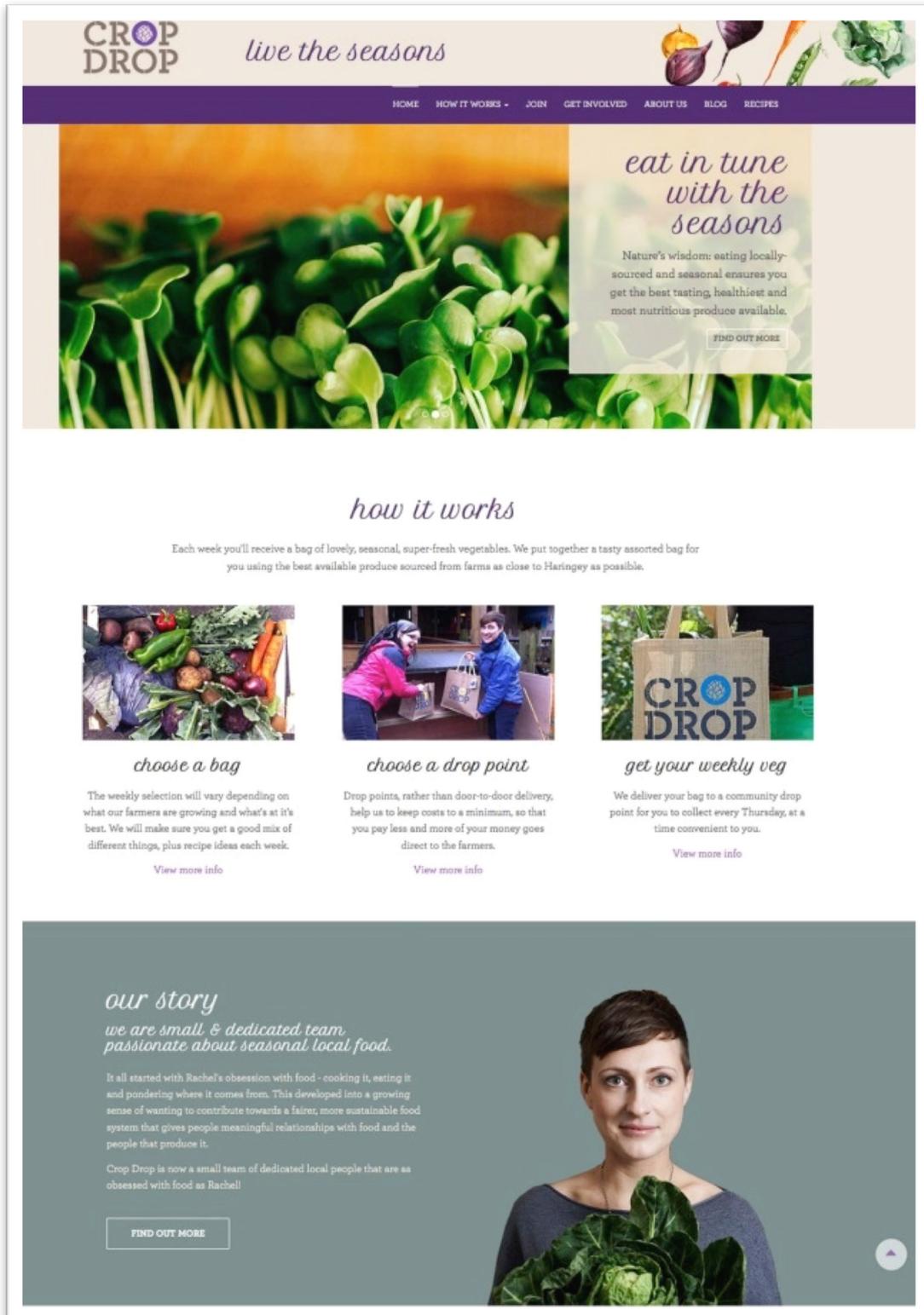


Figure 5.31 – Redesigned website (1)

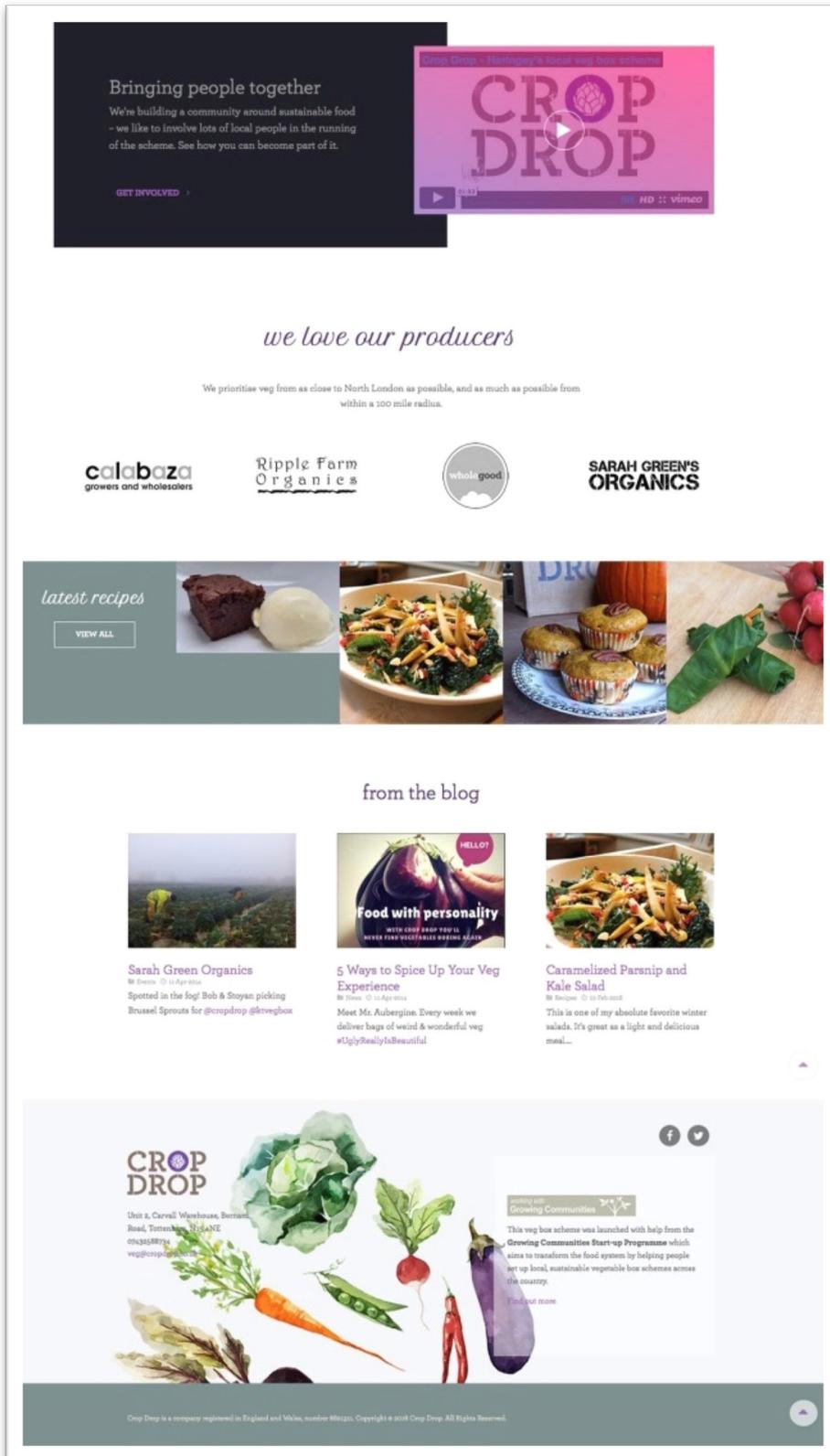


Figure 5.32 – Redesigned website (2)

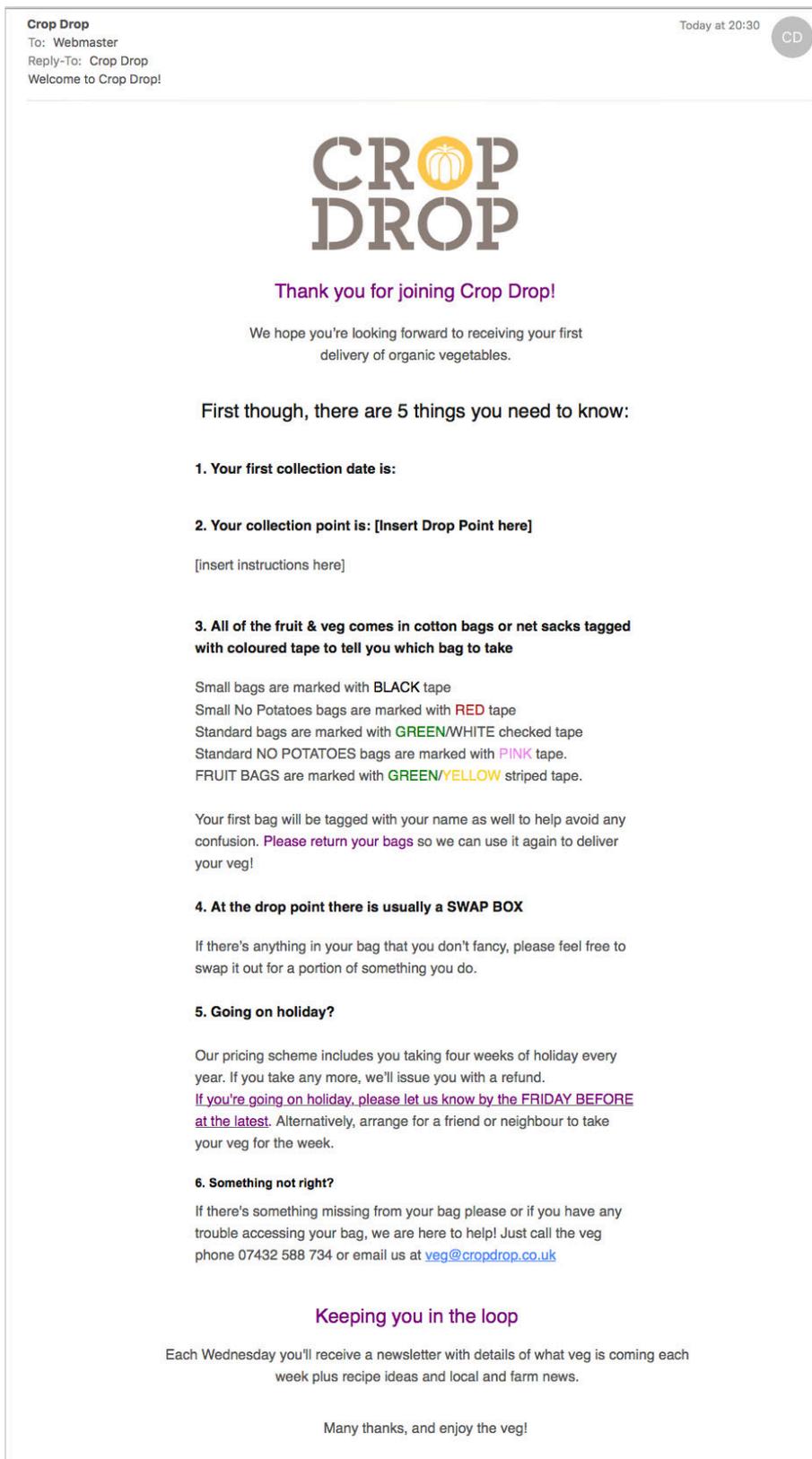
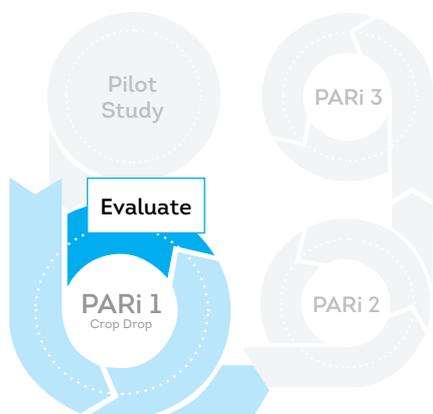


Figure 5.33 – Welcome email redesigned

5.3.1.3 Evaluate (Step 3)



As outlined in Chapter 4, section 3.2.3.2, PAR success is judged on participants having a strong sense of development of their practices.

This section evaluates the *action* and *research* process conducted in this cycle, against the objectives set in Step 1, Plan (section 5.3.1.1). It reports on how the findings from this cycle progressed the research (theory building/framework), and how the framework

improved practice (the researcher's own and the participant's).

The evaluation methods for this cycle were as follows:

- The participant monitored the researcher throughout the framework implementation process (Step 2), and provided some semiotic resources for analysis at Encoding stage
- Regular evaluation meetings were held with the participant to collect feedback
- Contextual analysis results were presented to Crop Drop's staff team for feedback and evaluation
- Finally, the participant was provided with a feedback questionnaire (Appendix C5) to evaluate the research outcomes and process.

Details on the evaluation results are expanded below.

How did this action cycle improve the framework?

The *research* objective for this cycle was to extract a record of the processes, methods and tools that were used while following the framework's recommendations of the 'Decode' (cultural context research) and 'Encode' (value proposition framing) phases. This objective was successfully achieved, as follows:

1. The process and requirements for introducing semiotic and cultural analysis methods to frame value propositions were investigated. The 'Decode' phase was completed and a 'step by step' record of the process was extracted (Table 5.5). This record made the decoding process explicit, and added a deeper layer of detail to the framework's recommendations by building on the methods and activities that were used while implementing the framework to practice.

Stage	Objective	Tools employed
Familiarisation	Familiarisation of designer with the business Gathering of business information	<ul style="list-style-type: none"> • Structured questionnaire (devised by researcher) • Unstructured interview • (informal conversations to fill in gaps)
Organise business operations	Understand how business operations, processes, resources and stakeholders align	<ul style="list-style-type: none"> • Service blueprint, incorporating customer journey and touchpoints • Business model canvas
Contextual Analysis		<ul style="list-style-type: none"> • Initial Theoretical Framework (to guide the process)
Step 1	Map the meanings of the category at a broad level to understand global symbolic associations and their social practices	<ul style="list-style-type: none"> • Greimas Square represented as a Four Quadrant Diagram intersecting two dimensions
Step 2	Defining exiting position “we are local” as opposition to “global”, followed by Map global and local representations	<ul style="list-style-type: none"> • A list of associated words, paired with opposite meanings • Continuum diagram
Step 3	Explored the adjacent categories that are popular with users	<ul style="list-style-type: none"> • Desk research, looking for associated categories • Visualised by infographics
Step 4	Mapping the competitors	<ul style="list-style-type: none"> • Four quadrant diagram intersecting two dimensions
Step 5	Mapping trajectories in residual dominant and emergent associations	<ul style="list-style-type: none"> • Categorisation of visual imagery, grouped under Residual, Dominant and Emergent categories
Step 6	Understanding potential user groups	<ul style="list-style-type: none"> • Infographic that incorporates archetypal illustrations to represent group, combined with quantitative and statistical data
Step 7	User Persona (archetypes)	<ul style="list-style-type: none"> • Template with categories to look at • Mood board to map lifestyle choices
Step 8	Mapping the aesthetic associations that differentiate this group	<ul style="list-style-type: none"> • Mood boards / Collages
Step 9	Mapping the cultural practices valued target user social group	<ul style="list-style-type: none"> • Mood boards / Collages
Step 10	Summarising findings into recommendations	<ul style="list-style-type: none"> • Report (but could also be called ‘contextual reference map’)

Table 5.5 – Decoding phase process summary

2. The relevance of the framework for better understanding the sociocultural context of the service and its current/potential users was assessed. It was found that the

framework added a sociocultural lens at user research stage in the design process, which allowed for the elaboration of valuable insights. Stakeholders (the participant and her staff) considered that these aspects, i.e. sociocultural factors that influence user perception and value judgement of the service, had been overlooked and the insights generated by applying the framework opened new areas of opportunity.

3. At this stage of development, the framework was beneficial to reposition the service offer and 'reframe' some service touchpoints. In this, the researcher in her role of designer benefited from a method (the framework) that helped to structure the research of context, users and competitors, assess the value proposition's strength against competing options and spot potential opportunities for improving it. The framework also provided a solid structure to discuss these aspects with the participant and jointly devise strategies to improve the quality of the offer itself, as well as its perceived value.

How did the framework improve practice?

Decoding – The framework was introduced at a point prior to the redesign of the PSS touchpoints. Normally at this stage target users would be investigated to draw insights and ensure that the value proposition fulfils users' real needs. To that end, it is standard practice in service design to conduct user research employing established quantitative and qualitative methods (interviews, shadowing, direct and indirect observation, surveys) as indicated in Chapter 2, section 2.3.2. User insights are later drawn out of the data collected by these means.

However, while existing methods work well to understand users' needs that are directly observable and/or verbalised by users, the tacit aspects that influence people's decisions – framing biases, symbolic, identity and sociocultural codes – are much more difficult to capture by these means. Research of this nature, although fundamental to understand the sociocultural aspects that influence users' perceptions and intention to buy, is seldom considered or conducted by the social enterprise stakeholders (including designers), due to a lack of knowledge of the benefits or the lack of methods with which to do so.

Throughout this exercise, it became evident that semiotic and cultural analysis methods add richness to the elaboration of user research, by providing a way to make sense of the relationship between users, brands and the culture(s) they are immersed in (Oswald, 2015).

The framework served as a good guiding structure for what needed to be investigated in the next stages of the project (Figure 5.48). The most salient benefits are summarised below:

- Going from the Global (generic) to the Local (user-group specific) enabled drawing a richer picture of users as members of communities.
- Opportunities for improving the service aspects of the PSS and developing potential partnerships were spotted through the analysis.
- It **expanded the exploration – usually focused on ‘user needs’** (which tends to focus on users as individuals), and **reinforced the sense of ‘interconnectedness’** necessary to foster resilient societies and **communities of sustainability** and well-being.

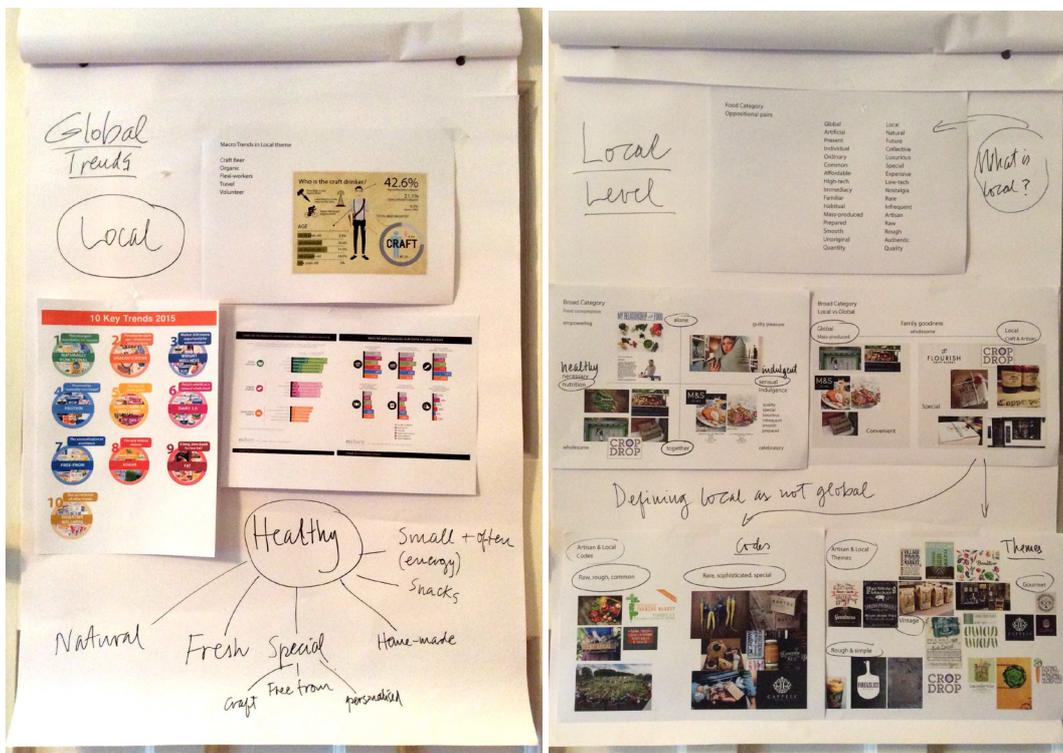


Figure 5.34 – Contextual analysis process

After being presented with the results of the contextual analysis, the participant expressed:

‘I now feel better equipped to understand potential customers, especially in terms of communicating benefits that are more relevant to them, rather than relying solely on communicating the product and service features.’

Therefore, the framework proved to be a highly valuable guide for devising strategies based on a better understanding of users.

Summarising Insights – At the start of the cycle, it was unclear to the researcher what format the output of the analysis would take. Insights were summarised in tangible, visual form and provided to the participant as a ‘Research Report’ (Figure 5.10 to Figure 5.25). However, a fixed (pdf) format was found somewhat limiting as it cannot be easily updated. Building the Contextual Code Map and the Insights Report Summary on a digital platform where resources can be added, modified and commented on would be highly beneficial. Another benefit of digital platforms is to be able to add video, webpages and other interactive resources, and make the body of semiotic resources richer.

Encoding

With regard to research, the exercise was highly successful. As there was a method in place, we were able to agree very quickly on what needed to be done. The Code Map and Summary produced in the previous cycle provided clear guidelines, and the codes were used as ‘design constraints’ in the design of the prototypes. It helped both the researcher and the participant to keep focused on the user, rather than on our own preconceptions, tastes and preferences.

- **Limitations of the design prototypes**

It is worth considering that the design trials were based on the results of the cultural analysis alone. And as discussed above, the insights obtained could have been richer. Unfortunately, the contextual research findings were not complemented with insights obtained through other user research methods, which could have helped to obtain a more rounded picture of the target group’s aspirations and preferences. Nor were they tested with potential users or other stakeholders prior to the campaign launch. The participant commented:

‘I think the process could benefit from having focus groups or feedback from the general public to garner their response to/perception of the brand and the design. Of course, I know we were limited by time and budget, but I think focus groups would reveal a lot more . . .’

However, earlier in the investigation the participant had expressed the view that traditional market research was *'too time-consuming'* for her to implement and she doubted that it would be useful to her at this stage.

Nevertheless, producing the prototypes was a valuable process for the researcher. It allowed her to experiment with self-observation and reflective practice, to better understand the 'design of meaning' and to consider the effects and predispositions that selecting certain codes may generate – they were still considered 'incomplete' if not tested with users. This is because perceived value and meanings of artefacts are co-created, so the users' response to these initial prototypes was, therefore, a missing part. To avoid the intention–interpretation gap (as discussed in section 2.2.4.1), it is necessary to test the prototypes and incorporate users' feedback by iteration, as recommended by the framework's 'Implement' phase.

However, it is difficult to judge whether these factors alone bear responsibility for the lack of quantitative impact, as many other factors can influence a customer's decision to join. For example: the dissonance created between touchpoints in the 'Aware' customer journey phase and the 'Joining' phase was recognised by the participant:

'I also think that the limitations of budget meant that the project output – a website redesign and flyer/poster campaign – created a design that might have been out of step with the rest of the customer experience. The new website is very contemporary and slick, yet the ordering process is still very outdated and clunky. I wonder how many people were impressed by the site initially, but then put off by the online joining form. In future, I think this aspect of the user experience needs to be aligned with the website and flyer design otherwise the expectations may not be met.'

Beyond problems with the joining form, not much consideration was given to other important PSS aspects that may influence purchase decisions. For example:

- Is the offer (product) itself suitable/attractive enough for this target group (the selection of produce is rather limited and relatively more expensive than competing options)?
- Is the service provision (cupboard pick-up vs. home delivery model) an advantage or a weakness?
- Are customers willing to commit to the long term (monthly Direct Debit subscription) before trying?

This is especially relevant, as in early discussions the participant admitted having disregarded insights obtained through a neighbourhood survey prior to launch, which indicated that a community shop was preferable over a vegetable box scheme:

'I ignored the feedback because it would have meant implementing a completely different business model to the one I envisaged.'

This position generated limitations for the researcher, as such managerial (and budgetary) constraints meant that the intervention only affected certain aspects of the business, limiting implementation of research findings to the Aware and Join phases of the PSS, while the core service operations (Use phase) and the offer itself (the product part of the PSS) were not brought in line with the codes identified through the sociocultural research.

However, the participant also expressed a dilemma with regard to values and representations. She felt somehow uncomfortable with raising customers' expectations for an experience that Crop Drop is not currently able to deliver. This was manifested a few times during the process. The comment below demonstrates questioning of the validity of Proposition 1:

P1 – Sustainable products and services may have a higher chance of being more widely understood and adopted if framed around the well-being discourse rather than the environmental discourse. This means making the *values* and *benefits* of sustainable living (greater happiness and well-being) evidently obvious to their intended users.

'I wonder if the new designs that Laura created have obscured our USP. Do we stand out as different from the others, or were we trying to look more like Buonativo, Farm Drop, etc.? The 'health' message we put out perhaps doesn't help explain why we don't have slick tech and expansive range and service. We deliberately didn't mention the environmental message, but in doing so we also didn't highlight the fact that we're a social enterprise/not-for-profit, which perhaps helps people to understand why we have a limited range and an old-fashioned order form. Once people understand that we're different and trying to challenge an exploitative food system, people are much more forgiving of our limitations. I don't think we fully explored this.'

This comment highlights two main issues:

First, it confirms results of the consultation conducted earlier in the research (Preliminary Study, Chapter 4, section 4.3.1) where *aesthetics* and *desirability* seem to be stigmatised concepts within sustainability practitioners' discourse. Consequently, for some designers and social entrepreneurs, appealing to the user's sensibilities, aspirations and desires is considered a deception technique, a marketing trick of consumerism to tempt users with unnecessary wants, rather than solve 'real needs' for them. Desirability is ideologically a controversial topic, often perceived as an illegitimate instrument to increase the appeal of sustainable innovations. Secondly, this comment provides a clear example of how users are often expected to compromise or sacrifice quality in order to adopt sustainable choices. This ideology severely restricts the number of potential users that would willingly accept to be 'poorly rewarded by their good intentions', which translates into considering sustainability as a loss, rather than a gain, at lived experience level.

This highlights the importance of incorporating change across **the whole service, to deliver a consistent quality experience**. This is a consideration that must be taken forward in the next stages of this research. In consequence, further stages of the investigation strove to conduct contextual research as an earlier stage of innovation journey, seeking to affect the core service values, the offer and the business model, rather than touchpoints.

Reflections on research methods and process

What worked?

- **The existing design tools used for structuring business operations**

By adopting business structuring tasks from a service design perspective, the researcher was able to make use of existing tools, which helped the participant and staff (operations manager) to visualise current and desired service operations.

The **service blueprint** provided a clear structure to spot and discuss which processes and operations could be improved in order to serve customers better. By dividing the **customer journey** into four steps: Aware, Join, Use and Bond, the service touchpoints were located and organised. This helped in identifying where and how the design intervention could be applied to introduce change. These tools were useful for spotting gaps in the current service design and operations aspects, discussing possible service improvements and planning resources and capacity for scaling up. But it also highlighted areas that needed development, especially the marketing and community building aspects, which were being overlooked due to lack of resources.

The **digital platform** (*Realtimeboard.com*) also proved useful for participant and researcher to easily update/modify and collaborate.

What did not work?

Both the researcher and the participant felt disappointed at the apparent lack of impact of the publicity campaign, in terms of generating a greater number of inquiries and users joining the service. On reflection, this can be attributed to weaknesses and limitations in the implementation of the framework. These are expanded below:

- **Limitations of the contextual research**

Although the contextual research itself generated good insights on business positioning and users, it was felt by both parties that the method application was perhaps ‘too light-touch’, and that richer insights could have been obtained if research was done at a deeper level.

The participant comments:

‘I think there could be greater research into customer profiles/demographics. The research on types of potential customers created quite generalised and stereotyped profiles, which has its uses in being more targeted, but perhaps the more subtle nuances and diversity of Haringey was missed out.’

Researcher’s journal note:

‘I think with more time and resources, the user codes could be done at a deeper level. The neighbourhood mix is varied, so several “personas/lifestyles” need to be mapped for each subculture and group.’

Aside from time constraints, it must be considered that the method application was being **attempted, for the first time, by a designer** and not a semiotician. In addition, the researcher had to **focus on process rather than outcomes** (selecting semiotic operations and recording the process appropriately) in order to achieve the primary aim of the investigation. These two factors contributed to ‘underperformance’ in terms of what could potentially be achieved in further iterative applications of the framework.

- **Measuring impact quantitatively required more careful planning**

As mentioned, the experimental publicity materials were produced and distributed as per previous campaigns. To monitor impact, the number of inquiries generated during the

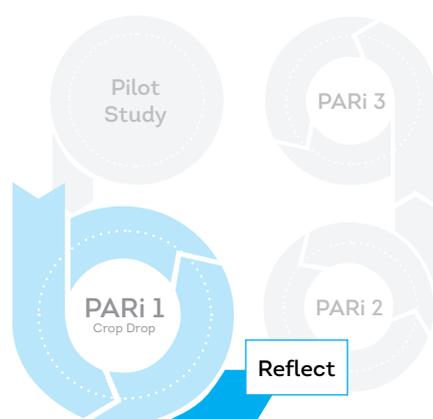
same period in the previous and current year were compared. However, there were several implementation issues that affected this measure:

Mismatch of periods – Flyers went out to all neighbourhood areas covered by Crop Drop within the first two weeks of February, instead of in January as was done the previous year (January is when most people are looking for healthy food options), due to budgetary and staff limitations. (To be able to run this test at all, the printing costs of the publicity materials were paid by the researcher – as experimental trials – and design work was done on a pro bono basis.)

Problems with website tracking code – Google Analytics tracking code was inserted on the new website, but the participant forgot to take the old site down, so some inquiries were being redirected to a different url and were not tracked by Google. This posed a problem when attempting to compare the website inquiry statistics with the same period in the previous year. The number of customers who signed up in the same period the previous year were compared instead, but no major differences were found.

Although implicitly we wished the campaign to have a bigger impact than previous ones, measuring the number of customer conversions quantitatively, however, was not an objective agreed in the initial plan (Step 1). The lack of research planning for this aspect meant that the researcher was ill equipped to assess the impact of the campaign in a methodical manner.

5.3.1.4 Reflect (Step 4)



This section considers the contribution of this cycle to the elaboration and development of the framework, with respect to the overall research questions, aims and objectives. Findings from this cycle are also discussed in relation to Phases 1 (Literature Review) and 2 (Preliminary Study). It also reflects on the research process and methods used.

How did this action change practice?

This cycle provided valuable evidence on how sociocultural insights can methodically inform the framing process of design artefacts. Although this may appear to be ‘just a redesign’, by focusing on *process* – rather than outcomes – throughout the intervention, the ‘naturalised’ practices of framing and meaning-making became self-evident and conscious, rather than intuitive and unconscious.

Researcher’s journal note:

‘Before the intervention, my practice was intuitive and my confidence was based on heuristics and assumptions. Having to follow a framework and methods made me design in a different way, making me conscious of how my practice is conducted and what it is actually that I do, and why.’

Self-reflection contributed to personal and professional self-development by making the researcher more aware of how assumptions, biases and values affect the way that design problems are perceived and framed, how values and biases were identified and negotiated during the research process, and how solutions were envisaged.

Self-examination of practice (by means of recording and reflection) were good means to improve my own practice by becoming more aware of my values, approaches and methods, evaluating their weaknesses and strengths, and to incorporate improvements by self-reflection and action iterations. But also, documenting the process was especially valuable, in making it explicit and open to critique from other practitioners and educators working towards similar ends.

In terms of application of theory to practice, as this was the first attempt at implementation, at times the researcher felt a sense of inadequacy and lacked confidence. In this, the framework proved a great resource to ‘anchor’ the process, and kept the researcher focused and on task.

The exercise enabled a heightened awareness of practice being guided by personal values (aligned to strategic social transformation towards a culture of sustainability). This made evident the need for designers engaged at this level to become more conscious and transparent about the means employed to achieve design actions, and to deepen understanding of what such a process instrumentally entails, so that practice becomes as methodologically robust as possible.

How did it change the participant's practice?

Before the intervention, the participant felt somehow disheartened, as she has an honest product to offer but one that is seemingly weak when seen against 'stronger' competing options. Through the exercise, the participant acquired new knowledge. The participant's learning is summarised as follows:

- Through this exercise, what did you learn that you didn't know before about . . .

Potential users/customers

'That our potential thirty-something progressive family customers value experiences over "things", and that they want to acquire knowledge/be seen to be knowledgeable about topics. I hadn't considered this, and this opens up a whole area of our offer that we don't give that much priority to – sharing our specialist/insider knowledge about the local food scene, providing opportunities for providing unique food experiences.'

Competing options

'That we don't stand out that much from Abel & Cole or Riverford in our category positioning – we're all inhabiting the wholesome space, and that there is actually room for Crop Drop to expand into the luxury category, which neither of the other brands are doing.'

The sociocultural context of your business and your users/customers

'We can play more on the speciality, rarity, luxury categories more than we do.'

Your own business offer/proposition

'We're offering a very limited product range, and asking people to put up with a user experience that is quite clunky (the joining process on the website, two-stage direct debit process, collection points that can have broken locks, be messy, have limited time frames for collection, etc). I knew this before, though! I guess what I learned is that all of this can appeal to a customer's desire for novelty, rarity and feeling like they're part of something emergent. It's now making me think about how we can turn these "weaknesses" into opportunities to make us stand out against the competition.'

The touchpoint redesign (publicity material, website and welcome email) had a positive effect on the participant, her staff and other stakeholders. The participant commented:

'I've shown your report and all we are doing to Jane (business mentor) and she congratulated me for being so brave and stepping out of my comfort zone. She said that she wishes more of the other businesses like mine would actually go for something like this.'

Spirits were lifted, and there was a great sense of excitement and empowerment. For example, the participant and her staff felt more confident in 'showing off' and publicising the business on social media.

'We've shared the new website on social media and among our team, and everyone really likes it. So far it's been very positive.'

The new website platform especially enabled the participant to update the site more regularly and easily.

'I got the veg list up on the site yesterday. It's so easy to navigate. Much more user-friendly than the old one!'

But, most importantly, new aspects were incorporated, building on the 'Valued Practices' codes identified in the contextual research such as 'community' and 'peer-to-peer sharing' (Figure 5.23), for example, by introducing the 'Blog' and 'Recipes' sections.

In consequence, the participant was empowered to introduce changes to the service herself, by being provided with the technology (web platform) and a clear direction (code map) for positioning the service to align with users' expectations. Figure 5.35 illustrates a food recipe posted on the website blog four months after the intervention, which evidences how the participant incorporated the codes explored through contextual research.

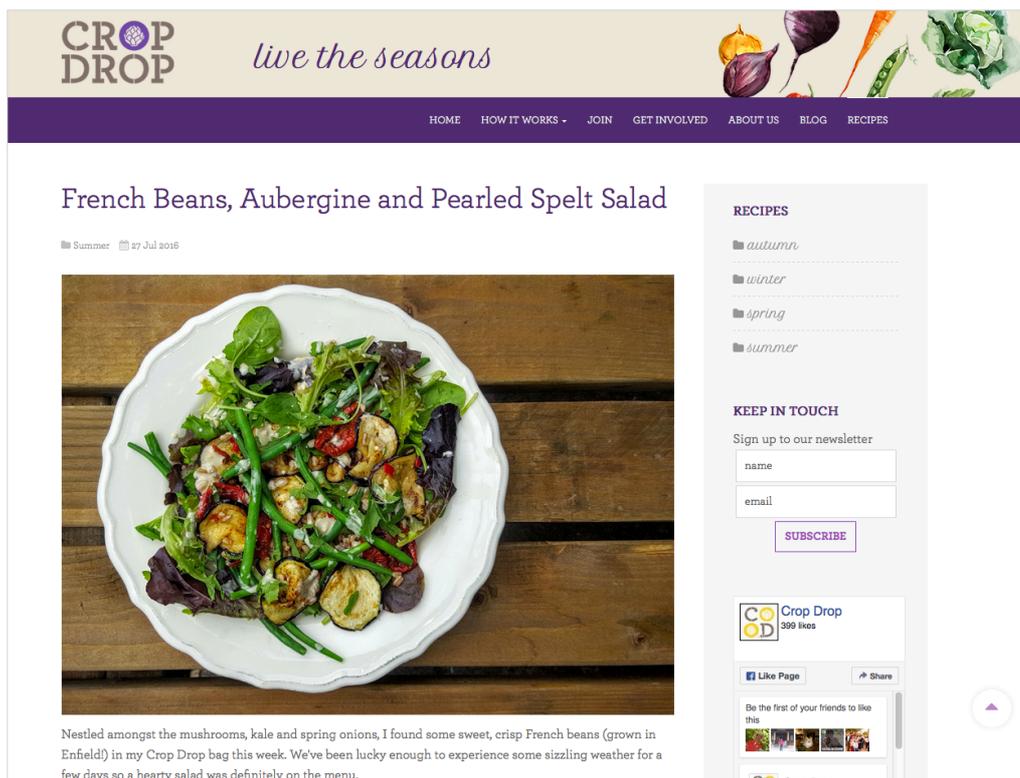


Figure 5.35 – Recipe section blog post, photograph by the participant

Despite the apparent disappointment generated by the publicity campaign, in general terms the participant considered that the experience of engaging with the research was positive. In the feedback questionnaire, she gave a top rating to ‘recommending the methods to others’:

‘I have shared it with other community box schemes already, as I think it’s a great way to step back and look at where your brand sits in the bigger picture. It also pushes you to move out of your comfort zone and stop relying purely on intuition, which is what we’re all mostly doing. As a result, we only attract more people like us and don’t diversify. It’s also a risk – as our campaign results suggest, the flyer/poster design wasn’t a success. But this is a learning process, and it helps you discover what works and what doesn’t. “Madness is doing the same thing and expecting different results”.’

The participant regarded Category Positioning and Code Mapping as the most useful and interesting takeaway of the whole exercise:

'I think it was the category positioning and aesthetic codes research that was most illuminating – understanding what colours, fonts, designs people associate with certain values and aspirations was fascinating.'

5.3.1.5 PARi I Conclusions and implications for further research

This PARi cycle concludes with a clear outcome and findings. The Initial Theory (framework) was applied by engaging with a social enterprise (existing sPSS real-life case) in order to demonstrate its value to stakeholders and build a case study of application.

This exploratory investigation was conducted by the researcher, who undertook the research under a 'discovery mode', selecting and recording methods from applied semiotics and cultural studies to identify and map the socio-symbolic aspects (cultural codes) in the context of innovation.

Key conclusions

- **Framework development** – The framework was applied for the first time, and proved useful to reframe the value proposition of an existing sPSS. The Decode–Encode approach was valuable for structuring and visualising the process of context research (Decode) and 'translation' of codes into service features and touchpoints (Encode).
- **Practical outputs** – Applying the framework within a real-life case added a layer of detail to the Decode phase of the conceptual framework (the 10-activity method, Table 5.5). In this, the PARi cycle produced a 'raw' method for the application of the framework to practice by identifying which methods, tools and activities to use, why they were useful and how they benefited this particular case (Table 5.5).

This cycle's development of theory and practice is illustrated in Figure 5.36.

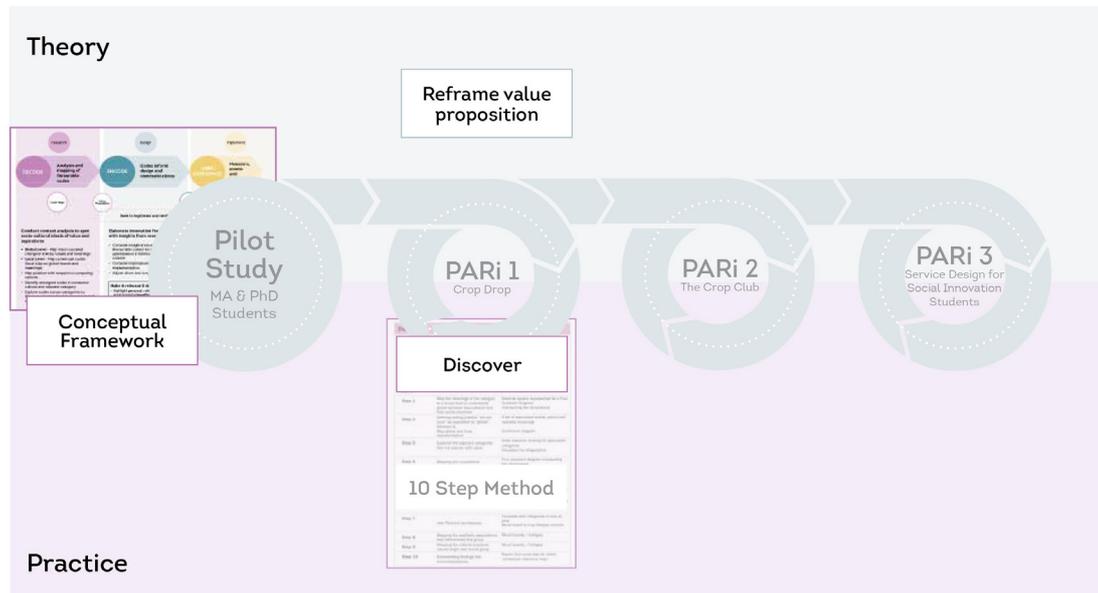


Figure 5.36 – PARI 1 theory and practice progression

This cycle provided the first practical approach to sociocultural context mapping, suggesting methods and tools to aid and structure this type of analysis. However, further development was considered necessary to make the outputs of this cycle (raw method) transferable to design practice and education. Equally, it was considered beneficial to further challenge the framework by applying it earlier in the innovation process, to obtain a more comprehensive understanding of its value and benefits to support designers in better value proposition framing.

Recommendations for next cycle:

Framework development

- Especially important is to challenge the framework by investigating its capacity to affect the PSS value proposition (the offer itself) and system design, rather than limiting application to touchpoints, to avoid incoherence between the actual offering, service delivery and its representations.
- Opening the framework to critique by going through the process with others, who can and provide feedback on its usefulness and suggestions for improvement, especially in terms of its fitness for building new capacities and skills through design education.

Practice development

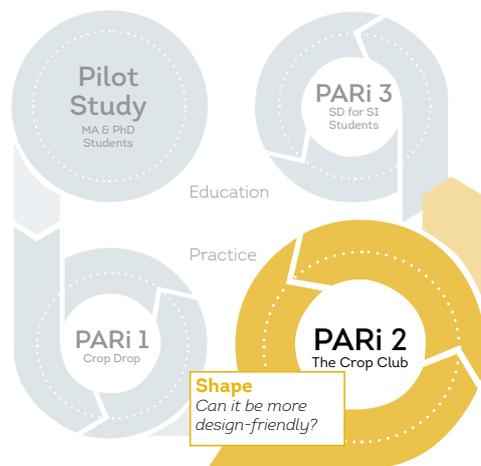
- Further develop the 'raw' process outcome of this cycle into a more robust method by iterated application. Reapply the '10-activity' process to a second case to better understand if its methodical application should be linear (following the activities consecutively) or flexible (selecting activities according to need).
- Align the framework and activities with design language, to fit with existing templates and tools (Chapter 2, section 2.3.2).
- Investigate whether it is beneficial to build the contextual analysis (summary report) on a digital platform so that it can be modified, commented on and expanded.

Other considerations

- Although it is desirable to test the design trials (prototypes) with users (*Con[ext]* User Experience phase), this cycle revealed that adequate and reliable testing requires thorough planning. However, allocation of time and resources to this purpose would have deviated from the aim and objectives of this investigation (Chapter 1, section 1.3.2), which focused on improving practice, rather than on theory testing.
- Engaging on a paid basis to produce design trials must be considered, to ensure the work is developed to the right standard and avoid 'shortcuts' due to time/budgetary constraints.

Building on these recommendations, a second cycle of research (PARi 2) was planned, engaging a different participant (as discussed in Chapter 3, section 3.2.3.2) in order to progress the development of the practical methods and the framework into a more robust outcome.

5.3.2 PARi 2 – Shaping the Method



This cycle constitutes the second PAR intervention in this research, where the framework was applied iteratively in the context of practice. Results from the previous cycle prompted the researcher to assess the framework's value to support the development of sPSS of good *intrinsic* and *perceived* value, as discussed in Chapter 3, section 3.2.3.2.

Research plan

Framework development – Building on the learning and recommendations identified in the previous cycle (PARi 1), the second cycle of research focused on assessing the framework's value to translate a sPSS concept into a viable value proposition. It was also desirable to determine how the framework was relevant at 'incubation' rather than 'operational' stage, by comparing the process with the PARi 1 cycle.

Practical outcomes – The objective was to 'shape' the 10-activity method elaborated in the previous cycle into a more design-friendly format, to fit with existing templates and tools (Chapter 2, section 2.3.2).

The *research* objectives for this PARi 2 cycle were:

- To assess how the framework application can impact sPSS design at incubation stage – i.e. how do sociocultural research benefits impact the value proposition and sPSS design
- To obtain peer feedback on the framework's value and suggestions for improvement by inviting others to participate in the intervention process
- To shape and adapt the 10-activity method to fit within PSS design context, process and existing tools

Criteria for participant selection

In order to meet the objectives of this study, and in line with the criteria for participant selection discussed in Chapter 3, sections 3.2.3.5, the researcher engaged with The Crop Club (Figure 5.37), a social enterprise venture based at Loughborough University enterprise incubator The Studio, which aims to support people growing food at home, in small spaces

such as a balcony or small patio. This choice of participant also allowed the researcher to capitalise on the background knowledge obtained in PARI 1 on sustainable food provision and consumption. At the start of the study, the social venture was categorised as a Product-orientated PSS (Tukker & Tischner, 2006) model – i.e. users bought a product (seed packs and planters) that was bundled with an added service (learning and peer-to-peer enabled support).



Figure 5.37 – PARI 2 participant, The Crop Club, a social enterprise at incubation stage

At the time of the research, the business was at pre-launch stage. The founder wanted to develop the venture to become her primary occupation and source of income. A shared interest in sustainability between the researcher and the participant led to a frequent exchange of ideas and concerns, especially the participant’s struggle to drive the business forward strategically – i.e. translating her passion, interests and values into a financially viable social business. In that, this case presented itself as a good example of the challenges faced in PSS design (discussed in Chapter 2, section 2.3.2), and therefore a good opportunity to further challenge the framework’s value in supporting value proposition definition, i.e. translating an initial concept (business idea) into a value proposition (how the idea makes sense for users in context).

In this collaboration, the researcher worked with participant RD (founder), and participant ML, a fellow PhD colleague who, at the time, was involved in supporting the founder by developing the community building and marketing aspects of the enterprise. The

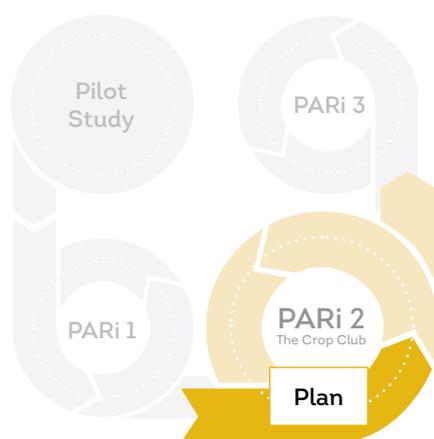
opportunity to involve colleague practitioners in the process was important for two reasons: first, it was sought to improve the framework’s robustness by opening the methods to discussion and improvement. Secondly, to amplify impact, it was sought to disseminate knowledge gained to other ‘design agents’ to build their skills and capacity through a ‘learning by doing’ approach, as recommended by learning from PARI 1.

As well as being a social entrepreneur, participant RD is also involved in design education as a part-time associate tutor and lecturer. She has a background in Product Design and a PhD in Sustainable Design Materials. This collaboration offered the researcher the opportunity to obtain insights from two perspectives: the *designer-preneur*, and the design educator. In addition, participant ML demonstrated an interest in taking part in the study, as her research area is also within Sustainable Design. The participant holds an MA in Design Innovation for Sustainability and a BA in Marketing Studies.

The researcher trusted both colleagues’ capacity to critically reflect and provide honest feedback openly, which was crucial to achieve the objectives of this cycle. The collaboration provided an ideal case study to impact the participant’s business, to improve the framework with others through ‘learning by doing’, and to obtain useful insights on the potential to build capacity in design students, practitioners and other social entrepreneurs.

Data collection and analysis methods – Details are described in Chapter 3, section 3.2.3.6.

5.3.2.1 Plan (Step 1)



The first meeting with the participant comprised an informal discussion to establish the expectations and terms for collaboration. The researcher presented the participant with the report and findings from the previous cycle to demonstrate the nature of the intervention with a practical example. The framework methods to be used and the potential outcomes of the intervention were also discussed.

Familiarise

As a first step, the initial questionnaire (used in the first cycle) was sent to the participant, as this proved effective to gather and discuss business information (section 5.3.1.4).

Additionally, the participant shared materials she had gathered for website development and fundraising activities, to further aid the researcher in understanding her goals and aspirations for the business. The business context and challenges were explored in more depth at a second meeting, discussing these visual materials and the answers the participant provided in the questionnaire. As we reflected on the data at hand, expectations for collaboration were clarified:

The researcher's intention was:

- To further develop the outcomes of the previous cycle (theory and methods) by opening it up to colleagues' critique, and applying it within an incubation stage context (see Figure 3.9).

The participant's interest was expressed:

'I need some help to define what it is that the business will offer and to whom, in order to produce a solid strategy for business development and launch.'

As a first step, goals and objectives for the intervention were discussed and agreed (Figure 5.38). These objectives were to guide the intervention and serve as milestones to assess progress, and to recognise when we had arrived at a satisfactory stage of exploration.

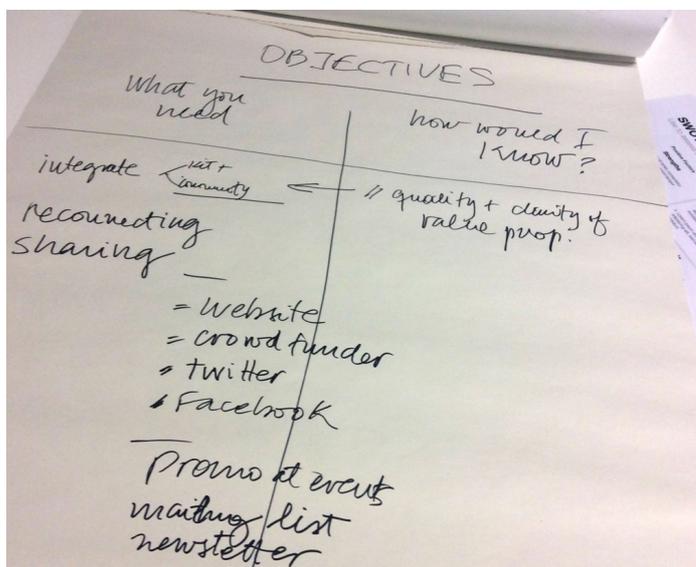


Figure 5.38 – Setting goals and objectives to assess intervention success

Objective for action was set as follows:

- To better integrate the ‘sales’ and ‘community’ aspects of the business. The participant considered that her primary motivation for developing the enterprise was to bring people together as a community; however, she felt unsure of how to materialise this. Especially challenging for her is the idea of building an ‘online’ community, because her original intention was to get people to connect in person, through the activity of growing.

It was agreed, therefore, that the value proposition needed clarifying in order to elaborate the business operations (system design) and draw strategic action for launch. Would The Crop Club offer a *product* plus a ‘supporting’ service (enabled by a peer-to-peer online community)? Or would it offer a *supporting platform* (service) to initiate people in growing at home, and retail products (such as growing kits) as an add-on to help users get started more easily? The second option, however, posed some questions for the participant in terms of how steady revenue could be generated.

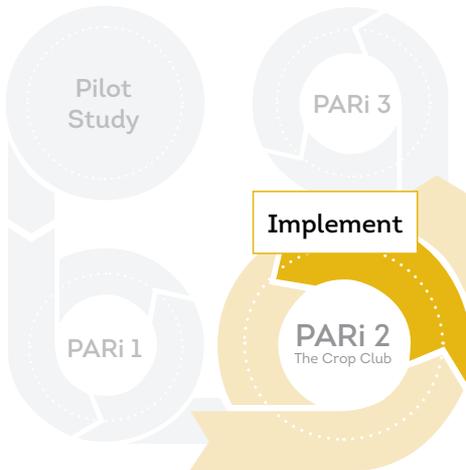
Action plan

Consequently, the focus of this intervention was to define the value proposition – i.e. *what is The Crop Club offering?* The action plan was then drawn around this objective (Table 5.6).

What	Why	How
a) Map service	To better understand what operations the current concept implies	Service design blueprint
b) Define the value proposition	To understand the business’ values and how these align with potential users	Using the framework as reference, go through IO-activity method. Framework: Does linear application work, or is flexibility needed to achieve objectives? Aids: Consider which aids need to be developed to make process more design-friendly.
c) Translate research insights into value proposition, brand and launch strategy	To test service prototype	Create strategic plan for service prototype testing with potential user groups Develop stronger branding and communication materials

Table 5.6 – PARI 2 Action plan

5.3.2.2 Implement (Step 2)



The implementation stage was planned as three joint working sessions, conducted over two consecutive days at Loughborough Design School. Participants were: the business owner (participant RD) and the marketing and community manager (participant ML). Participant details and selection criteria are discussed in Chapter 4, section 3.2.3.6.

Mapping the service (Service Blueprint)

The first activity of the session was to create a service blueprint (Figure 5.39). It was agreed that by mapping the service concept (structure and operations, customer journey, touchpoints and deliverables) was a good way to evidence gaps, dilemmas and inconsistencies between intention (PSS concept) and implementation (PSS design).



Figure 5.39 – Working on service blueprint

Analysing the current PSS structure and value proposition (Business Model Canvas)

The participant had kept the 'rough' business model canvas that gave rise to the initial concept for The Crop Club (Figure 5.40). Discussions first focused on the content of the Value Proposition box, which was found vague and undefined.

Notes read:

'Happiness'

'Save money'

'Reduce food waste'

'Relaxation and get in touch with nature'

'Teach children where food comes from'



Figure 5.40 – Revising the first business model canvas

It was spotted that this was more of a 'list of benefits', or social impact outcomes, but no proposition of value statement was clearly articulated. The participant pointed out that these notes had been produced too long ago, highlighting that the offer was better articulated on the website (Figure 5.37):

'Providing sustainable gardening packs to encourage people to grow their own food and share their knowledge and experiences.'

The website also articulates the mission statement:

'Our mission is to reconnect communities through the joy of growing food, encouraging biodiversity and inspiring healthy and happy lifestyles.'

We then discussed how the concept of ‘bringing people together’ was expressed, and whether providing a ‘growing kit’ was indeed the best way to achieve her goal, or deliver the social value she intended – i.e. to connect people and experience the ‘joy of growing your own food’.

Exploring PSS meaning and context (10-activity method)

At this point, the framework was introduced to aid conversations for defining the value proposition. The process was guided by the ‘raw’ list obtained in PARi 1, the 10-activity decoding method (section 5.3.1.3). In order to assess whether the activities needed to be applied in the same order as they occurred in PARi 1, the researcher was guided by the need to achieve the objective, rather than faithfully applying the activities in prescriptive order. The activity used to accomplish the task is therefore noted in brackets in the paragraphs that follow.

Defining paradigms: how is community growing different from growing alone? (Framework Activity 2, Binary oppositions)

In order to start exploring what could differentiate the PSS value proposition, the first activity selected by the researcher was to apply the binary oppositions operation (Table 2.5). This selection was made in consideration of the emphasis that the participant placed on community aspects being a differentiating feature of the service she wanted to develop. Therefore, this activity focused on exploring the polarities posed between learning to grow *by yourself*, and doing it with the support of a *community*. For this purpose, both concepts were listed as opposite pairs side by side, and a list of related concepts was elaborated under each, to make evident the ‘implied’ and ‘tacit’ meaning associations for each concept (Figure 5.41).



Figure 5.41 – Polarities method

Community	Individual
Together	Lonely
Generous	Selfish
Connected	Disconnected
Supported	Alone
Sharing	Self-centred
Self-worth	Low self-esteem
Belonging	Isolation
Learning from others	Stagnation
Motivation and energy	Procrastination
Enabling	Disabling
Positivity (‘can do’ attitude)	Negativity (can’t do it)

Unpacking the concept of ‘community’ **helped to make explicit the service advantages**, and, by opposition, the words listed under ‘individual’ describe the problem that the service intends to tackle, which also became more evident and explicit.

Defining positioning (Framework Activity 1, Semiotic Square)

Having clarified the focus of the offer (community of home growers), the offer was mapped against competing options. We aimed to answer the question: *‘Among all others that offer help to get people started with growing (vegetables), where is The Crop Club positioned? How is it different from them? What does it offer that others do not?’*

For this activity, the researcher selected the Greimas Semiotic Square, proceeding to form a four-quadrant diagram by intersecting two dimensions (Figure 5.42): the first dimension (Community–Alone) derives from the concepts explored in the previous exercise (binary oppositions). This is necessary for mapping those organisations/businesses who are already offering propositions in the ‘community growing’ category. The polarity in the vertical axis (Nature–Hobbies) emerged from a discussion on motivations or reasons that may mobilise people to start growing at home. (Note: here, the word ‘nature’ is used to mean ‘environmental reasons’, i.e. concern with environmental or social issues surrounding the production, transportation and commercialisation of food.)



Figure 5.42 – Mapping The Crop Club’s positioning

Organisations offering somewhat related services were mapped in each quadrant. This activity prompted discussions about the ‘ideal’ positioning for The Crop Club, looking at where the PSS should be positioned. Benefits and features of the service that differentiate it from existing organisations were also discussed.

Through this exercise, the mission and purpose of The Crop Club became clearer:

To initiate people in growing their own vegetables at home and provide access to resources and a community of like-minded people with whom to share their experiences and exchange knowledge.

Exploring adjacent categories and global trends (Framework Activity 6, Word clouds)

Having explored ‘competing’ options, we moved on to map adjacent categories. This activity helped us to identify similar organisations, movements and themes with shared interests and values. It proved useful to identify potential partners, but also to identify ‘stretch stimuli’ (similar ‘codes’ and favourable associations from related categories) to help position The Crop Club by building on wider cultural trends and movements’ discourses relevant to constructing the sociocultural meaning for The Crop Club – i.e. its value proposition, related activities and service design (Figure 5.43).

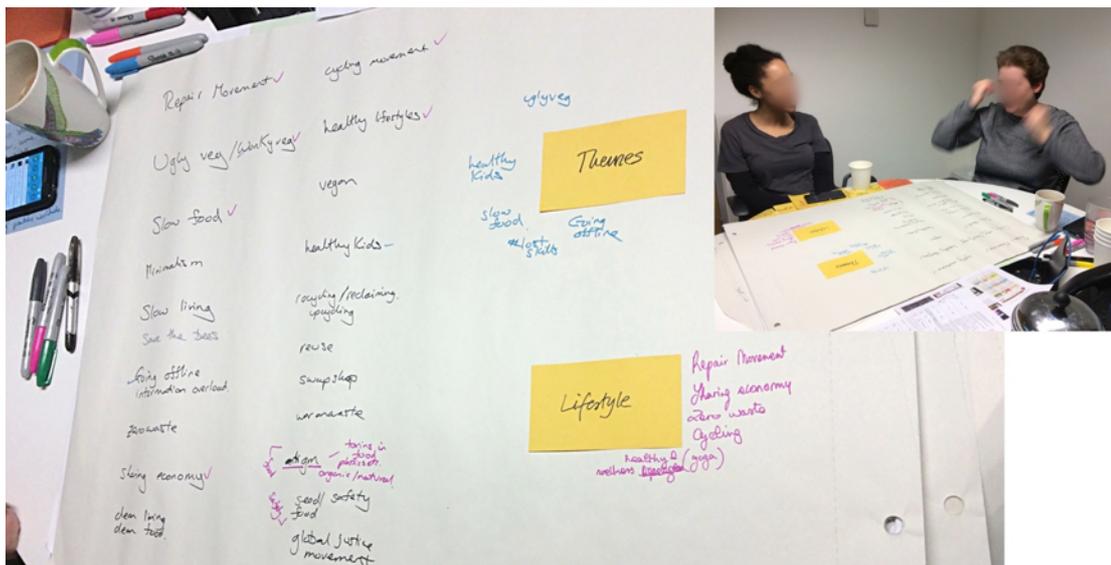


Figure 5.43 – Exploring related themes and categories

Related themes

- Ugly veg
- Healthy kids
- Going offline
- Organic
- Lost skills

Related movements

- Reuse and repair
- Zero waste
- Share economy
- Health and wellness
- Cycling

Reformulating the value proposition (Business Model Canvas)

At this point, having clarified the mission statement and purpose of The Crop Club (a campaign aiming to educate and support individuals willing to embark on the process of learning to grow their own vegetables), the Business Model Canvas was updated (Figure 5.44). The key activities of the company were changed to: Campaigning, Supporting, Educating. A motto or slogan was developed and placed in the Value Proposition box:

‘Experiencing the joy of growing’

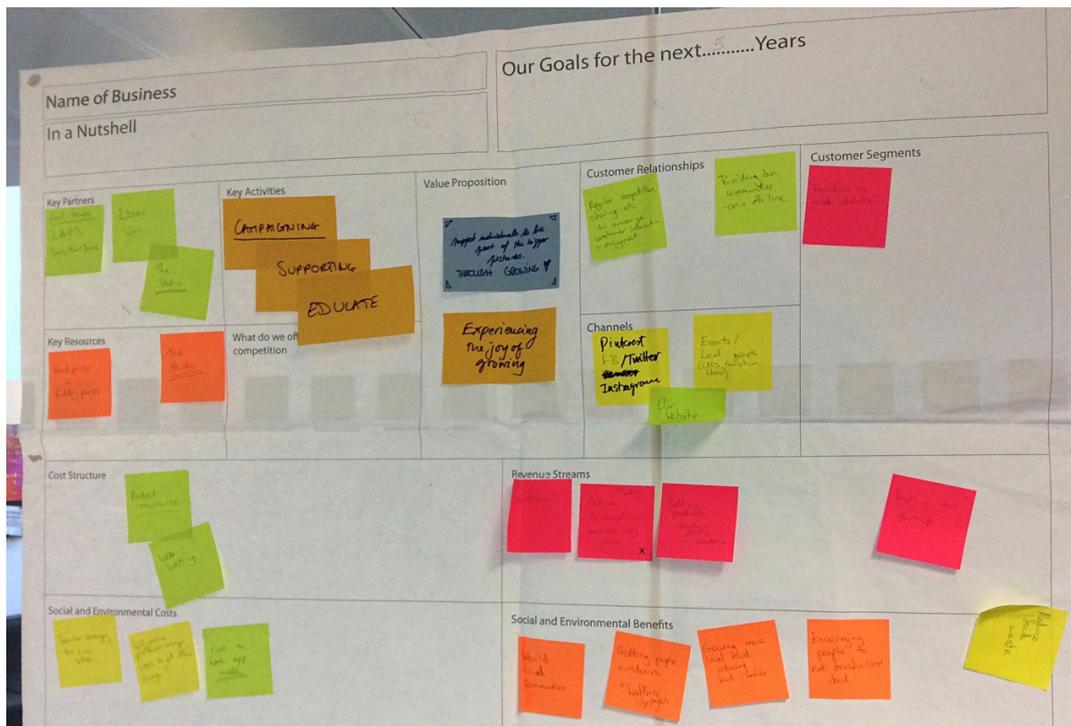


Figure 5.44 – Updated Business Model Canvas

Refining the value proposition: what do we stand for? (Communicating values)

As The Crop Club aims to join a movement towards adopting new practices (in this case, growing vegetables at home), it needs to communicate certain values. It also needs to educate and raise awareness of the benefits of adopting such a practice and provide people with incentives to overcome the barriers.

This activity focused on elaborating ideas for a launch strategy that would effectively communicate the core values and benefits of the service.

As The Crop Club is about creating communities, it needs to be inclusive and democratic. ‘Growing at home’ therefore becomes a value proposition that offers individuals a way to find belonging in a community. Joining means that they are willing to incorporate a new sustainable lifestyle practice (learning to grow their own food), through which they experience the personal benefits of belonging and contributing to a wider cause:

‘The Crop Club will campaign, educate and support individuals to be part of the bigger picture.’

Therefore, defining The Crop Club as a ‘campaigning’ rather than a ‘business’ organisation was considered more fitting to encourage engagement and provide common ground for

This was later modified to exclude the word 'change' as the participant considered it might be too limiting – i.e. some people may not want to achieve change, but maybe something else:

I grow food

We grow closer

Together we . . .

(you decide)

The intention behind leaving the last sentence open for people to complete was to give people space to fill in what they envisaged achieving together, rather than dictating what they should do. By setting their own goals or causes (customisation), the service would enable them to take ownership and acknowledge the empowerment of working together to achieve commonly agreed goals.

Not only clarifying the value proposition in terms of what to do, the owners' intention was amplified by applying the framework (referred to how it affected value proposition and brought in line with P1).

Redefining the service (Mapping new stakeholders)



Figure 5.46 – Rough map of new possible partners and stakeholders

Once the mission statement and value proposition were clarified, we were able to map the stakeholders (Figure 5.46). This activity stimulated the generation of many ideas for partnership and the offering of related services at business-to-business level. As collaborating with a *campaign* (a cause) is generally more appealing to people than partnering with a business (as it is not seen as direct competition), this new position opens opportunities for diversifying revenue-generating streams, as the venture has more room to develop in different directions.

Some of the ideas discussed were:

- Work with local organisations and schedule ‘growing’ taster sessions, where people can learn, plan seedlings and take them home
- Organise neighbourhood ‘growing’ events, which could be sponsored financially by local authorities, NGOs or other funding sources
- Provide a service to schools to get them started in ‘growing practices’

Defining user groups (Activity 7)

At this point, the participant felt confident enough to start exploring how to prototype the new service model. Being a local organisation and a social enterprise based at the university campus, it was convenient to begin campaigning activities within the university. The participant already had this in mind; therefore, the first user group was naturally defined.

Setting a plan for next steps



Figure 5.47 – Planning concrete goals for next steps helped to focus direction

Session Follow up

Summarising research outputs (Activity 10)

At the time of the session, it was not possible to proceed with cultural code mapping as we were lacking the data to conduct the analysis. Therefore, it was agreed that we would collaborate over the online board to create a flexible and easily updatable digital Code Map.

Following our sessions, the researcher created some **templates** to help summarise the outputs of the Decode process. Research outputs were organised using the templates on a digital board (*RealTimeboard.com*, Figure 5.48), a platform that provided the opportunity for all participants to review, comment on and modify these resources.

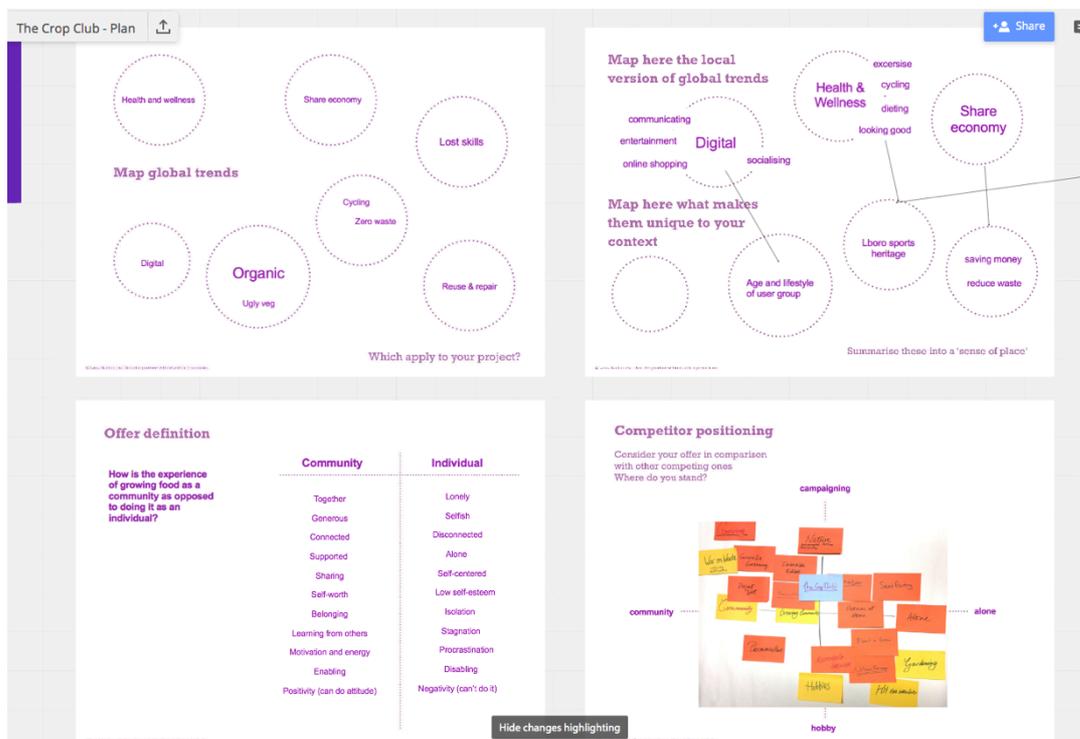


Figure 5.48 – Research summary produced using online tool RealTimeboard.com

Building the contextual Code Map (Activity 9)

At this stage, it was agreed that collaboration would continue. The next task was to build up a body of data (contextual references) based on our selected target audience (students) and the new service category (campaigns). With these resources, a visual code map was built on the digital board as pictured in Figure 5.49 and Figure 5.50.

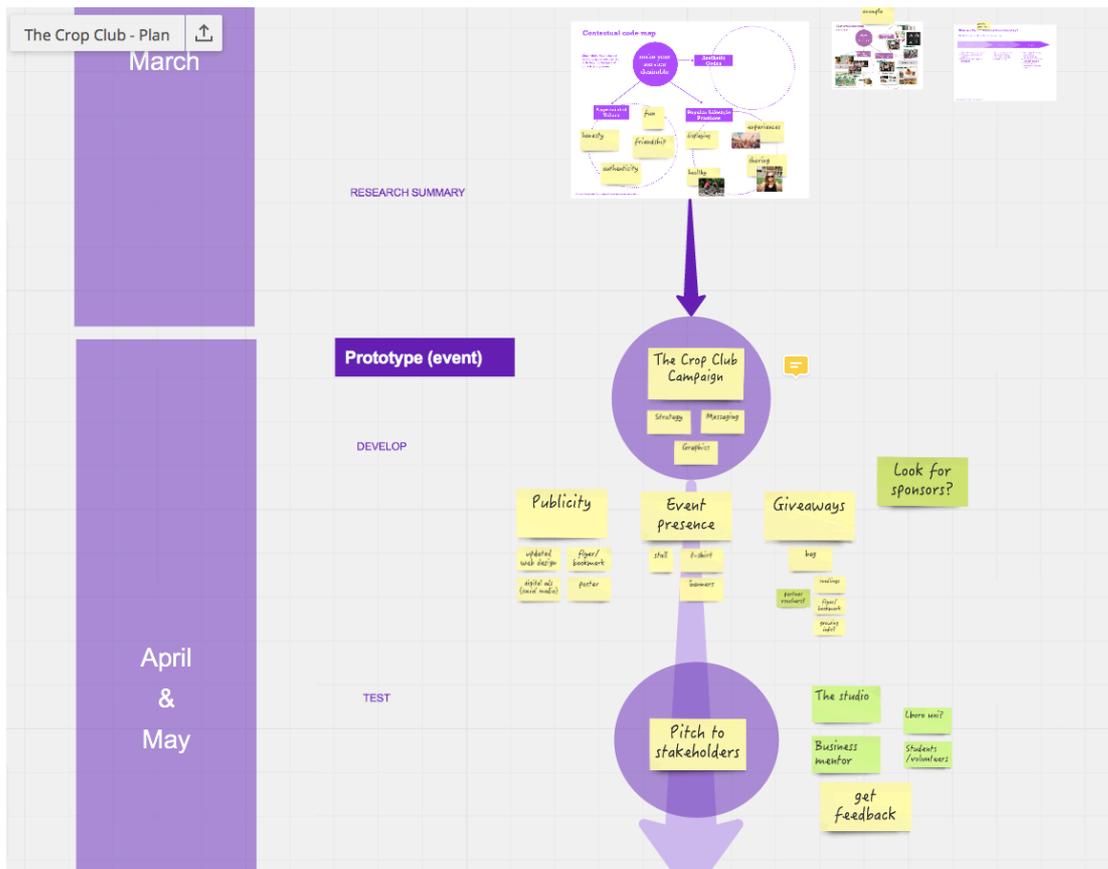


Figure 5.51 – Further planning drafted using online board collaboration platform.

The contextual reference map was subsequently used for the following purposes:

- The reformulation of the value proposition shifted the type of sPSS, therefore some adjustments to the service operations were introduced by the participant following the intervention. Although this aspect is outside the scope of this research, some evidence was collected to informally monitor activities that followed the research. For example, Figure 5.52 depicts the participant preparing growing kits to send out for testing the ‘product’ component of sPSS.



Figure 5.52 – The participant gets ‘testing kits’ ready for delivery

The logo and graphic representations were at basic stage and underdeveloped. It was agreed that the logo would need to be redesigned to reflect the new proposition, but also that further development of brand elements and guidelines (i.e. colour palettes, illustrations, patterns, tone of voice, etc.) were needed. To this end, the researcher produced some **mock communication materials to test brand perception and positioning** – i.e. sample poster/flyers, Figure 5.53 and website interface, Figure 5.54.

This was achieved by focusing on two forthcoming events (Loughborough students Well-being Week and Market Town Fair).



Figure 5.53 – Sample advertising

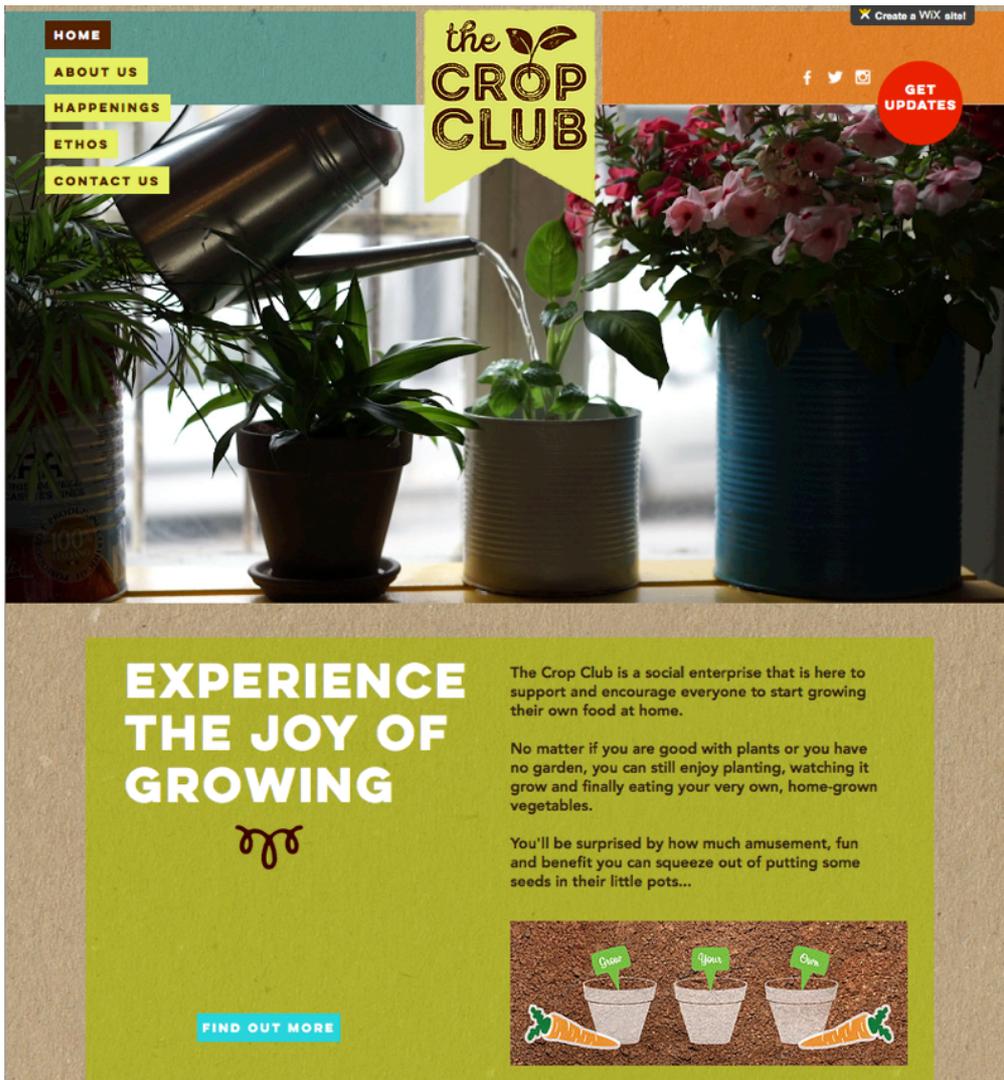
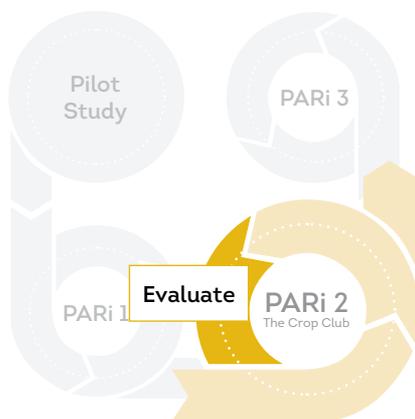


Figure 5.54 – Sample web interface

5.3.2.3 Evaluate (Step 3)



In this step, the intervention was evaluated against the objectives agreed at planning stage (Step 1, section 5.3.2.1). It reports on how this cycle advanced the research towards its aim and objectives and how it improved practice while doing so.

How did this action cycle improve the framework?

The *research* objectives for this cycle were successfully met, as follows:

- The intervention provided a good understanding on how the framework can support sPSS ventures at incubation stage, by value proposition definition, positioning and values framing. This in turn affected the business model, the branding and supported the elaboration of strategy for prototyping and implementation.

It was found that it provided original and strong support for ‘clarifying the service purpose’ by summarising user insights and translating a PSS ‘concept’ into a viable value proposition.

‘The Crop Club received quite a lot of help from The Studio but they had a clear problem with defining the value proposition. It was really good, and I am looking forward to being able to use the tools in my future ventures.’ (ML)

This in turn provided the participant with the confidence to build a plan for business development and launch, and to allocate resources more strategically to achieve her goals.

Participant R comments:

‘. . . widening [. . .] to a campaign style so anyone can get involved and support the company without necessarily buying a pack to grow with.’ (RD)

For accountability and evaluation purposes, the new value proposition and strategic plan for implementation were presented to peers (other entrepreneurs within The Studio incubator) (Figure 5.55). They were a good source for providing feedback because they are familiar with The Crop Club and the struggles it faced.

At first a question was raised (doubt) about how a campaign can generate revenue. However, after the complete presentation was done, the participants could visualise very clearly the new proposition.

‘Excellent process, well done guys, you’ve got it.’

‘I think this now has great potential. Students like campaigns, and they like to stand for causes. They would also like the idea that it’s cheaper to grow your own food.’

Attendants to the session commented that they would benefit from going through a similar process, since

'We've had talks and presentations on marketing and branding at the very first stages, but then we didn't have much sense of direction. Now that we know what we are doing, it would be great to go through this process and really refine our offer, to truly understand where the value of what we are offering is, so we can communicate it better.'



Figure 5.55 – Session conducted at The Studio incubator to collect feedback from colleagues

The *Con[text]* method evolved from the 'raw' 10-activity method obtained in the previous cycle (Appendix C4) into a set of templates (Appendix H2) which align with existing methods and tools commonly used to support sPSS design, such as those described in Chapter 2, section 2.3.2. These templates support the activities proposed by the framework (see Appendix H).

Is the framework suitable for building new skills and capacity in designers to elaborate socio-symbolic features, meaning-making and critical reflection?

The framework's value to build skills and capacity in designers was assessed by the participants. Detailed feedback is provided in Appendix D1, but the most salient aspects are summarised below:

Both participants were asked to consider how relevant the methods and tools were to build skills and capacity of students in Service Design for Social Innovation. The following responses were provided:

'very relevant' (RD)

'extremely relevant' (ML)

The participant identified the following core skills and capacities that the framework tools could build in students wishing to engage with social innovation:

- Being more critical of their ideas
- Considering further the sociocultural context of their potential users/customers
- Being aware of the impact of the symbolic message they convey through their design
- Being more convincing if they apply the tools appropriately
- *'I think there is a lot more, it can be quite a detailed process which requires skills (research, etc.). If done in a group, it is a very good teamwork exercise to go through'*
(ML)
- Aligning messages
- Creating strategies and timelines
- Market positioning (RD)

Furthermore, participant ML offered suggestions for improvement, especially for using the methods within an educational context.

'I think it is about allowing the time to engage with the tools.

Create some role play with a main facilitator to get students to think about the dynamic of the group?

As it is an iterative process, indicate within the scheduled time when the concept has to be reviewed before moving on to another step.' (ML)

Participants were also asked to approximately locate the tools (as a set) within the Double Diamond phases of the design process (Discover, Define, Develop, Deliver):

(Define) This is the stage where I will use the tool as well as the develop stage (ML)

All of them (RD)

In summary, this PARI cycle improved the robustness of the framework by evidencing:

- **The value of the framework to support social entrepreneurs in the initial steps of their journey to market:** defining the value proposition by aligning their interests with that of potential users and devising informed strategies are the aspects where the framework proved to be of most value.
- **The relevance and suitability of the framework to support the development of new skills and capacities in designers was asserted by the participants.** However, it was also recognised that to build such skills, time must be allowed to conduct the activities in depth, and adequate tools to support these activities should be developed.

How did the framework improve practice?

At the initial stage of this cycle, both the participant and the researcher set objectives to measure progress and to evaluate the process and methods used to achieve them. These objectives were met as follows:

To know how better to integrate the kit 'sales' and the community aspects of the participant's business. Bringing people together as a community is the driving motivation for her to develop this enterprise; however, she is not sure how to materialise this

'... widening [...] to a campaign style so that anyone can get involved and support the company without necessarily buying a pack to grow with.' (RD)

Especially challenging for the participant is the idea of building an 'online' community, because her original intention was to get people to connect in person, through the activity of growing

'... better understanding as to the meanings behind being in a community/club, and that I had overlooked the negative connotations of a club when the intention was to create a sense of belonging, not exclusion. Also, identified that a sense of achievement – personal and in common with others – would be a key benefit.' (RD)

Business model shift

The value proposition of The Crop Club was refined and strengthened by applying the framework. Consequently, the business model was pivoted as summarised in Table 5.7.

	Pre-intervention	Post-intervention
Value proposition	Providing sustainable gardening packs to encourage people to grow their own food and share their knowledge and experiences	Campaigning, educating and supporting people to experience the joy of growing as communities
Business type and model	Business organisation <ul style="list-style-type: none"> • Repeat sales of 'growing kits' • Individual subscriptions to support service 	Campaigning organisation <ul style="list-style-type: none"> • Consultancy, mentoring and funding access facilitation services • Organisation and individual subscription to network for peer support
PSS typology	Product-orientated PSS (sales of product through subscription model, plus additional services provision)	Service-orientated PSS (sales of service that enables user's own production)
Main activities to promote	Sales of 'growing kits' Enabling community (peer-to-peer support between growers)	Services, case studies, testimonials, social activity, upcoming events and other opportunities to engage

Table 5.7 – The Crop Club. Business model shift through intervention

Planning and strategy

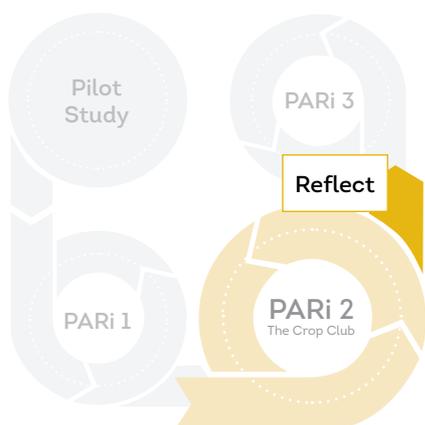
The intervention was useful for moving the business forward, and drawing up strategies for branding, service prototyping, marketing and communications.

The reformulated proposition integrates:

- the original intention of **creating communities of practice**, and in doing so, it promotes intrinsic values, as per framework recommendations
- **communicating at an emotional level**, opening sensibilities in users by sensorial appeal, and beyond rational decision-making approaches commonly used to frame social and environmentally conscious ventures
- the business activities are more **focused on providing a service rather than on product retailing**. By providing a *supporting platform* to initiate people to grow food at home, the service advocates, encourages and supports the adoption of sustainable lifestyle practices, as opposed to merely selling a product (green consumption)

Furthermore, the new positioning opened up opportunities to explore a wider range of revenue streams and potential business-to-business partnerships.

5.3.2.4 Reflect (Step 4)



This section reports reflections on how the study progresses the research, how it improved practice (the researcher's own and the participant's).

In line with the aim and objectives of the research, this cycle contributed to the answering of questions related to the formulation of good value propositions (i.e. – *RQ 2a: How can sustainable Product-Service Systems value propositions that are*

of good intrinsic (as well as perceived) value be elaborated?). The intervention sought to apply the framework to assert its value in this respect.

How did it change practice?

The starting point for this intervention was the 10-activity Decoding method obtained in the previous PARi cycle (Appendix C4). This served as a guide to the researcher, who used it throughout the working sessions, referring to it when needed to select methods and tools to support the objectives to be attained.

Rather than forcing steps consecutively during the process, the researcher had to adopt flexibility and sensibility to allow for the exploration process to 'flow' naturally from one step to the next. This meant that the order of the 10 activities was not followed prescriptively, but instead the process was guided by the researcher focusing on the goal to be achieved. Moving the exploration forward was crucial to maintain momentum with the participants, and to build a feeling of progression.

Adopting this attitude required specific capacities and skills in the designer (in this case, the researcher):

- *flexibility* to adapt the process as required,
- ability to *direct* flow – i.e. 'know' when a certain aspect had been explored sufficiently and move onto the next activity

- insightful *sense of direction*, to be able to pick from a range of possible activities the most suitable one for the next step

Again, in this cycle the researcher had to keep focus on *process* rather than *outcomes* to achieve the research and action objectives. This reinforced self-awareness in the practice, which became more conscious, methodical and directed.

On reflection, **the researcher ‘realised’ that, in essence**, the process of design was about creating alignment between the business owner’s interests and the possible interest of potential users, in order to generate value for both parties. The object of design or ‘design outcomes’ were not material (e.g. touchpoints); rather, **what had been designed was ‘meaning’, i.e. a ‘value symbol’ or a proposition of value** that benefits stakeholders at a personal level, but also implies wider societal benefit.

Therefore, it was learned that innovation framing is concerned with more than just finding an aesthetic ‘fit’ to represent the artefact in a way that can be understood and appreciated by the target group. **Framing is about ‘crystallising’ an alignment of interests by designing a web of interconnected meanings that not only ‘communicate benefits’ but also evoke and express certain emotions inevitably contained in all human experience.**

How did it change the participants’ practice?

The two participants in the cycle had different levels of involvement. Participant M contributed to the sessions where the framework was applied as a series of activities to define the value proposition. She comments:

‘I have learnt a lot from the experience. The most useful takeaway is to be clear on your value proposition. Although this is something I know, it is easy to be influenced by what we see or hear but also not really knowing what a sound value proposition means.’ (ML)

For participant R, the business owner, there was good sense of progression and achievement:

‘The whole process was incredibly useful and also very enjoyable.’ (RD)

During the session, the researcher captured a breakthrough moment when the participant started to feel excited, as she could sense that the initial business concept had the potential to contribute to cultural change, becoming part of existing, wider movements. Although she was somehow aware of this at a cognitive level, something ‘clicked’ during the session:

the possibility that the business could also be financially viable, as the exercise served to spark exploration of such opportunities by seeking to align different stakeholders' interests.

At a more practical level, the participant was enabled with tools to organise and keep visual references (Code Map) that could help her with a more efficient way of researching potential user groups, competitors and potential partners, and general global and local trends in line with the new value proposition. This is evidenced by the fact that the Code Map set up on the digital platform (*Realtimeboard.com*) during the research process was updated by the participant on a weekly basis.

The participant also took ownership of the visual materials developed by the researcher, adapting them to suit her needs (Figure 5.56).

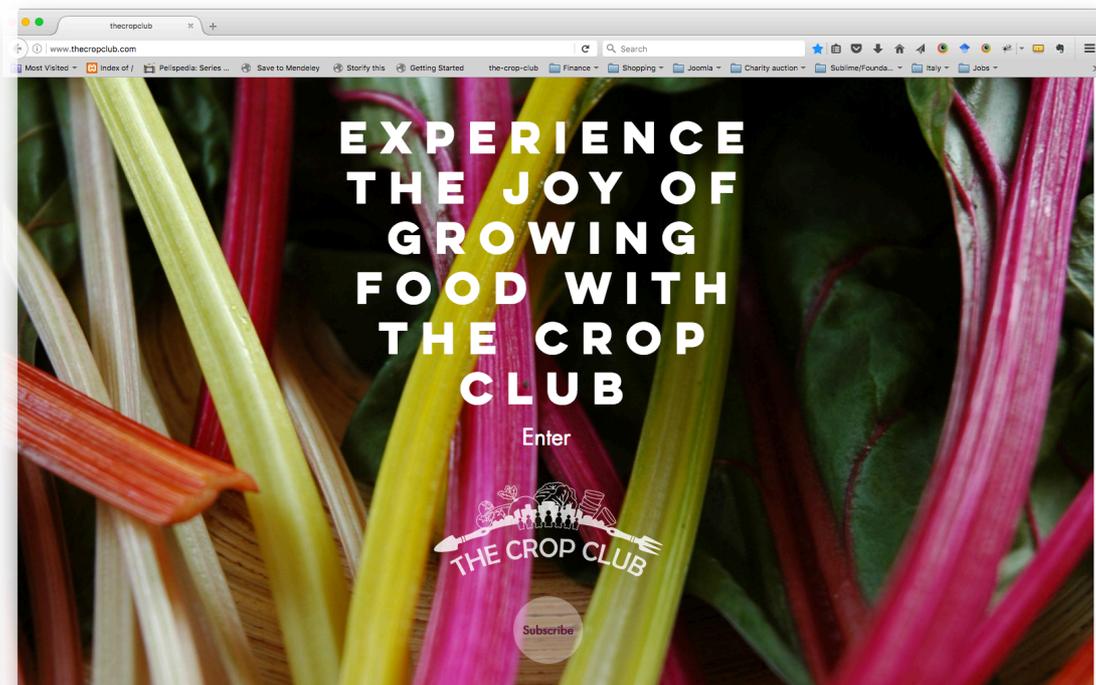


Figure 5.56 – Participant's own web design

This eliminated the limitation she suffered from not being able to afford design services. Recognising that the results may not be as professional as they could be if a designer was employed, the outcomes are still of much higher standard than previously, and fit for purpose considering the budgetary limitations. The guidelines, samples and templates developed by the researcher enabled the participant to produce her own visual materials.

5.3.2.5 PARI 2 Conclusions and implications for further research

The development of the framework was further investigated in this cycle by applying it in an iterative manner to improve robustness. The contribution of this intervention to the research can be summarised as follows:

- The framework was further challenged and made more robust by applying it at an earlier stage of innovation development, in a different context and with different stakeholders. The impact that the framework had in defining the value proposition was evidenced by two tangible benefits: first, the business model was modified, refocusing system operations in creating the most value for stakeholders (business and users), and reinforcing intrinsic values that contribute to well-being and sustainability (community and belonging). Secondly, by reframing the service core offer, new possibilities for income generation were opened up, which contributed to making implementation and launch plans more tangible and actionable.
- The raw process for application of theory to practice (10 activities) obtained in PARI 1 was refined and shaped into a more design-friendly format in this cycle, to fit with design language and existing templates and tools in service design.
- The framework and outcomes of PARI 1 were also improved by amplifying participation. By engaging colleagues in the analysis as a participatory process, valuable insights on the strengths and weaknesses of the framework were obtained. Participants also provided opinions and suggestions on the framework's value to build skills and capacities in designers and others involved in social enterprise innovation and development.

Figure 5.57 shows progression of theory and practice in PARI 2.

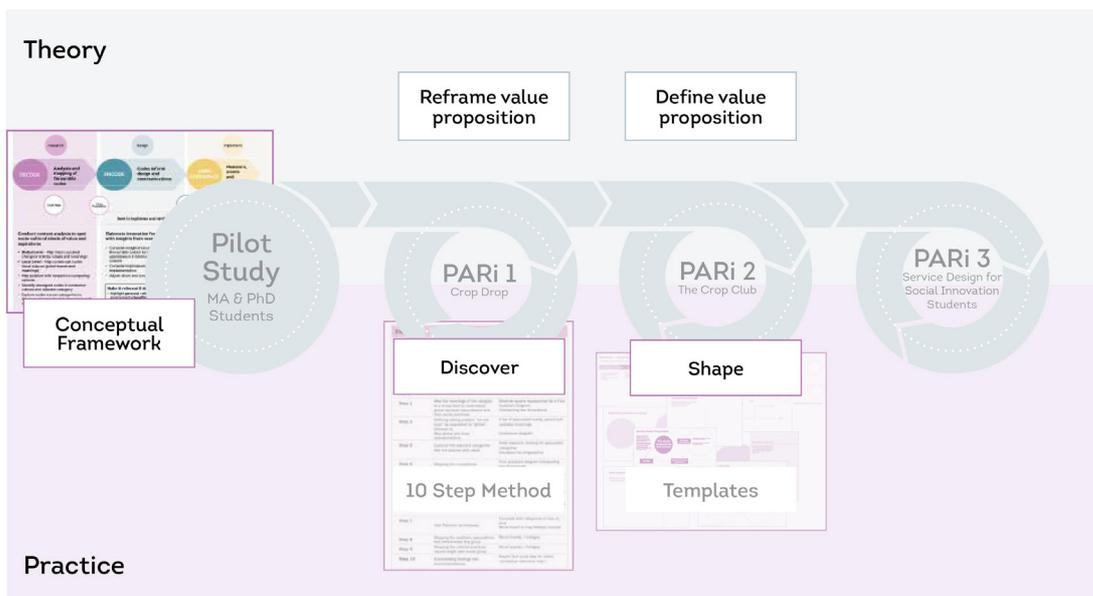


Figure 5.57 – PARI 2 theory and practice progression

- **Framework development** – The framework was applied for the second time, and proved useful to refine a business concept into an actionable value proposition. The *Decode–Encode* method was valuable for aligning the innovator’s and user’s interests, triggering a ‘meaning design’ process that creates ‘value symbols’ – design outputs that reinforce the intrinsic values underpinning sustainability and well-being.
- **Practical outputs** – The cycle produced a series of basic aids (templates and tools) that can support the implementation of the theoretical framework to practice – i.e. sociocultural context research based on applied semiotic methods.

However, further development of the framework and methods was considered necessary to understand its value for supporting the PSS innovation process at its earliest development stage, to ensure that the formulation of value propositions are better informed by the innovation context. Equally, an iterative application of the framework was desirable to situate the different ‘activities’ within the PSS design process.

Recommendations for further research

This cycle revealed that the 10-activity method is not a linear process and flexibility was exercised by the researcher in the selection of steps. Therefore, as a next step, it was decided to find out *where* exactly in the innovation process each activity is most relevant.

For the next steps of the research, it was recommended that:

Framework development

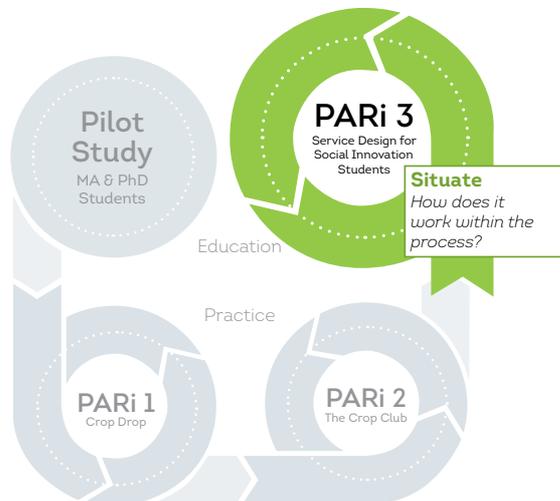
- Consideration is given to assess the value of the framework for supporting the process of 'design of meaning' at the earliest stage of innovation, investigating how the set of methods and tools support different stages of the design process.

Practice development

- Based on suggestions from participants in this cycle, the framework's suitability and capacity to contribute in building the designer's critical capacity and skills for meaning-making (see theory premises, Chapter 4, section 4.2.3) are further investigated in the next PARI cycle.
- The templates produced in this cycle were elaborated post-intervention (rather than prior to it) and were employed to *summarise*, rather than *support* the application of methods. Therefore, their suitability to support method application during the design process needs to be further investigated.

Building on these recommendations, and findings from the previous cycle and Pilot Study, a third cycle of research (PARI 3) was planned for engaging in an education setting (as discussed in Chapter 3, section 3.2.3.2), thus progressing the research towards elaborating a theory-informed set of practical methods of sPSS design that extend and enrich existing ones by supporting sociocultural research aspects.

5.3.3 PARI 3 – Situating the Method



This PARI 3 cycle moves back to the context of education to investigate how the activities and applied semiotic methods developed so far could support the development of meaning-making skills and capacities through PSS innovation, starting at parting from the earliest stage in the design process.

Research plan

The Initial Theory recommends implementing contextual research as early as possible in the innovation process (Chapter 4, section 4.2.2) to support designers to better research and map the contextual and socio-symbolic aspects that influence users' preferences and generate value by design innovation. This last cycle investigated how the framework complemented existing methods by providing a structure to map symbolic and cultural aspects of context research, in order to generate more relevant value propositions. Equally, it was sought to gain a better understanding of how this approach could aid the development of critical analysis skills and meaning-making capacities through design education.

The *research* objectives for this PARI cycle were:

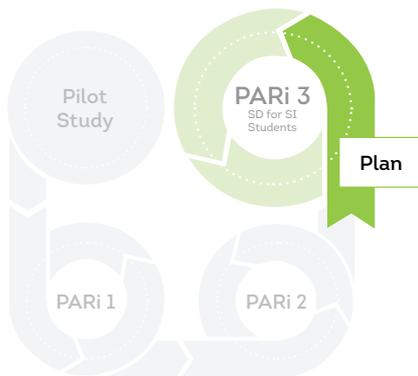
- Assess the impact of the framework over the elaboration of value propositions at the earliest innovation stage
- To situate the different *Con[text]* methods and tools within the four stages of the design process: Discover, Define, Develop, Deliver (Design Council, 2005) and assess how these work alongside existing service design tools, as used to spark grassroots social innovation
- Assess the suitability of the framework to develop capacity and skills, and the implications for design for sustainability education

In order to achieve these three objectives, a situation that allowed concept generation within design education was favoured. The researcher engaged with MA Interaction Design students at Loughborough Design School in the role of assistant tutor, once a week over a period of six consecutive weeks. The intervention was implemented in the Service Design for Social Innovation module, which provided students with the opportunity to develop innovations within a brief provided by ‘the client’ (a consortium of local authorities and local businesses). More details on the brief are provided in Appendix E2.

The module leaders, who also monitored the intervention and provided feedback as part of the Evaluation process, provided access to participants.

Data collection and analysis methods – Details are described in Chapter 3, section 3.2.3.6.

5.3.3.1 Plan (Step 1)



Familiarise

The researcher familiarised herself with the students and the learning environment by attending colleagues’ sessions and through informal conversations with the module leader. Inspecting the module guide (see Appendix E1), a good source of background information, was very useful for setting the intervention objectives. A summary of

the guide where some salient aspects that made this module suitable for the purpose of the research are highlighted below:

Service Design is increasingly taught within Interaction Design and related programmes, and is a rapidly growing area of professional User Experience Design. It is a user-centred approach to the design of services that involves systemic thinking and the design of multiple touchpoints between the service and its users. Service Design is often used to enable social innovation, as it facilitates the consideration of hard-to-define complex problems and their consequent societal and business challenges. Sustainability, creativity and co-creation techniques are used to explore problems and develop solutions with relevant stakeholders, facilitating the involvement of non-designers in design.

The aim of this module is to provide the student with practical experience and competence in service design from a social innovation perspective:

- To broaden the experience and skills of the student designer to include knowledge of, and competence with, an introduction to service design principles applied in the context of social innovation and their application to the design of interactive products and services.
- To enhance knowledge and skills in user experience design to include the ability to apply systemic thinking and the design of multiple touchpoints between the service and its users.

The module is run as a collaborative project, where students work in teams to generate innovations based on a client's brief. In this instance, the brief was provided by a consortium of business and local authorities (Appendix E2).

Intervention objectives and planning were elaborated jointly with the module leader as follows:

The *action* objective was:

- To support students with theories, methods and tools that enable them to research and map the innovation's context, make sense of their findings and elaborate them into service value propositions that support intrinsic values

Action plan

It was agreed with the module leader that the intervention would be implemented as a lecture/workshop scheduled within the module's timetable, and should be followed up with tutoring support. Participation consent was obtained from each student (Appendix A4 provides a sample).

The **learning objectives** for the intervention were drawn from the Theory Premises (Chapter 4, section 4.2.3), as follows:

- To raise awareness of the role of design in cultural mediation, context deconstruction and representation practices by familiarising students with critical, semiotics and cultural theories
- To understand the relevance and benefits of sociocultural context research to the design of PSS in the social innovation process

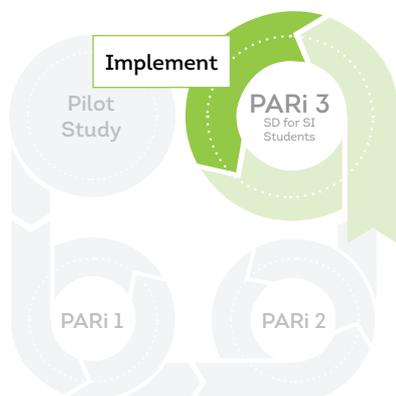
- To understand the grassroots nature of Design for Social Innovation and how to support cultural transition towards sustainability and well-being by elaborating innovations based on intrinsic, rather than extrinsic motivations

The workshop plan incorporated findings obtained earlier in this investigation (Pilot Study, section 5.2.4.1 and PARI 2, section 5.3.2.5) – i.e. allowing more time for activities (workshop) and for concept-grasping; incorporating case studies and more examples to illustrate concepts; and highlighting the value and benefits of the methodology to service design for sustainability and social innovation. A detailed plan of the session activities and materials is provided in Appendix E3-E5. It was agreed that the researcher would attend as many tutorial sessions as possible to provide guidance and support tailored to the needs of each individual group, whether in the use of framework or other project development-related issues. Other tutors were also present and available to provide feedback and support to the students. Table 5.8 summarises the action plan for this cycle.

What	Why	How
a) Deliver Context and Sustainability workshop	To introduce to students the theories, methods and tools for mapping the innovation's context and organising research insights	Timetable in single session (3hr) Deliver theory and practical activities to reinforce concepts. Relate to learning outcomes and objectives
b) Follow up with tutoring	To support students in their learning of new skills and methods by providing guidance and examples	Attending tutorial and presentation sessions throughout the module

Table 5.8 – PARI 3 Action plan

5.3.3.2 Implement (Step 2)



As planned, the intervention consisted of a single workshop session, followed up by tutorial support throughout the module.

The workshop was scheduled for delivery at the start of the 'Define' phase of the design process (Week 5 of 12), once the students had received the brief, conducted some field observations and had been introduced to service design principles,

process and commonly used methods and tools (see Appendix E1 for course plan).

The workshop



Figure 5.58 – Workshop session with Service Design for Social Innovation students

The workshop session (Figure 5.58) was delivered to the students in a single day, and was structured in three parts:

Part I – Introduction

Contextualising – First, the relevance and benefits of conducting cultural context research within their module project were introduced, placing the methodology within the context of Service Design for Social Innovation (Figure 5.59).



Figure 5.59 – Session introduction

Then, semiotic and cultural analysis methods were introduced as ‘complementary’ to existing methods for user research (Figure 5.60). The benefits of both approaches were highlighted and differentiated: while traditional methods allow us to obtain information

from users more ‘directly’ and understand them ‘on their own’ (behavioural aspects), semiotic methods were presented as an ‘indirect’ method for spotting unconscious meanings and cultural conventions which users cannot easily articulate – a way of understanding users ‘as social beings’.

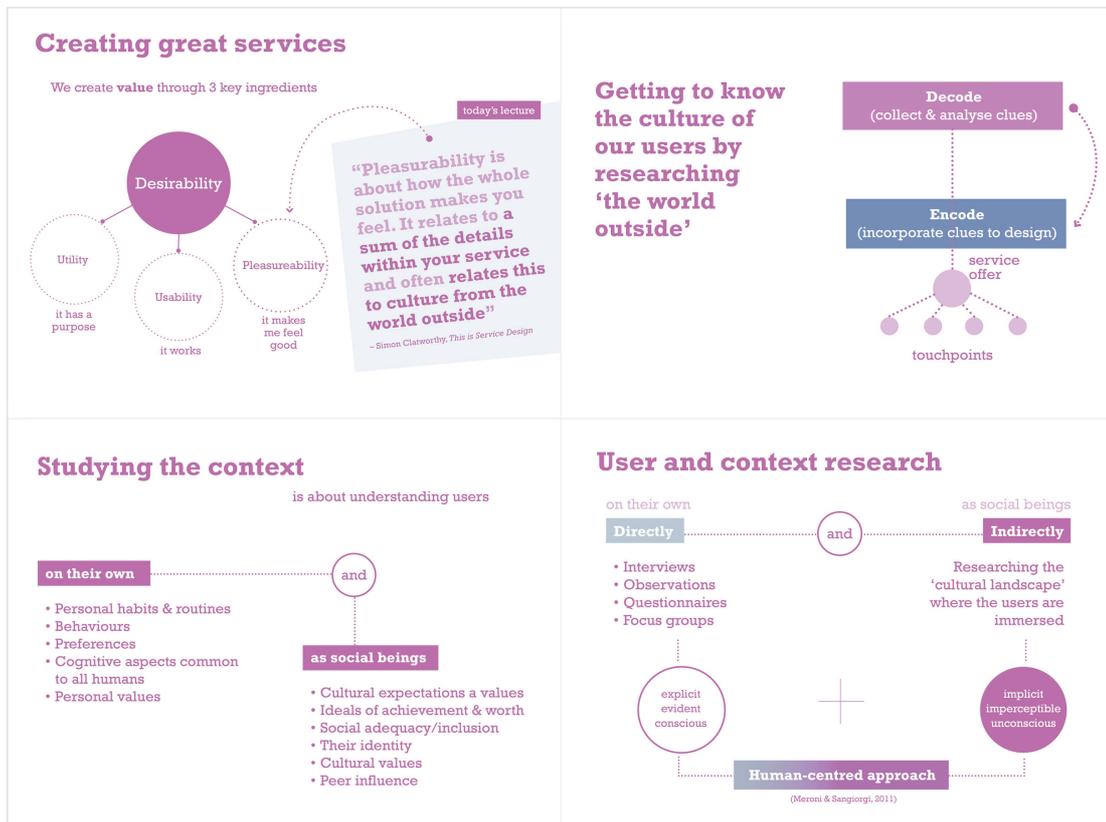


Figure 5.60 – How semiotic methods complement traditional user research.

Theory was delivered in the context of Design for Services (Figure 5.61), and followed by group activities and discussions to consolidate knowledge. The following paragraphs expand on these:

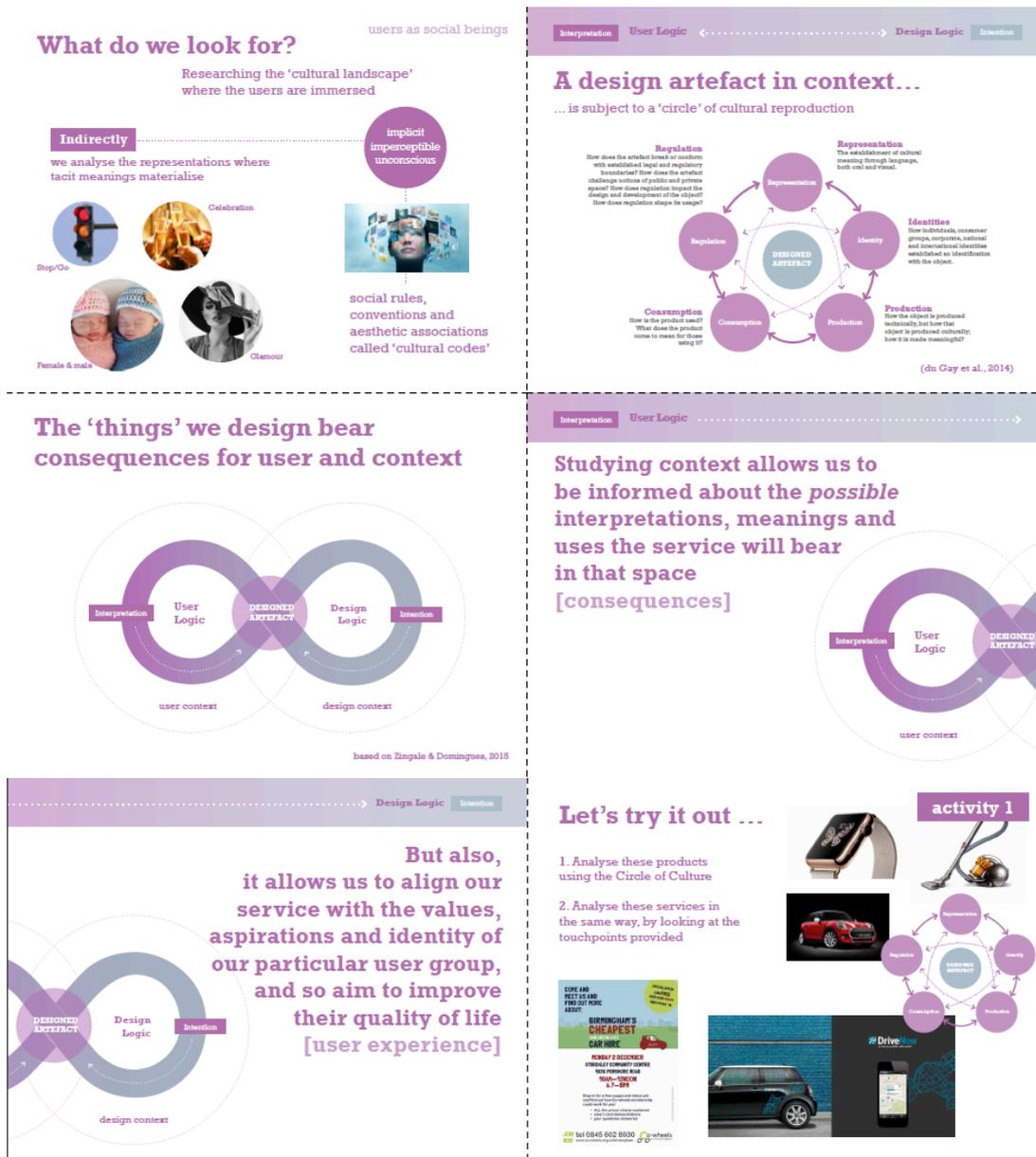


Figure 5.61 – Placing semiotic and cultural reproduction theories in the context of Design for Services

Activity 1 – Deconstructing Cultural Artefacts

The first activity consisted of carrying out two analyses: first, students were asked to conduct a ‘cultural deconstruction’ of a **product** using the Circuit of Culture model (du Gay et al., 2013) as a guide for analysis and discussion (Figure 5.62). Each group was assigned a product to analyse: the Dyson vacuum cleaner, the Mini Cooper car and the Apple watch (Figure 5.63). The products selected represent good examples of design artefacts that have changed a product category’s meaning and in doing so, achieved iconic status.

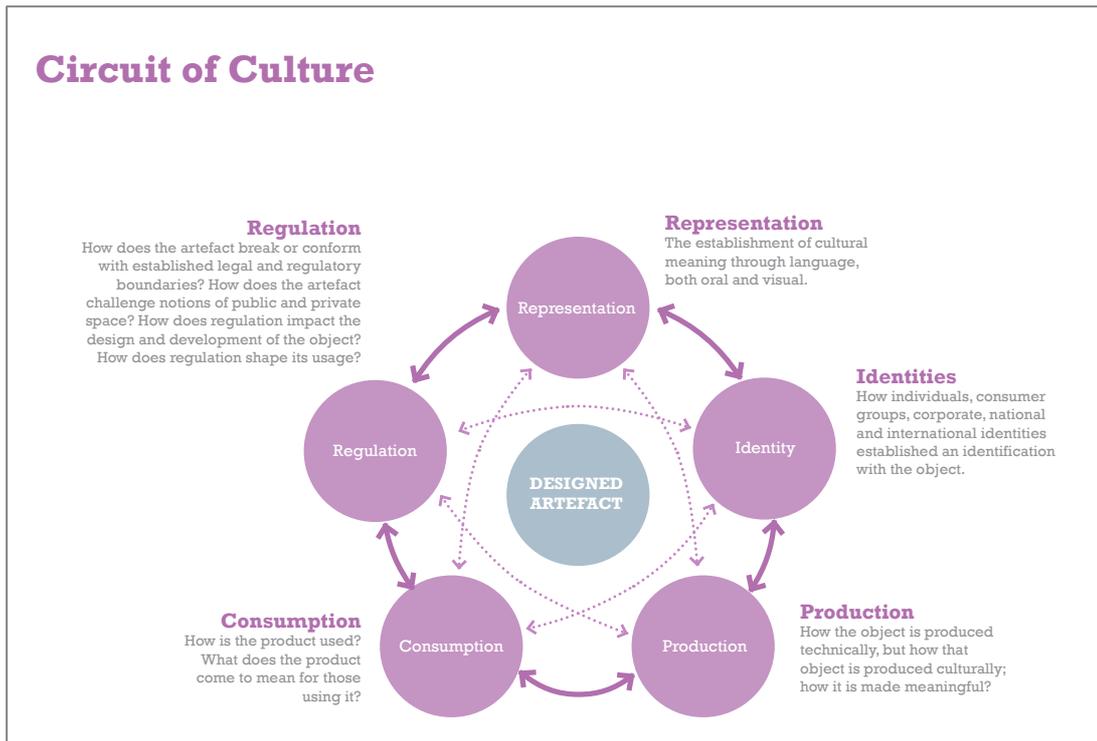


Figure 5.62 – Circuit of Culture template used as an aid to introduce Cultural Analysis exercise.



Figure 5.63 – The products used for Activity 1, Cultural Analysis

Following this, students were asked to repeat the analysis, but this time the ‘texts’ provided were **service touchpoints** for car-sharing systems Drive Now and Co-Wheels (Figure 5.64).



Figure 5.64 – Drive Now service touchpoints used as ‘text’ for analysis

Activity 2 – Innovation Feature Analysis

The second activity consisted of breaking down the service features into three main categories: Environmental, Functional and Symbolic using an Innovation Feature Analysis template designed by the researcher and based on the theoretical propositions discussed in Chapter 4 (Figure 5.65). Two car-sharing services were provided as cases for analysis (Drive Now, a private enterprise and Co-Wheels, a social enterprise).

Innovation feature analysis		
Environmental Features	How is the innovation sustainable?	
Functional Features	<ul style="list-style-type: none"> • What are the practical benefits that your innovation offers? • Saves money • Saves time • Is more convenient than existing options ... • It works 	
Symbolic Features	<ul style="list-style-type: none"> • What sort of symbolic associations should your innovation convey? • I feel connected • I feel important • I feel proud • I feel knowledgeable • I feel like a hero • I feel like a winner • I show that I care • It's the cool thing to do • It's fun • I feel important • I feel respected • I feel I stand out from the crowd • I feel worth it • It makes me happy 	

Figure 5.65 – Feature Analysis tool, provided to break down features for both car-sharing schemes

For both activities students worked in small groups (Figure 5.66), and each activity was followed by an open class discussion, to share and compare analysis results and reflect on what was being learned and why it was relevant to their projects.



Figure 5.66 – Students engage in Feature Analysis activity

Part 2 – Methods and Tools for Context Mapping

Once students had become familiar with the concept of the ‘cultural mediation of design’, the researcher could introduce basic semiotic theory concepts (Figure 5.67), and applied semiotic methods and tools (Figure 5.68).

The application and use of the framework was illustrated with a case study (Crop Drop), drawn from the PARi 1 cycle of this investigation (Figure 5.70).

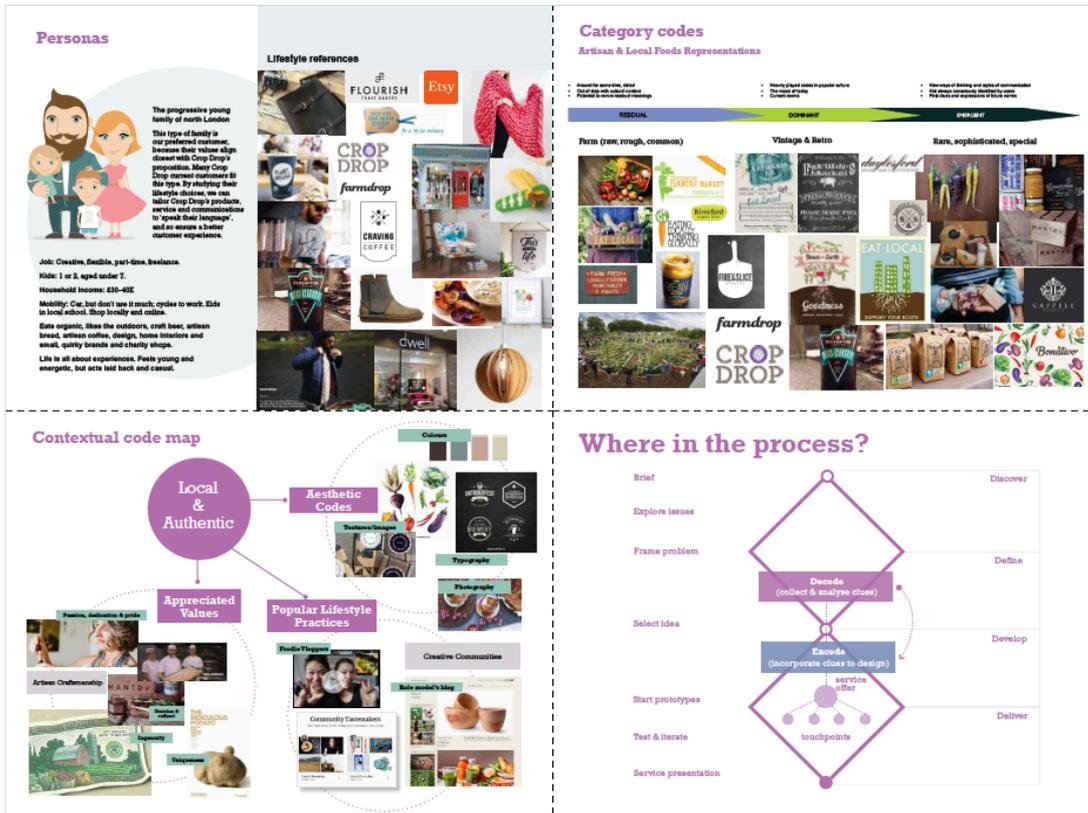


Figure 5.70 – Code-mapping case study based on PARi 1 intervention

Following the case study, students were presented with the templates and instructed to pick and choose the ones they considered more useful throughout the duration of their project. Figure 5.71 illustrates an example, and the full set is included in Appendix H2.

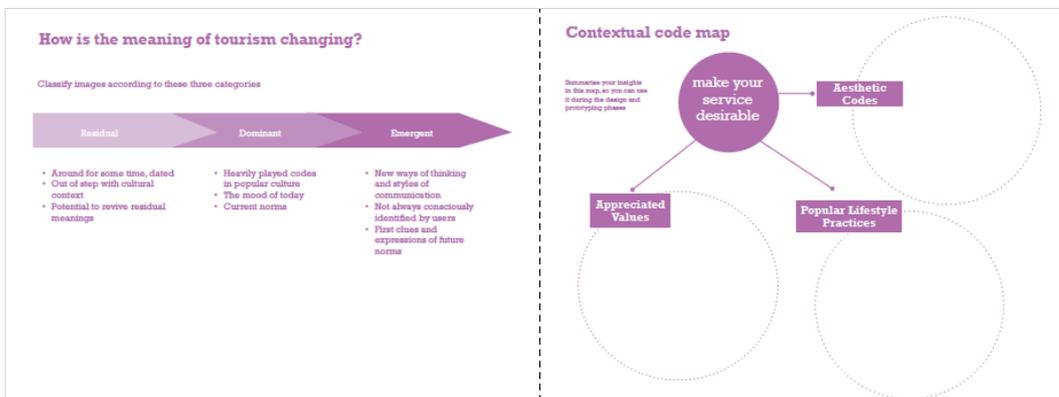
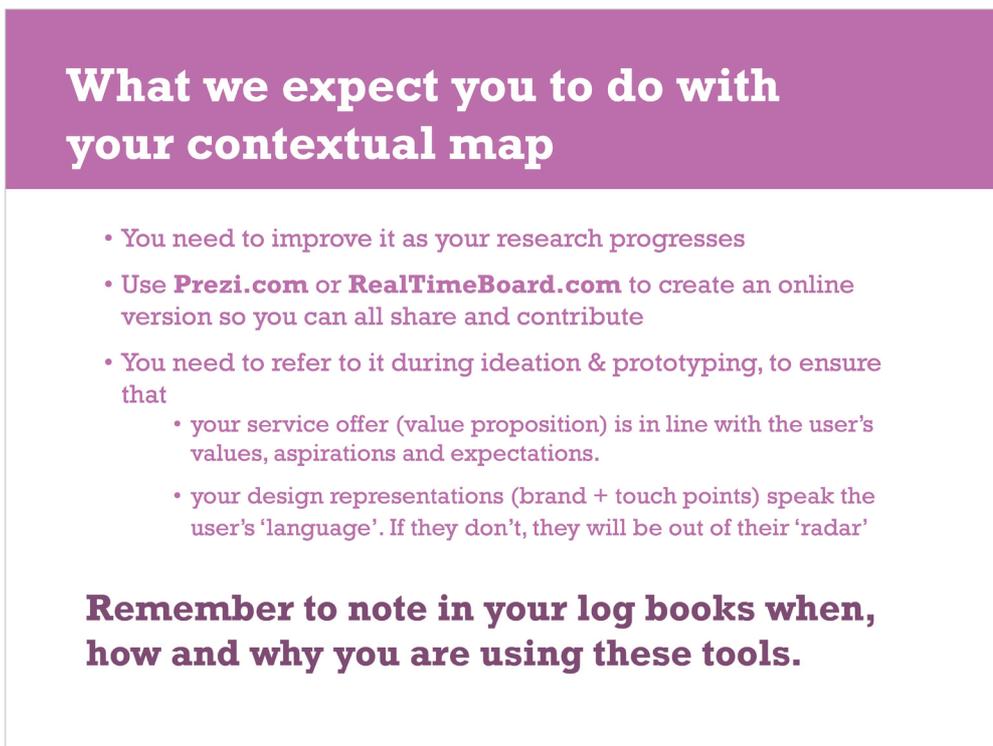


Figure 5.71 – Templates to support method application and code mapping

As the templates were experimental and did not provide detailed instructions for use, students were reassured that they would be supported and guided with tutorial sessions to help them make the most of their learning using these tools.

The students were given recommendations for recording the use of the templates in their personal 'logbooks' (Figure 5.72). As standard practice, a recommended reading list was also provided for further independent learning (see Appendix E4).



What we expect you to do with your contextual map

- You need to improve it as your research progresses
- Use **Prezi.com** or **RealTimeBoard.com** to create an online version so you can all share and contribute
- You need to refer to it during ideation & prototyping, to ensure that
 - your service offer (value proposition) is in line with the user's values, aspirations and expectations.
 - your design representations (brand + touch points) speak the user's 'language'. If they don't, they will be out of their 'radar'

Remember to note in your log books when, how and why you are using these tools.

Figure 5.72 – Recommendations and expectations for using the templates and building a contextual map

Follow-up tutorial sessions

As planned, students were supported throughout the eight weeks that followed. The group tutorial sessions provided tutors and students with the opportunity to revisit the concepts, methods and tools delivered during the workshop (Figure 5.73).



Figure 5.73 – Group tutorial session

Throughout these sessions, time was dedicated to each individual group to discuss progress, difficulties and ideas and to provide guidance and support.

The researcher approached the group and asked a few generic questions – e.g. ‘How are you? What are you up to?’ to prompt conversations, took notes and offered guidance and advice as suitable: to point out overlooked aspects, suggest further consideration, prompt further investigation, discussion or development. Within these discussions, certain specific methods and tools – either existing, or the researcher’s own – were recommended at different points of project development to support students with a specific problem or task (Figure 5.74).

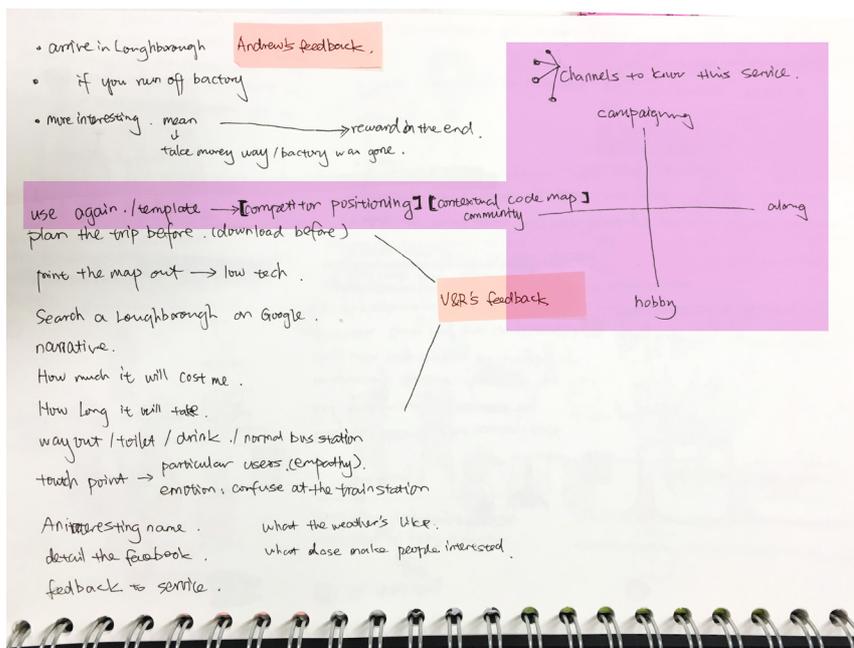


Figure 5.74 – Student logbook notes on tutorial feedback

At Week 9 (end of Develop phase), it became apparent that the biggest problem most groups were facing was translating their service ‘descriptions’ into well-defined value propositions.

To help the students overcome this barrier, the researcher developed a new aid (template) to help them crystallise their concept and formulate the value proposition more succinctly and accurately (Figure 5.75).

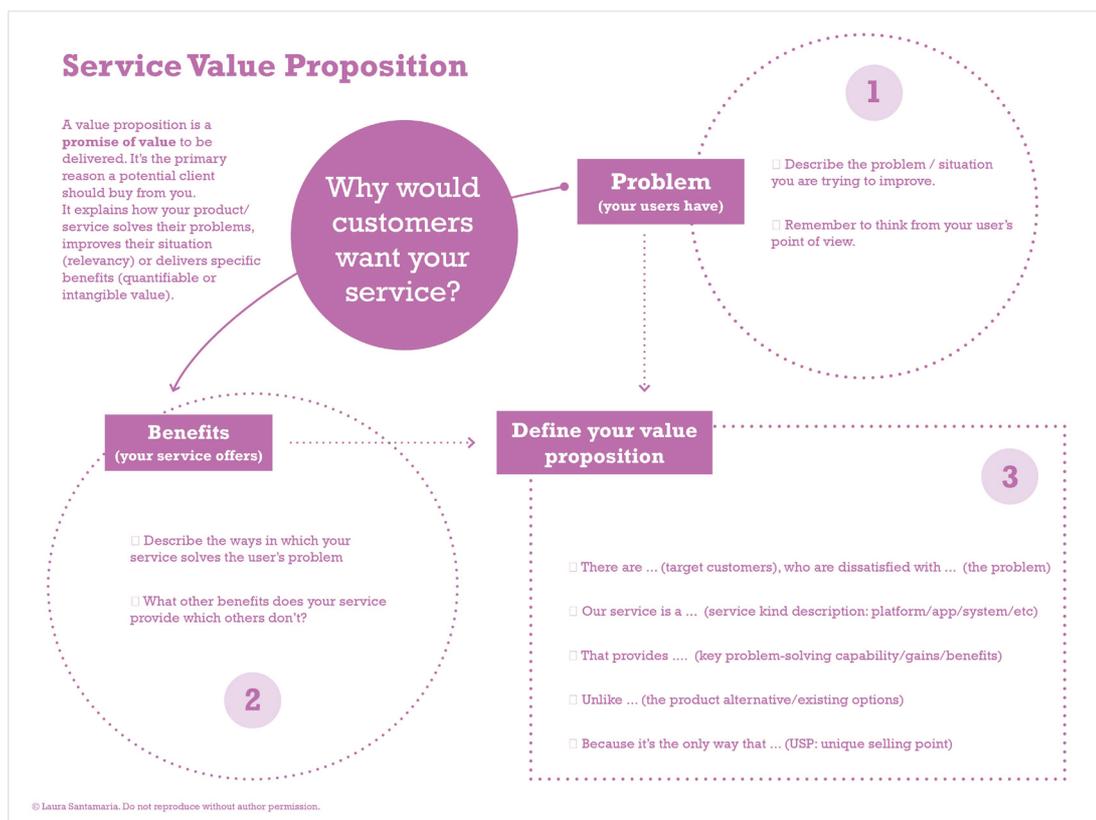
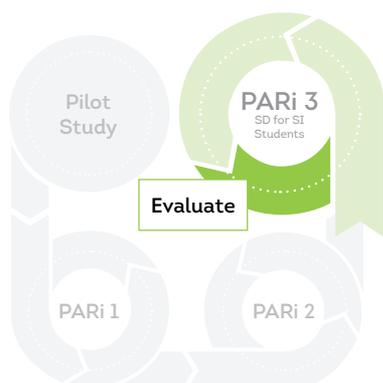


Figure 5.75 – Service Value Proposition template developed by the researcher

This tool was based on the ‘pains and gains’ existing method, which is widely implemented in user-centred research to analyse and describe customer experiences (ref). To these two basic concepts, a third dimension was incorporated, to aid the definition and articulation of the value proposition as a coherent and relevant statement that synthesises the service into a sort of ‘elevator pitch’.

The implementation step for this PARI cycle ended at Week 12 of the course, once the students had delivered their project assignments. The following section evaluates the workshop and students’ use of the framework theory and methods throughout the design process.

5.3.3.3 Evaluate (Step 3)



This cycle’s intervention is evaluated against the objectives agreed at planning stage (Step 1, section 5.3.3.1). It reports on findings from this research cycle, and discusses the research progression. To further develop and challenge the framework, the knowledge generated in previous cycles (role of the designer, theory and methods) was disseminated. Observations and analysis were made upon how others may apply

that knowledge and how useful it might be to improve their practice. Furthermore, to situate the framework methods alongside existing methods used during the design process, the intervention was applied at the earliest stage of innovation development (concept generation).

The findings of this cycle were evaluated by unstructured interviewing of the students, to obtain feedback on the workshop format and content, and semi-structured interviews with the module tutors, as described in Chapter 3, section 3.2.3.6.

How did this action improve the framework?

The cycle objectives were fulfilled as follows:

- The investigation successfully identified and situated which specific tools and activities support the different stages of the design process (Table 5.9, Figure 5.76)

Purpose	ID	Method/Template	Value	Process stage
GLOBAL Innovation context exploration	1	Global Trends Mapping	Inform service offer Mapping cultural landscape, users (as social beings), competitors and allies to elaborate service positioning within context	DEFINE Immerse in context Frame problem Empathise
	2	Global-to-Local Take		
	3	Offer definition (paradigm)		
	4	Market positioning (competitors)		
	5	Category positioning (themes) Subcategory positioning		
	6	Exploring potential user groups		
	8	Service Value Proposition	Define offer	Value Proposition
LOCAL Mapping references for representation	7	Personas/Lifestyle (visual mapping)	Inform design Mapping symbolic aspects (values, aspirations and aesthetics), for adopting a semio-aesthetic approach to design rooted in the user’s culture and context	DEVELOP Branding, communications and prototypes
	9	Contextual Code Map		
	10	RDE (Residual, Dominant and Emergent meanings)		

Table 5.9 – Templates grouping according to design process stage

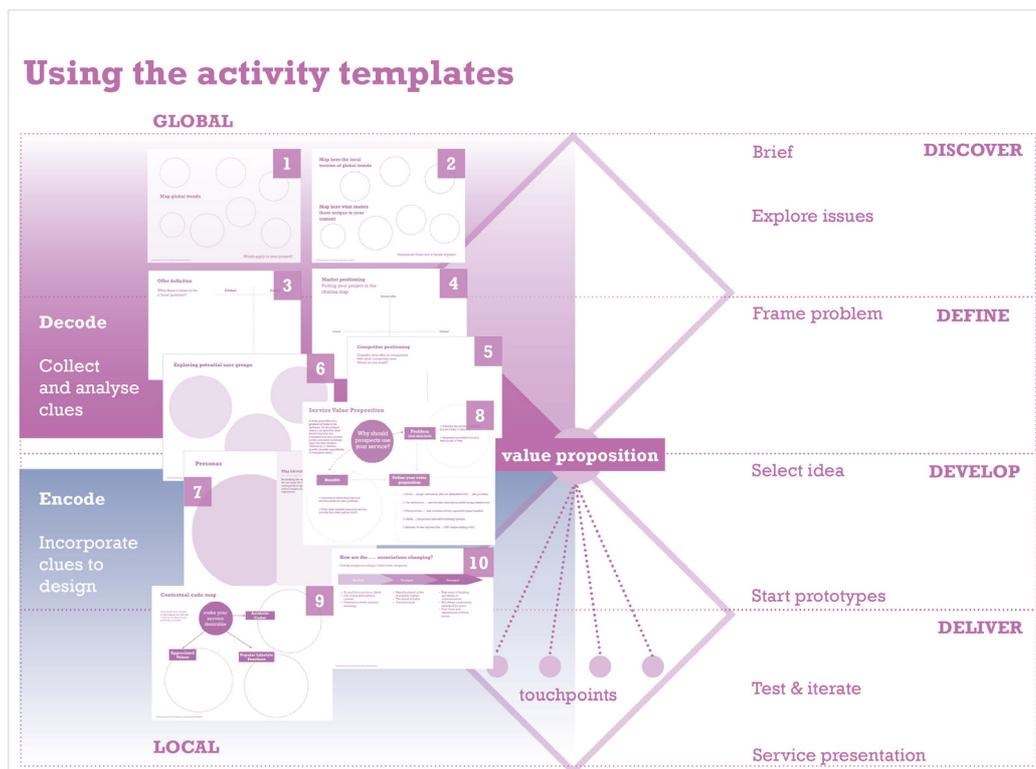


Figure 5.76 – Matching tools and activities to design process stages

Through this intervention, it was confirmed that the framework activities can support the sPSS design process in discovery, value proposition definition and development. Although these results could be considered ‘common sense’, the investigation confirmed that the methods complement existing tools and add value by facilitating the identification and mapping of sociocultural and symbolic dimensions.

The following section expands on how the students used the theory and practical methods provided by the researcher, which explains in more detail how the different activities proposed were situated within the innovation process.

How did the framework improve practice?

The *action* objective for this PARi cycle was to improve practice by enabling students with theories, methods and tools for researching and analysing the innovation’s context, and making sense of their findings. This objective was met by introducing students to cultural analysis and semiotic theories in the context of Design for Social Innovation education, developing and disseminating tools based on the framework theories and methods and supporting them through the process to build their skills and capacity for dealing with design research, meaning-making and framing practices.

Dissemination of knowledge – how was it passed on and received?

In line with previous findings of this investigation (section 5.2.4.1), the theories were contextualised to the practice of Service Design for Social Innovation and sustainability, and their value was illustrated using real case studies, to facilitate, in an experimental way, the introduction of ‘hard to grasp’ concepts.

Feedback on the workshop content, format and timing was collected by interviewing all student groups (4) two weeks after the workshop (Figure 5.77).



Figure 5.77 – Students provide feedback on workshop

The interviews revealed the following:

Content and delivery format

In general terms, the workshop content was well received; students asked questions throughout the session, they were interested, engaged and participative.

‘I think I'd definitely encourage a lot more workshop content.’

However, most of them struggled with the activities, which were hard for them to do by themselves, and needed the tutor's support to further understand and elaborate. It was evident that most of them have never attempted this mode of analysis and were struggling to think critically and ‘denaturalise’ meanings.

‘We had make use of you coming to our table . . . you helped us to make sense and it helps a lot.’

‘I guess, to be honest, it was a bit confusing at first, maybe because we were sitting at the back, but . . . overall I think the tools were quite useful . . .’

It must also be noted that the students who struggled the most with the ‘cultural deconstruction’ activities lacked the cultural background information to interpret the meanings of the samples provided for analysis (e.g. Dyson vacuum cleaner and Mini Cooper car). The students that did have this cultural context information understood the activity more quickly and were therefore able to tackle the analysis without much help from the tutor.

Timing

All theory, methods and tools developed in the previous two cycles (PARi 1 and PARi 2) were presented together, in a single session, although it was assumed by the researcher that some of them would not appear particularly relevant or useful at that point in the process. Students expressed:

‘I think like going back and revisiting once we have a stronger idea or direction that we are going for, going through it again and revisiting will be very beneficial.’

‘[. . .] overall I think the tools were quite useful, if we get into that in more detail, or maybe after we have concepts, maybe? That will be quite interesting.’

‘I think it might be quite a nice exercise to go over things again, and have a recap.’

Hence, as already planned, tutorial sessions were to provide the opportunity to revisit concepts and support students with guidance as to which tools and methods could support them at different stages of the design process.

Use of knowledge – how did the tools and methods support students’ design process?

Students’ logbooks evidenced differences in the use and internalisation of the methods and tools. Table 5.10 summarises the analysis showing *which* methods were used most and least (Frequency), *how* they were used (as a working or presenting tool), whether visual representations were employed (Visual Ref) and whether the tools were used in the format provided by the researcher or adapted by the students to suit (Fix or Adapted). The following sections expand on these findings.

ID	Method/Template	Frequency (out of 4 groups)	How is it used?	Visual Ref (out of 4 groups)	Fixed or Adapted?
1	Global Trends Mapping	4	Both	1/4	Fixed
2	Global-to-Local Take	4	Both	1/4	Fixed
7	User Personas	4	Both	2	Both
8	Value Proposition Definition	4	Both	0	Both
9	Contextual Code Map	2	Both	2	Fixed
6	Exploring potential user groups (paradigm)	2	Both	1	Both
4	Market positioning (competitors)	1	Summary	1/4	Adapted
3	Offer definition (paradigm)	1	Process	0	Fixed
5	Category positioning	0	-	-	-
10	RDE (Residual, Dominant and Emergent meanings)	0	-	-	-

Table 5.10 – Students' use of methods and tools, as evidenced by their logbooks' analysis

Frequency

All groups used the 'Global Trends Mapping' (template 1) and 'Global to Local Take' (template 2) methods to summarise research around the 'trends in tourism' in contemporary society, and how that is manifested in the geographical context of innovation (Loughborough). These tools are well suited to the late Discovery phase of the process, so they supported students by structuring their exploration at these two levels, and to understand the general characteristics of the service category.

User personas (template 7) and the Service Value Proposition (template 8) were also used by all groups. These were strongly encouraged by tutors, as the relationship between them constitutes the foundational basis of user-centred innovation. The user personas were elaborated and represented differently, with varying degrees of complexity between groups. The Value Proposition elaboration is discussed in more detail in the next section.

Some groups (2/4) used the Code Map (template 9) and Market Positioning (template 4), only one group used the Offer Definition binary oppositions (template 3), while no groups used the RDE analysis (template 10) or Category positioning (template 5). This was expected as, with the exception of the Offer Definition, these are designed to support later stages of the process (Development and Delivery), touchpoint design, branding and development of communications material, which fall outside the project scope of this assignment.

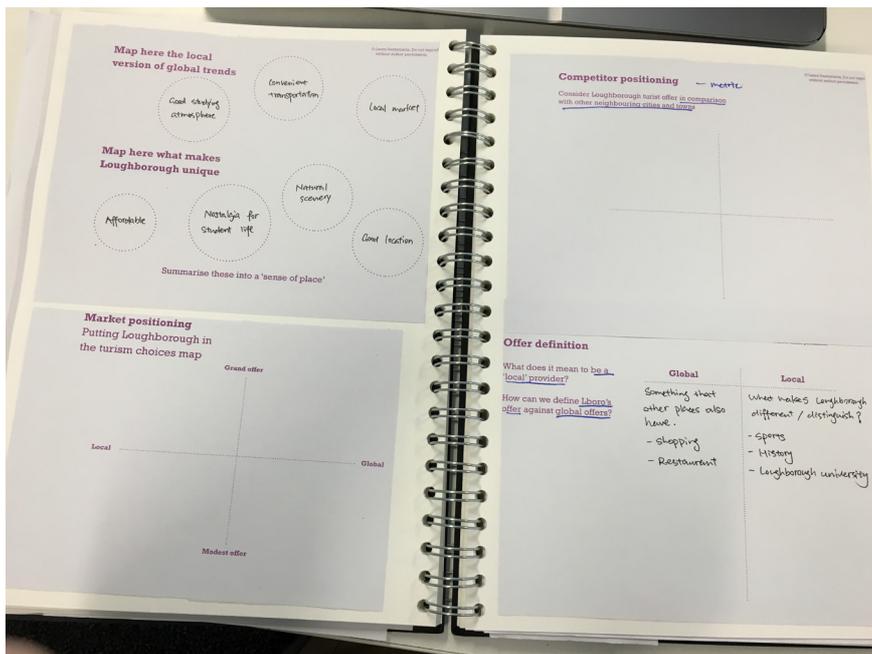


Figure 5.78 – Evidence that they did not know why/how to use these methods

Modes of use

While some students used the methods and templates as aids to focus and summarise their research activities **throughout** the process (Figure 5.79), others used them **retrospectively** to make sense of their development journey and communicating it to an audience (Figure 5.80). When used throughout the project, templates were annotated in **written** form or using sticky notes (Figure 5.79), **visual** representations of concepts were employed by those using them retrospectively.

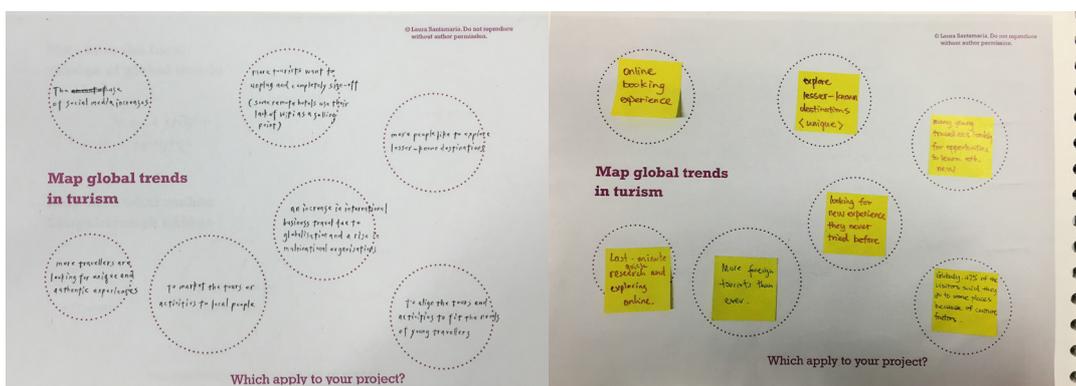


Figure 5.79 – Templates used as working tools

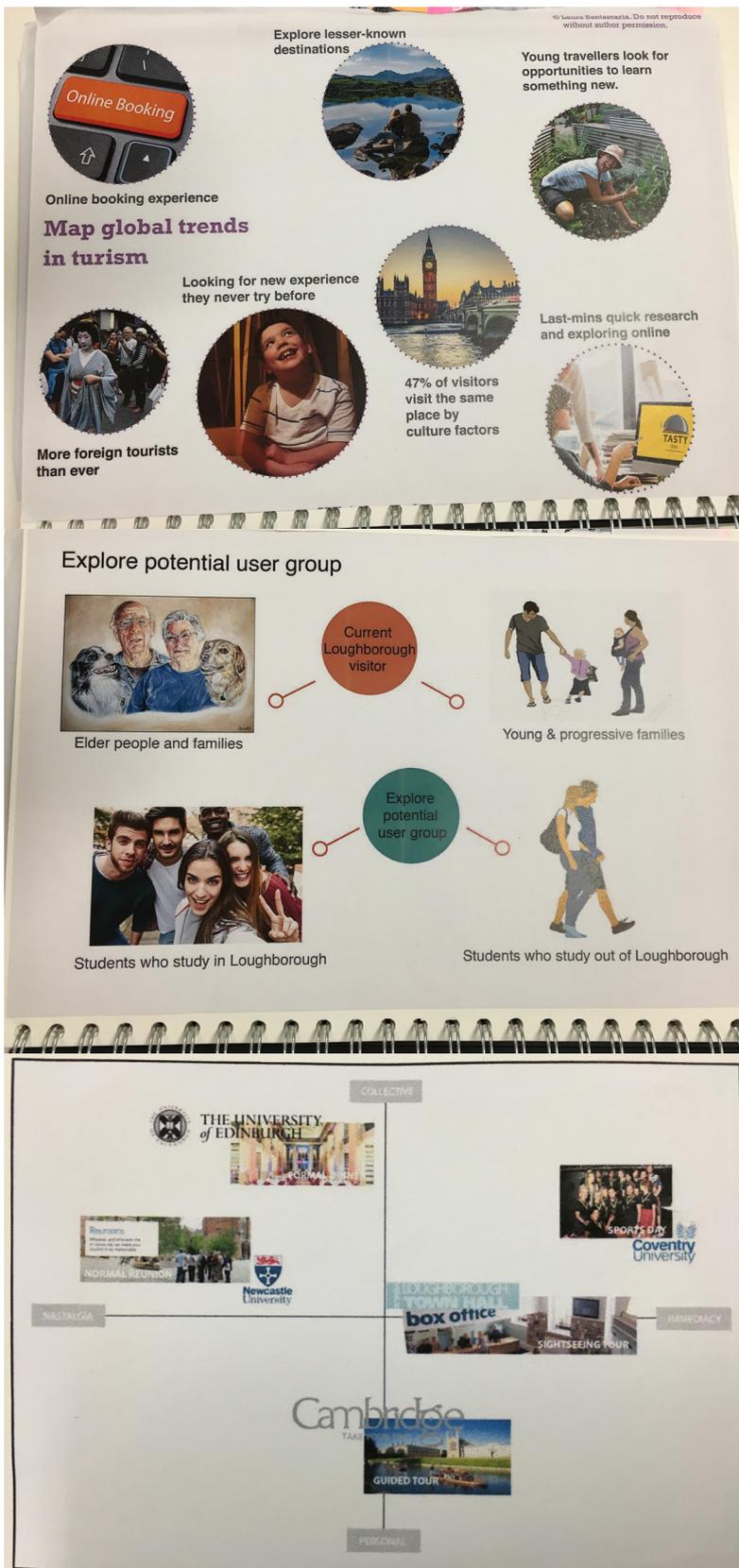


Figure 5.80 – Global trends template used as visualisations

Two groups out of four used the templates in both ways (to aid the process and to summarise and present their findings). This demonstrates that some students (perhaps those who understood how to make best use of the methods) found them useful to **structure their research phase, summarise their findings and present insights to others in a coherent, logical way**. This in turn meant that because students were better equipped to correlate design decisions to the research data, they were also in a stronger position to argue in favour of their design proposals.

Framework impact over the value proposition

The 'Discovery' phase of the design process closes with a summary of insights upon which decisions are made to 'Define' a first concept and target users. This requires the translation of insights into clearly defined value propositions. Therefore, value proposition definition is a strong prerequisite to progressing the service innovation on to the 'Development' phase.

In general terms, students had produced long, technical descriptions of the service that lacked emotional appeal and/or were not distinctive, or subtle enough to be differentiated from existing options.

At this point, the Service Value Proposition (SVP) tool was introduced, and all groups employed it to various degrees of success in delivering what was expected (succinct, clear and well-targeted statements).



Figure 5.81 – Students using the SVP tool to define the service value proposition

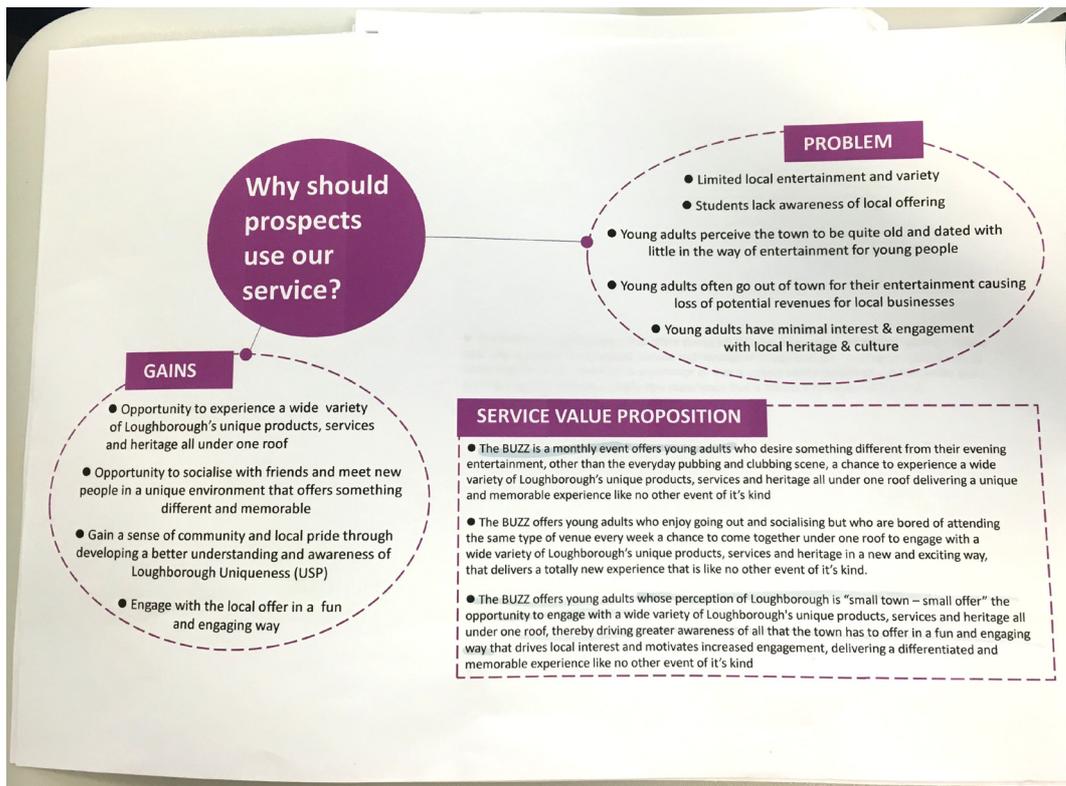


Figure 5.82 – Example of student’s use of the SVP tool

● **The BUZZ is a monthly event that offers young adults who enjoy going out and socialising a totally new way to sample the products, service and heritage of Loughborough, creating an opportunity to come together under one roof to experience all that is unique about Loughborough’s in a new and exciting way, that delivers a totally new experience that is like no other event of it’s kind.**

Figure 5.83 – Formulated value proposition sample

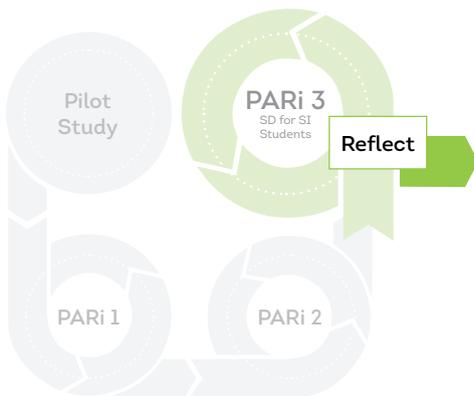
Defining PSS value propositions is quite challenging for designers (Valencia et al., 2015), as highlighted earlier in this research (Chapter 2, section 2.3.1.3). Earlier findings of this investigation correlate with this view: this is a difficulty that PARI 2 participants recognised (section 5.3.2.3). However, there seems to be a lack of tools and methods to support designers in this crucial task.

Through this PARI 2 cycle, the value of the framework to support value proposition framing was evidenced. This intervention further confirmed these results.

- It helped students research the context by providing a structure and strategy to organise design research

- Research findings were better articulated and more consciously linked to their design proposals
- The elaboration of value propositions was informed by a strong exploration of users and context, and understood as a clear output of the design process

5.3.3.4 Reflect (Step 4)



This section discusses how this cycle contributed to progressing the investigation, in light of the research questions, aim and objectives of this research. Reflection on improved practice (the researcher's own and the participant's) and research methods used is also reported.

Change of practice (researcher)

Further to the analysis of the logbooks, the researcher's notes (taken throughout the tutorial sessions), revealed the following points:

- Students tend to jump to conclusions or ideas too early in the process, without a full understanding of the problem/situation they are trying to address
- Some might sit stubbornly with first concepts and avoid exploring beyond the obvious
- They face difficulties in analysing research and drawing insights. In general terms, they:
 - Struggled and lacked methods to draw insights at a deeper level, and to summarise and cluster findings
 - They kept arriving at insights from the same (simplistic) angle, and avoided problematising. This is manifested as a repetition (going round in circles) in terms of insights, offering definitions and user benefits rather than progression of learning throughout the process that shows their expanding understanding.
 - Struggled to differentiate between user needs and service benefits

These points indicate that, in general terms, students find it difficult to grasp the workings of user-centred approaches to design. Therefore, mentoring and support throughout the process of 'learning by doing' is key for developing such capacity and skills.

Time is short, and it is necessary to develop educational activities which are more experiential, in order for students to grasp difficult concepts given the time and information overload pressures.

The process felt quite rushed towards the submission deadline, and quite a lot of time was dedicated during tutorials to building skills for video prototyping, which was the format of the assignment and, naturally, students were concerned with getting this aspect right as it affected their mark. That left little opportunity to reflect and discuss social and sustainability aspects of the students' proposals.

In future, it could perhaps be beneficial to provide opportunities to analyse and discuss the outcomes as a group, to help build criticality and self-reflection. For example, introducing a session post-assessment to reflect together on outcomes and learning experience in relation to learning objectives could improve their own individual reflection and consolidate learning.

The discussions could reflect on how their service propositions contribute to societal sustainability and well-being, what values are legitimised and what assumptions of power relations are embedded in these concepts. The service Feature Analysis tool (Appendix E5) used during the cultural decoding activities conducted in the workshop session could be a simple way to structure and prompt such discussions in the classroom.

Change of practice (participants)

The framework is helpful approach to organise design research and make sense of findings

The content of the workshop appeared as new knowledge to most design students, who found the session helpful and illuminating, especially in terms of how to approach context exploration, organise research strategy and elaborate findings:

'I think that you taught us how to approach our research, and that is the important thing we learned in your workshop. Actually, for example how we can do analysis of our research and to express what we find.'

'A framework . . . to be able to explore.'

'I think it's a good way to help us organise our thoughts and generate ideas.'

' . . . made us think about the link between elements . . . helped us to figure out which sort of issues we should focus on and what we should just miss out.'

This is further evidenced by the students' use of the templates as discussed previously. Although the students were presented with many methods and tools alongside the *Con[text]* framework, they seem to have enjoyed and appreciated being introduced to a wide, rather than narrow, variety of them. Figure 5.84 illustrates a student's diary note which reads, *'We definitely learned a lot of design methods and used many design tools. They're very helpful!'*

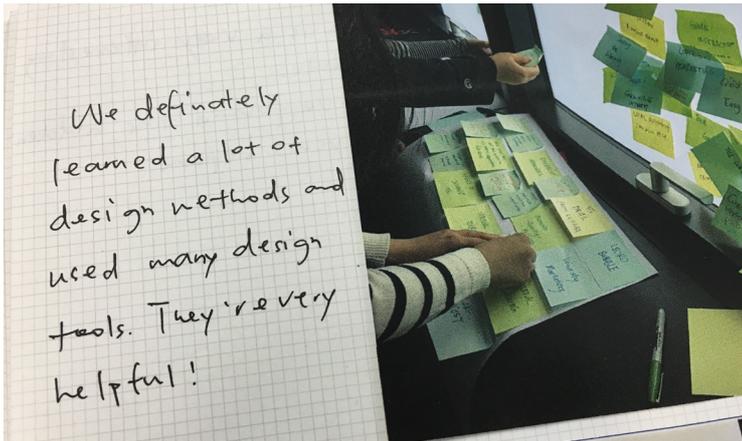


Figure 5.84 – Student's diary comment on tools

They also appreciated analysis methods in particular:

'... there's not actually that much in the way of analysis methods, and the more data we have, actually the more confusing it becomes.'

Some students' diaries also show evidence of use of theoretical concepts explored during the workshop. Figure 5.85 illustrates that students were ready to recall 'Semiotic decoding' to map contextual aesthetic codes once brand values and personality were defined and prior to embarking on brand and touchpoint ideation.

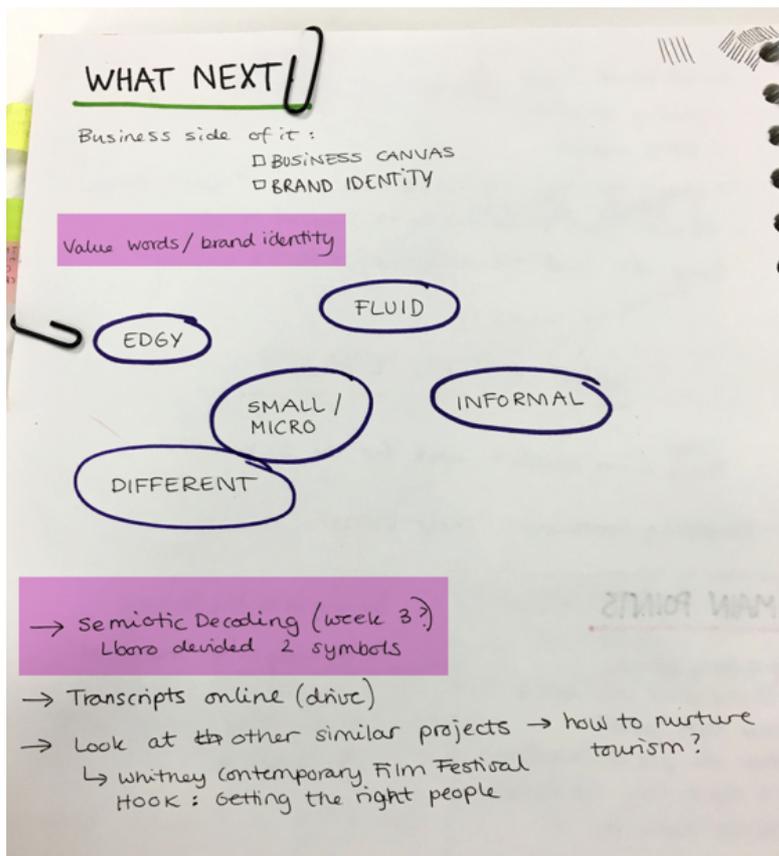


Figure 5.85 – Evidence of recalling knowledge disseminated at the workshop (Week 3)

Tutors' change of practice

The tutors welcomed the theories and methods introduced as valuable to building students' critical and inquiring capacities and skills.

'... what we've seen more distinctly is that they have been more critical about pinning down what the problem is, what the offerings are, etc.' (CE)

'We need to reinforce somehow even more strongly to go out and look as you were saying to them: "You are designing into this context, this is the market, go there, take photos, you're gonna report back with these next week".' (VM)

They also suggested to introduce *Con[text]* framework the following year, but earlier in the course timetable, which evidences their recognition of the framework's value to structure and organise the design research stage.

'... maybe [...] if we bring your templates earlier and maybe there is a session where they do that with more time, and see whether we see more of an impact [on their outputs]' (CE)

The SVP definition was deemed one the most useful tools by tutor VM, who encouraged students to use it again for the same purpose in a different course module (Major Project).

‘That tool [SVP] I pointed them to use it if for their major project because, the way they’re been taught at the major project and also in the experience design module, they are following the double diamond framework, and then when they two of them overlap in the middle, there they should have a clear vision of who their target users are, what needs or what problems they have that could be met by your future service.’ (VM)

In summary, the tutor’s assessment of the framework’s value was found to be consistent with students’ views and the researcher’s observations in that it is helpful in terms of:

- Organising the design research phase, drawing and summarising insights, which contribute to building students’ critical and analytical skills and capacity
- Aiding in value proposition definition by grounding it on strong insights

As discussed in Chapter 2, section 2.3.1.3, these are critical capacities necessary to deal with meaning-making and framing practices in design. Therefore, this intervention contributed towards bridging this gap.

5.3.3.5 PARI 3 Conclusions

The overall aim of this research project was to identify means to introduce semiotic and cultural analysis theories and methods for context mapping to the design process. In pursuit of this aim, this last PARI cycle investigated how the methods developed through previous stages of this research (PARI 1 and PARI 2) can support designers in formulating sPSS value propositions that are more rooted in context, more relevant and meaningful.

The research objectives for this study were to understand which specific activities support the different design process stages, and to expose students to cultural analysis and semiotic theories in the context of design for social innovation education.

In line with this aim, this last PARI cycle introduced students to theories, methods and tools to deal with sociocultural context research in Service Design for Social Innovation.

By comparing data collected through three different methods (researcher notes, the students’ logbooks analysis and tutors’ feedback), it was found that the areas where students needed most support were:

- Learning to immerse themselves in context, organise and analyse insights critically
- Being critical and questioning the literal, and their own assumptions, throughout the process
- Defining service concepts into competitive, contextually relevant value propositions
- Making sense of what is being designed and for what purpose

The results of this cycle's intervention confirm that:

- The *Con[text]* framework (theories and tools) introduced by the researcher provided a good to structure for supporting the social innovation process, and contributes to build criticality and reflexivity in designers' research and practice
- Students enjoy workshops and working with tools and aids, and these are deemed suitable for supporting the development of new skills and capacities while 'learning by doing'

Through this intervention, the investigation was progressed as follows:

- **Framework development** – The framework was applied for the third time, adding a useful contribution to the Service Design for Social Innovation process by supporting contextual research and 'design of meaning' materialised as new value propositions. Initial findings indicate that the Decode–Encode approach proposed by the *Con[text]* framework is a good structure with which to build capacity and develop skills in students, which have been highlighted as research gaps (Chapter 2, Section 2.4.1). These initial findings should be investigated further by applied iteration.
- **Practical outputs** – This cycle situated the methods and tools developed earlier in the investigation, locating them within the design process and alongside existing methods and tools. Figure 5.86 shows progression of theory and practice.

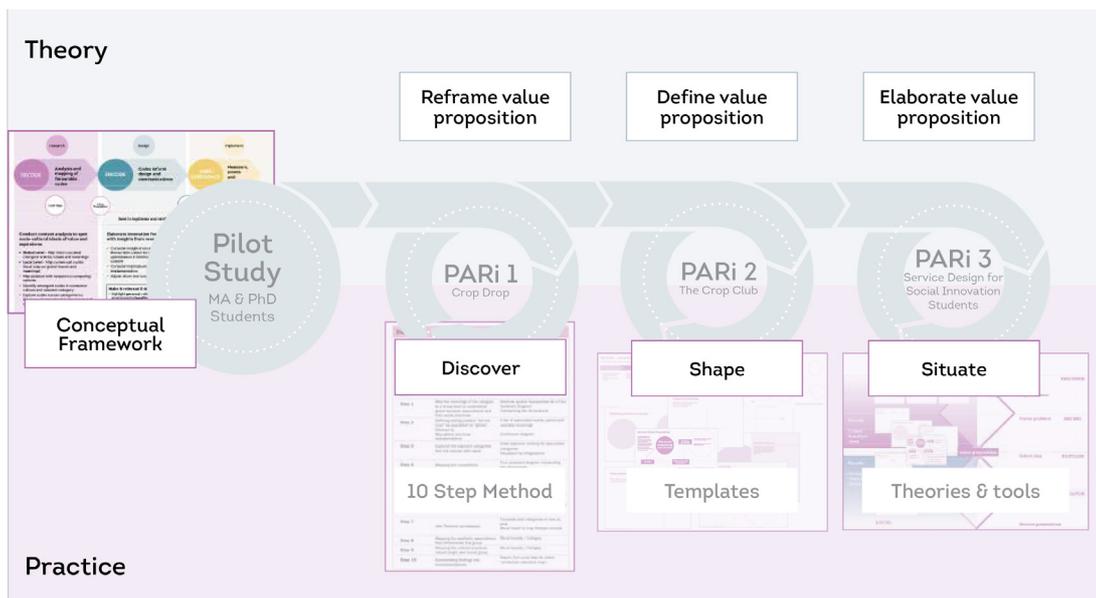


Figure 5.86 – PARi 3 theory and practice progression

The intervention evidenced that the *Con[text]* framework is a robust method for supporting the design process in three ways:

1. **Context exploration:** Researching users as social beings, competitors and allies within the proposed service ecosystem, service positioning
2. **Framing:** Value proposition elaboration, by aligning user and service; and lastly,
3. **Meaning-making:** Mapping contextual codes (values, aspirations and aesthetics) for adopting a semio-aesthetic approach to design rooted in the users' culture and context

Therefore, the *Con[text]* theoretical framework was evolved, strengthened and refined by this third iterative application, and its value to support innovation development at concept stage was clearly demonstrated.

Recommendations for further research

This last intervention evidenced that knowledge dissemination through workshops is preferable, as guidance and mentoring is key to the successful transfer of knowledge by applying it through practical learning activities. The templates supported the implementation of the framework activities and worked well, to a certain extent, helping to spark discussions, structure exploration and summarise findings.

However, both the content delivery format (workshop design) and the templates would benefit from further testing and refining by iterative application, aiming to create more

immersive and empathic learning experiences. These aspects are further discussed in Chapter 8, section 8.5.

5.3.4 Main Study Discussion and Conclusions

This study responded to Objective 4 of this investigation (Chapter 1, section 1.3.2):

- To develop a design intervention (i.e. methodology, framework) that empowers designers to elaborate meaningful, relevant and aspirational sPSS innovations that encourage the adoption of more sustainable lifestyle practices, particularly focusing on improving users' quality of life as outcomes.

RQ 2 – *How can the design process be better informed by the socio-symbolic and cultural aspects of user and context (i.e. people's expectations, aspirations and social identity needs)?*

- a. How can sPSS innovations be developed to be more in tune with context and user so that they are perceived as relevant and appealing?
- b. How can designers be supported to research and map the contextual socio-symbolic aspects that influence users' preferences?
- c. How can we elaborate sPSS value propositions that are of good intrinsic (as well as perceived) value?

The following sections discuss how this study progressed the investigation towards answering these questions, by applying the *Con[text]* conceptual framework to practice through three iterative interventions in real-life cases. The following sections discuss the results and its implications.

5.3.4.1 Research progression towards aim and objectives

The main study explored the application of the Initial Theory to design practice, aiming to challenge the *Con[text]* conceptual framework and generate practical knowledge to facilitate it during the design process. The objectives were:

- To develop practical means to implement the *Con[text]* framework as a useful lens to deal with sociocultural dimension contextual research
- To raise awareness among designers and social entrepreneurs of the sociocultural and symbolic aspects of consumption, highlighting the opportunities for design to

legitimise values and social practices that underpin lifestyles of sustainability, happiness and well-being

This section expands on how these objectives were met.

The Pilot Study conducted as a preparation stage to this main investigation highlighted the need to assess the framework's value to improve design practice, and the anticipated benefits to stakeholders by producing case studies of application and empirical evidence of impact. Based on these findings, throughout the Main Study the intentions were twofold:

1. To evidence the framework's value to stakeholders and build case studies of its application;
2. To develop methods and tools that support development of designers' capacity to deal with sociocultural context research and value framing (value proposition generation).

This was achieved through application of the framework to real-life scenarios through a series of iterative Participatory Action Research interventions (PARi 1, PARi 2 and PARi 3).

As a form of action inquiry, Action Research is an ongoing, repetitive process in which results achieved in each cycle provides the starting point for further improvement in the next (Tripp, 2005). This allowed for the simultaneous development of theory and practice (Figure 5.87) as PAR aims to develop each in relation to the other (Kemmis & McTaggart, 2003).

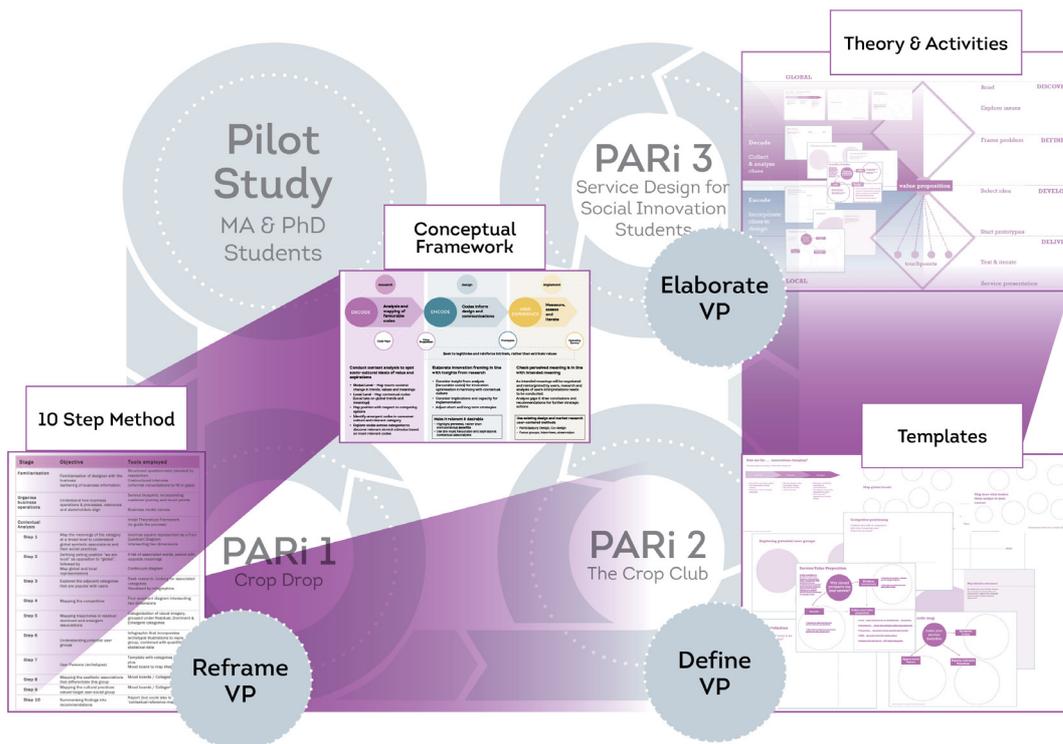


Figure 5.87 – Parallel development of theory and practice through PAR interventions

Consequently, each iterative application served to challenge the framework and make it more robust, but its application also produced practical outcomes. This iterative progression of theory and practice is expanded as follows:

Development of practical methods and tools

PARi 1 allowed the researcher to enter a ‘discovery’ mode, focusing on the selection and application of semiotic and cultural analysis tools and methods to achieve the objectives set with the participant. This process was guided by the Initial framework (Chapter 4, section 4.2.2). The cycle produced a ‘raw’ method, which expanded the framework’s Decoding phase by bridging theory (‘what to do’) and practice (‘how to do it’).

Building on the outcomes of the first cycle (raw method), **PARi 2** focused on ‘shaping’ the method into a set of designer-friendly templates to fit with design language and existing tools associated with sPSS design (see Chapter 2, section 2.3.2, and Appendix H2). It was also observed that the order of steps within the framework was not to be followed prescriptively, but that tools and methods should be selected flexibly according to the objectives to be achieved.

With this in mind, **PARi 3** focused on locating the framework within the design process, investigating how the different tools/methods support the different stages in the process and expand on existing methods and tools. It also ‘collated’ the method theories and tools into a comprehensive package of ‘training materials’, which are useful for building knowledge and capacities in design students and, potentially, other disciplines and actors engaged in PSS social innovation and service design.

Improving the framework (theoretical development)

PARi 1 – Intervention at operational stage

Although the Initial Theory proposes that context Decoding should be implemented as early as possible in the innovation journey to develop value propositions relevant to their context (Chapter 3), at the start of the research the means to accomplish this task in practice were unknown to the researcher. Therefore, as discussed in Chapter 3, section 3.2.3.2, the framework was applied first by engaging with a start-up social enterprise at **operational** (or implementation) stage (PARi 1 cycle, Figure 5.88).

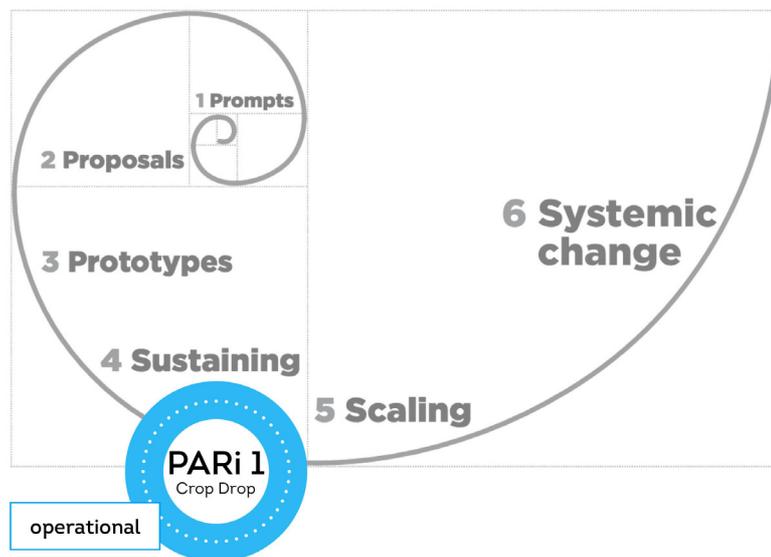


Figure 5.88 – First PARi cycle

This also allowed for the evaluation of the capacity of the framework to reveal new and relevant knowledge, as the participant had already explored traditional methods to understand customers such as surveys and feedback questionnaires.

Thus, the framework was applied at Delivery stage of the design process. Figure 5.89 illustrates the point of entry.

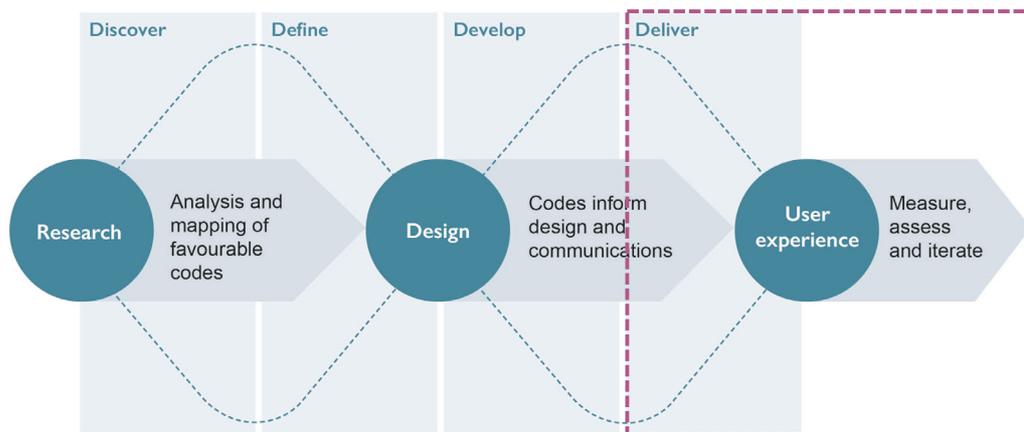


Figure 5.89 – PARI 1 incorporated the framework at Delivery stage of the design process

In terms of framework development, the cycle produced interesting insights of its value for conducting code mapping and *reframing* the service touchpoints in line with the target audience’s favourable codes (see Figure 5.21, Figure 5.22 and Figure 5.23). However, it was also found that applying codes at touchpoint level only (without affecting the core PSS offer) produced a misalignment between the PSS intrinsic and its perceived quality – i.e. the gap between *intended* and *perceived* value remained unresolved. The representations posed some dilemmas in terms of user’s expectations, of the nature discussed in Chapter 2, section 2.2.4.2.

In sPSS, the form of the items, the branding and communications and the experience of the service all interfere with each other in terms of how the innovation’s value is perceived (Ceschin et al., 2014). This first cycle made evident that addressing the perceived value (reframing brand and communications and some touchpoints) without necessarily implementing changes to the PSS offer and operations is insufficient and contradictory in terms of delivering deep customer satisfaction and retention. If only the perceived value is aligned with customer expectations, there is bound to be disappointment if the PSS cannot deliver what the customer has perceived to be an appealing offer (Conner & Patterson, 1982). As discussed in section 1.2.2, the user might be persuaded but fails to commit. This effect can be perceived as deceiving, negatively impacting the user’s experience and engagement with the service.

In summary:

Applying the framework at Delivery/Implementation stage may imply a readjustment of the business model, the value proposition and PSS core operations, in order to truly fulfil user's expectations

These managerial decisions carry significant consequences in terms of service restructuring with their due financial resource allocation, to which the provider, understandably, may be hesitant or reluctant to commit. Therefore, defining good value propositions early in the process can save PSS providers wasting time and resources by reducing the number of trial-and-error attempts.

This pivotal finding steered the initial design for this study towards investigating the framework's capacity to affect the offer itself (value proposition) earlier in the innovation journey, to avoid the emergence of ill-defined PSS that struggle to become desirable, relevant options for users.

Here, it is worth pointing out that *aesthetics* and *desirability* may be stigmatised concepts within the Design for Sustainability discipline discourse, as indicated by results of the consultation conducted earlier in the research (Preliminary Study, Chapter 4, section 4.3.1). Consequently, for some designers and social entrepreneurs appealing to the user's sensibilities, aspirations and desires is considered a deception technique, a marketing trick of consumerism to tempt users with unnecessary wants, rather than solve 'real needs' for them. Desirability is ideologically a controversial topic, often perceived as an illegitimate instrument to increase the appeal of sustainable innovations.

PARi 2 – Intervention at incubation stage

Due to such issues with implementation, the second cycle (PARi 2) aimed to affect the value proposition at incubation stage (Figure 5.90).

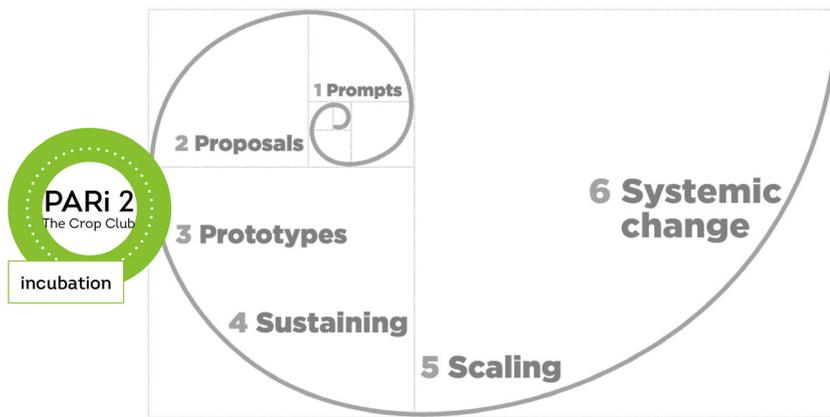


Figure 5.90 – Second PARI cycle

Having found out how code mapping supports the Delivery phase, it was important to understand whether the framework could support the value proposition *definition* (Define/Develop stages) of the design process (Figure 5.91) in order save resources by developing a well-formulated business offer, which later impacts the Delivery phase (service processes and communications) in line with it.

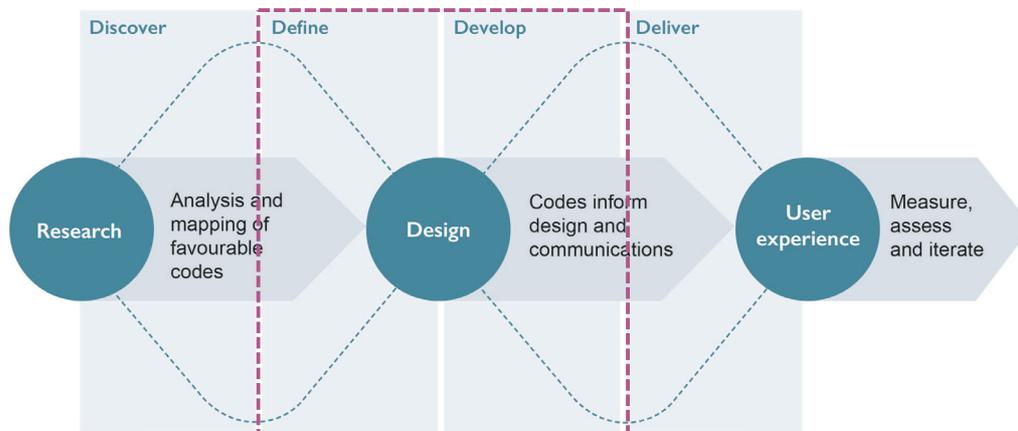


Figure 5.91 – PARI 2 incorporated contextual research to Define/Develop stages in the design process

In this cycle, the value to stakeholders was clearly demonstrated. Participants recognised the framework’s effectiveness for supporting value proposition elaboration. In this case, the framework assisted in exploring opportunities to create the most value for users, while introducing new practices that align with intrinsic values that contribute to well-being and sustainability – such as providing an online platform for peer-to-peer learning and support, or running events that foster social relationships and community in a neighbourhood.

It was found that the most relevant tools to use at this stage were those that:

- allowed the *business positioning* (templates 1 and 2, Appendix H2)
- facilitated framing the value proposition into a meaningful, relevant and viable model (template 8, Appendix H2)
- explored various user groups (template 6 and 7, Appendix H2) to focus on concept prototyping. This also allowed the exploration of how the value proposition could be tailored to cater for the different user groups.

To conclude:

By applying the framework at **incubation stage the value proposition was reorientated** (or the business concept was pivoted), in order to better align the provider intentions (values) and the potential user's interests.

In turn, refocusing the business purpose and its core offering opened up new possibilities for income generation, **contributing to better-informed planning and strategies to launch the enterprise.**

Before embarking on the next intervention cycle, the researcher sought to elicit the participants' views about the framework's suitability and value for building skills and capacities in designers, and others involved in bottom-up PSS innovation. **The participants judged the framework highly suitable and relevant to support the development of new skills and capacities in designers.** However, it was also recognised that to build such skills and capacities requires conducting the activities in-depth, and adequate materials to support learning through these activities should be further developed.

PARi 3 – Intervention at concept generation stage

Seeking to advance this research towards its overall aim: to improve the design and value proposition formulation of bottom-up sustainable innovations by focusing on investigating effective means to research and map the innovation's sociocultural context – the last cycle (PARi 3) investigated the framework's capacity to support designers in mapping the socio-symbolic aspects of the innovation context at the earliest possible stage of innovation (Figure 5.92), in order to *formulate* PSS value propositions that are informed by sociocultural context research.

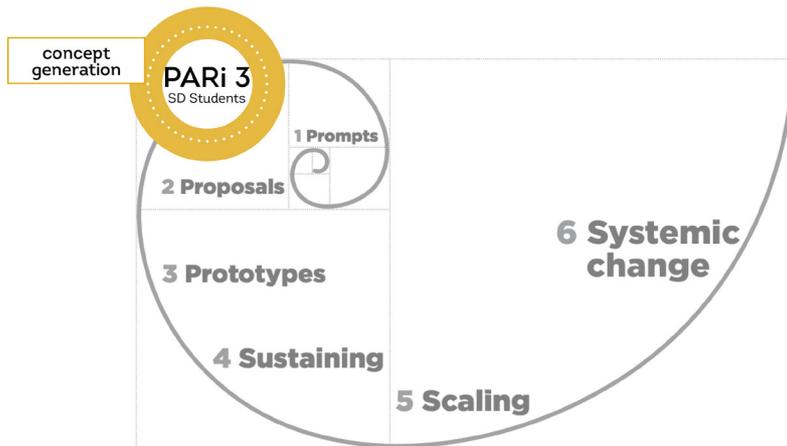


Figure 5.92 – Third PARI cycle

In line with this overarching aim, this cycle’s focus was to assess the framework’s value to support **concept generation** – i.e. Discover/Define/Develop stages of the PSS design process (Figure 5.93). The intervention was implemented in the context of design education, which allowed the situation of the framework within existing methods and tools used in the context of social innovation and PSS design.

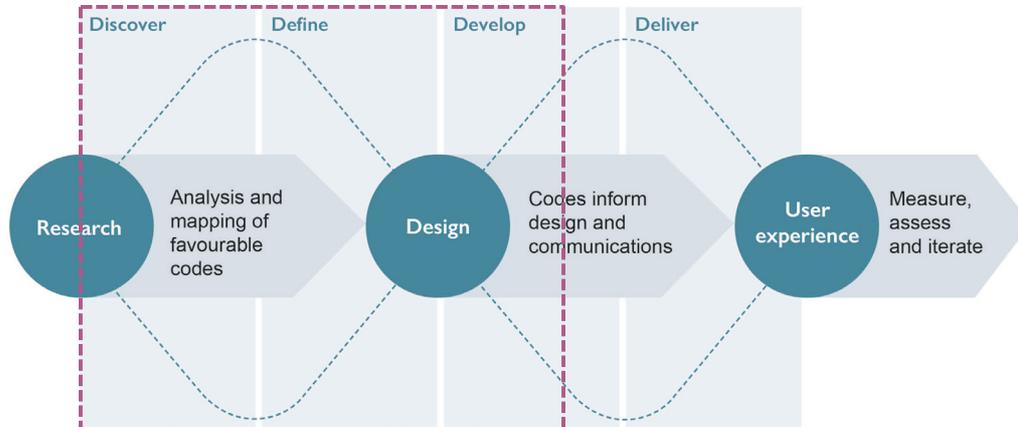


Figure 5.93 – PARI 3 incorporated contextual research to Discover/Define stage in the design process

While the researcher’s main interest was to establish how the framework’s ‘steps’ or activities relate to the different stages of the design process, the intervention setting posed some interesting challenges to evaluate the framework’s value for building skills and capacity.

Applying the framework to **concept generation** stage, contextual research helped to elaborate strong insights that influenced the elaboration of the value proposition

Students needed support in three main areas: building their understanding of context by immersing themselves, being critical of their own assumptions but also challenging the literal, and making sense of what is being designed and for what purpose. These issues affected students' ability to elaborate solid service value propositions. Through this intervention, the value of the *Con[text]* framework for supporting designers was proved successful in that:

- It helped students research the context by providing a structure and strategy to organise design research
- Research findings were better articulated and more consciously linked to their design proposals
- The elaboration of value propositions was informed by a strong exploration of users and context, and understood as a clear output of the design process

In summary

Applying the framework at three different stages of development was beneficial in that:

It allowed for locating which aspects of the framework are most relevant to each stage. These findings highlight which aspects of the process the designer should be prepared to undertake in more depth, planning the adequate steps and resources, etc.

It anticipated the future steps that the enterprise would need to embark upon. Good for forward planning and gathering resources, locating areas of expertise that will be required at every stage.

While it is useful to *reframe* existing value propositions to appeal to wider or different user groups, understanding context of the innovation, user's expectations and aspirations as early as possible can positively impact the core offering (value proposition). This can help save time and resources by reducing the 'context and user' learning curve, which may involve several trial-and-error iterations.

However, the empirical applications at different stages of innovation were useful to understand that this 'ideal' situation might be a rare case in 'real world' scenarios – i.e. it is unusual for designers to engage at concept generation stage, such as the PARi 3 case which

occurred in the context of the classroom. As highlighted in the literature review (Chapter 2, section 2.1.4), grassroots PSS innovations can be started up by many actors in society, and opportunities to engage designers might only present themselves once the concept has been manifested, for example, with innovators pitching for funds or getting access to incubators.

Given this real-life scenario, it is at this middle stage (incubation/prototyping) that the *Con[text]* framework might be most beneficial to impacting diffusion and uptake, as the innovator will have formulated a concept which needs fine-tuning and reframing into a viable value proposition before proceeding to launch. From these development stages (Define/Develop/Deliver), aspects related to a 'deep understanding' of users are key to root the concept into a contextually relevant value proposition. Therefore, code mapping becomes most relevant to bridge *intention* (from the provider) and *interpretation* (user expectations), by producing representations that encourage the adoption of sPSS and deliver intrinsic, tangible and intangible value through the PSS offer and experience.

The research evidenced through the three PARI interventions that semiotic and cultural analysis methods enhance user research. However, to fully benefit from the application of this knowledge to obtain robust and novel insights requires developing capacity in designers, as well as assigning enough time to *gather the correct materials* and *conduct the analysis*. Participants in all studies highlighted the need to go through the activities in more depth and with more time. This is understandable since, for example, it can take three semioticians half a working day to get to a good Semiotic Square analysis (Evans, 2014).

Figure 5.94 summarises these recommendations and illustrates them at the three innovation levels discussed above. The different 'shades' of each circle (Decode–Encode/User Experience framework phases) represent the degree of intensity, relevance and depth of analysis at each phase. A comparison between the level of analysis *implemented* in this research and the *recommended* level are illustrated in parallel.

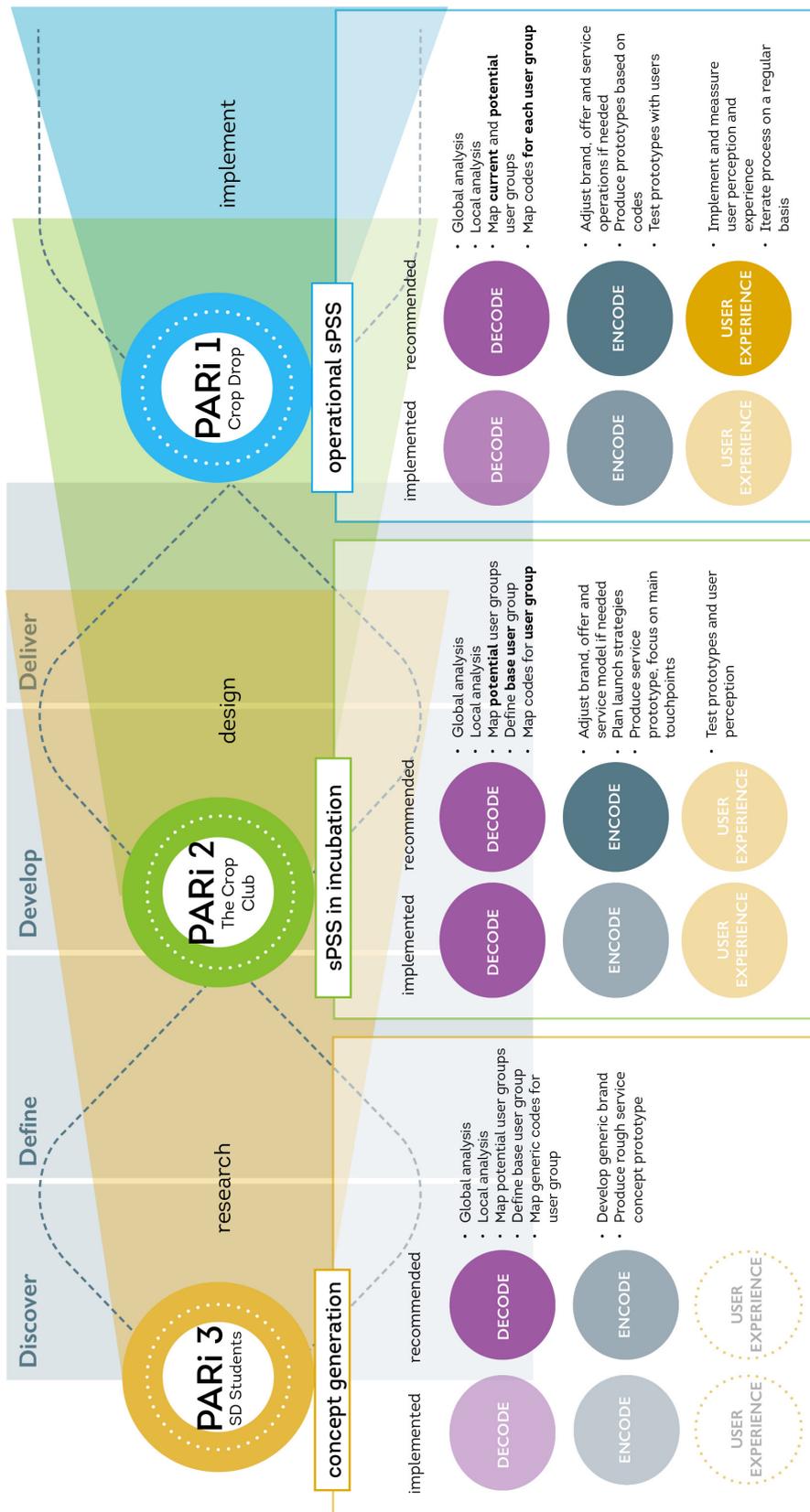


Figure 5.94 – Implemented and recommended level of analysis at each stage of innovation

Robustness of theoretical propositions

In terms of the theoretical propositions (Chapter 4, section 4.2.1), the main study made evident that semiotic and cultural analysis methods add richness to the elaboration of user research, by providing a way to ‘make sense’ of the relationship between users, brands and the culture(s) they are immersed in (Zurlo & Cautela, 2014). The framework proved to be a good guiding structure for researching and mapping the socio-symbolic aspects that influence users and the context of innovation.

The ‘global’ (category-wide) and ‘local’ (user-group-specific) explorations and mapping users’ pursuit of well-being and quality of life enabled the researcher to draw a richer picture of users as members of communities, and to discuss these nuances over concrete insights with the participants.

Introducing cultural context research helped to spot opportunities for improving the PSS by developing a wider customer base and identifying potential partnerships with other stakeholders. In this, the framework **expanded the exploration usually focused on ‘user needs’** which tends to focus on users as individuals, and **reinforced its sense of ‘interconnectedness’ with the wider ecosystem** of like-minded agents (who are promoting the intrinsic values that underpin cultures of sustainability and well-being).

The main study also evidenced the value of the *Con[text]* framework as a robust theoretically informed method for building designers’ reflexivity and critical capacities. The theories and tools introduced by the researcher at PARi 3 proved a good supporting structure around which to develop design skills and capacity to deal with the sociocultural dimension of PSS design (Morelli, 2002) – i.e. conducting relevant cultural research and drawing design constraints for creating symbolic or ‘intangible’ value. In terms of improved appeal and diffusion, however, as the scope of this research was bounded to theory-informed development of practice, the potential of this proposition to ‘convert into sales’ needs to be further investigated, e.g. through a phase of well-planned theory-testing research.

5.3.4.2 Reflect on learning – change of practice

This section summarises the main ‘learning’ that engaging with PAR and reflective practice generated through the main study.

- **A more methodical, self-aware and directed framing practice**

The PARI cycles provided the opportunity to obtain valuable insights on how cultural insights can methodically inform the framing process of design artefacts, and orientate them to communicate and legitimise the values and lifestyles associated with a new paradigm of sustainability and well-being. By focusing on *process* – rather than outcomes – through the activity of designing, the ‘naturalised’ practices of framing and meaning-making became self-evident and conscious, rather than intuitive and unconscious. Although this self-awareness might not eliminate the designer biases per se, it provoked a deeper, more critical reflection of the designer’s own and other stakeholders’ values and biases. Therefore, it is considered that critical approaches can empower the practitioner with self-knowledge to improve practice, enhance empathy and cultural literacy, and adopt a more intentional position from which to contribute to societal transformation through professional practice.

- **Values, ideology and purpose**

Equally, being more aware of how our own world view permeates and influences the outputs of our creative process can enable us to be self-critical and more inclusive, and to conduct our practice in a more responsible – as well as strategic – manner (Zingale & Domingues, 2015).

As well as individual self-reflection, the last cycle of this study highlighted the need to provide more opportunities for critical analysis of design artefacts and the ways in which they impact culture. In education settings, for example, introducing opportunities to ‘deconstruct’ and analyse design artefacts is a valuable way to build critical capacity, but also to enable a better understanding of the agency and cultural mediation of design practice. Too little discussion on the values and ideologies mobilised by design can limit the understanding of Design for Sustainability intentions as a discipline, and its potential for cultural and societal transformation.

- **Contextual research and code mapping contribute to the fourth pillar of sustainability**

Beyond being a strategy for competitive advantage, introducing critical practices such as cultural context deconstruction and code mapping can empower designers to contribute to ‘cultural sustainability’, by designing artefacts that are more grounded in their context and

users' preferences rather than in our own personal stylistic or aesthetic biases (Crilly et al., 2004; Kazmierczak, 2003). Being more conscious of the influence of our practice enables us, if we choose, to respect the contextual culture by being reflective and analytical and learning from it to inform our design decisions.

- **Value proposition elaboration**

Innovation framing is concerned with more than just finding an aesthetic 'fit' to represent the artefact in a way that can be understood and appreciated by the target group. Framing is about 'crystallising' an alignment of interests by designing a web of interconnected meanings that not only 'communicate benefits' but also evoke and express certain emotions inevitably contained in all human experience.

5.3.4.3 Reflect on research methods

Through this study, some reflections were generated on the advantages and barriers of PAR research strategy. This section summarises reflections elaborated in the three PARI cycles that comprised the main study.

What worked

Journaling – reflective practice

Journaling proved a very useful strategy for critical reflexivity, but it also presented some challenges. For example, it was hard to establish the habit of journaling to begin with, and deciding on a structure that would produce good data, and encourage writing at the same time. In this, the three layers of reflection structure suggested by Thompson (2008) (see Chapter 3, section 3.2.3.2) helped to structure thoughts into insightful diary notes and prompted writing by posing questions at these three levels.

One of the concrete benefits of keeping and using a critically reflective research journal was its usefulness for recording notes on the emerging understandings of practice, but also a record of the research methods that were selected and used, reflections on different views about gathering (or generating) data and what changes were being made to the research design and why. In some instances, critical self-reflection prompted a change of personal approach to the research process, for example, introducing or selecting certain research methods that were not initially considered, or notes on when/how/why plans elaborated in the initial research design were adapted or discarded.

Triangulation

Throughout this study, a diverse range of methods was used, partly due to the change of research setting (education vs design practice) but mainly by seeking to provide others with a voice, and to ensure validity and reliability of the research process and findings.

For example, as objectivity is difficult to achieve in journaling and self-observation, the recordings of conversations, working meetings and discussions with participants proved invaluable to validate journal records. By analysing transcripts of recordings, the researcher could spot both correlations and contrasts between accounts, or fill in details that otherwise would have been lost. For example, when elaborating the summary templates at PARi 3, some important details that were discussed verbally with the participant were filled in by the researcher after the session. In this, both journal notes and capturing the session with audio recording was extremely useful.

Beyond validity and reliability, using different methods provided a good way to interpret results by comparison, and build a bigger and richer picture of the data collected. In summary, this approach provided valuable insights by combining various perspectives.

Amplifying participation

Action Research often starts small and seeks amplifying impact by engaging with a larger number of participants as each cycle progresses – i.e. from our own practice to colleagues to eventually affecting systemic change.

The knowledge gained in action research is more often shared with known others in the same organisation or profession; it tends to be disseminated through networking and teaching (Tripp, 2005). Through the interventions, the researcher sought to enhance and strengthen the methods and tools, but also to disseminate the knowledge, involving a greater number of participants and stakeholders with each iteration. Inviting colleagues to engage in activities of framework application provided valuable insights on the strengths and weaknesses of the methods.

Figure 5.95 summarises the intervention process, visualising participant amplification and involvement of other stakeholders, and outputs of each PARi cycle.

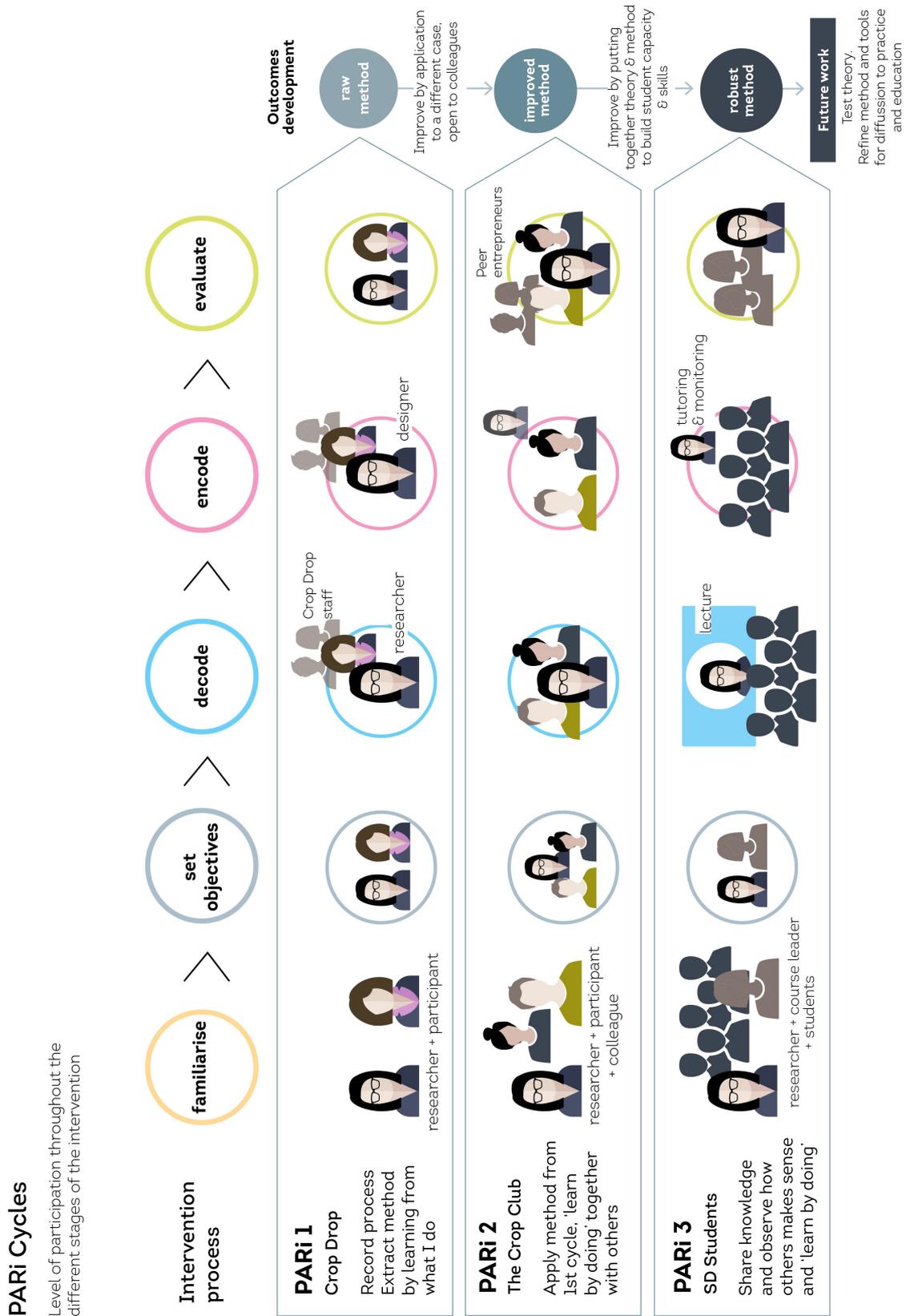


Figure 5.95 – Summarised PARI cycles process, participation and outcomes

Running parallel interventions

As previously discussed (Chapter 3, section 3.2.3.5), PAR stages normally overlap or run in parallel, rather than in strict sequential steps (Kemmis & McTaggart, 2003). The anticipated overlaps that occurred between PARI1 and PARI 3 interventions were often ‘catalysts’ that prompted the researcher to materialise outputs from the current cycle, in preparation to engage in the following cycle (Figure 5.96). As such, these outputs became linking ‘stepping-stones’ between the closing and the opening cycles.



Figure 5.96 – Keeping track of Action Research interventions running in parallel

This approach also helped to avoid jumping to conclusions too soon, and to keep a wider focus during the reflection stages. It also allowed for cross-fertilisation of ideas between interventions, which resulted in more inclusive interventions that, albeit indirectly, benefited all participants and stakeholder groups.

However, running overlapping interventions was challenging in terms of time management – e.g. the researcher had to dedicate time to ‘close’ PARI 1 (data analysis and reflection), while preparing to ‘open’ PARI 2 (participant selection, research planning, protocols). It requires a great deal of effort, flexibility from the researcher and a capacity to keep focused on reflective practice at multiple levels.

Challenges of PAR

Some of the challenges faced by conducting research under a PAR approach included:

The complexity of working on real-life scenarios

Engaging with start-ups is particularly challenging due to overstretch in terms of time and resources that social entrepreneurs often face.

Controlling schedule

Fixed schedules and deadlines are unrealistic. A high degree of flexibility and adaptability is required to conduct research in these settings. For example, deadlines and meetings were constantly negotiated with participants.

Evidencing change

Social entrepreneurs in particular are passionate about their ideas and have a strong sense of direction – i.e. they hold strong views about what should change and how it is implemented. This confirms the challenges highlighted by Valencia et al. (2015) (see Chapter 2, section 2.3.1.3, point 1).

Equally, educational settings are fast-paced and students manage a busy schedule. This creates a situation where it may take time for participants to incorporate new practices, and for the researcher, it becomes difficult to collect evidence or tangible results of the impact of the intervention within the time frame of the research project.

5.4 Pilot and Main Study Conclusions

The aim of Phase 3 was to challenge and develop the Initial Theory by applying the *Con[text]* conceptual framework to design practice.

The study sought to generate practical methods and tools that facilitate the implementation of *Con[text]* during the design process of sPSS. The objectives were:

- To develop practical means for implementing the *Con[text]* framework, so that it can be used alongside existing PSS design processes and tools
- To raise awareness among designers and social entrepreneurs of the sociocultural and symbolic aspects of consumption, highlighting the opportunities for design to legitimise values and social practices that underpin sustainability, happiness and well-being

As a first step, a Pilot Study was conducted to inform the Main Study design. The objective was, first and foremost, to gain understanding of how designers would respond to using applied semiotic methods in practice, and to what extent these methods would need adapting for use in a design context. The pilot study identified that designers found the approach original, relevant and interesting, they enjoyed the activities and found the methods easy to use.

The investigation's focus was on the development of practice, therefore, engaging with 'real life' cases through PAR proved highly beneficial in generating practical methods and tools to support sociocultural context research during the design process, but also the Initial Theory which informs these practical methods was strengthened at the same time.

Therefore, the objectives of the phase of the research were met as follows:

- Aspects related to the sociocultural and symbolic dimension of consumption were discussed with social entrepreneurs, designers and academics, highlighting the influential role of design in legitimising values and social practices

This objective was met by gathering the relevant theories from cultural studies, cognitive science and semiotics, and producing tools and materials to contextualise these theories within PSS and service design. These in turn were used to present and discuss these concepts in the context of design practice, in a design education setting and focus group evaluation by other researchers interested in the topic.

- A practical method and tools to aid the implementation of cultural context analysis in sPSS design practice was developed in a 'learning by doing' manner. This method was implemented at experimental level, alongside existing processes and tools associated with sPSS design in real-life sPSS cases, and to build capacity and skills in design education

Therefore, this phase of research produced a robust theoretical framework, and some 'prototype tools' to implement the framework in practice and education. However, these tools would benefit from further development and refining by iterative application.

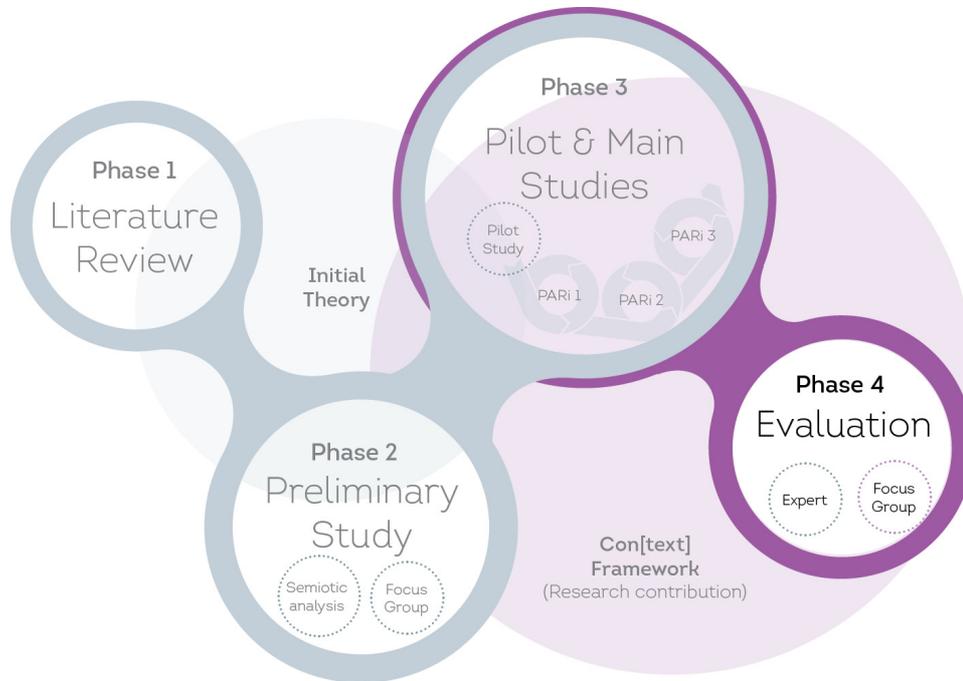
5.4.1 Recommendations for further research

Due to time restrictions and limitations of this research project, it was not possible to implement further iterations of the *Con[text]* framework. Therefore, recommendations for further research are summarised below:

- Iterate intervention, delivering theories and concepts at the appropriate design process stages, as mapped in during the last PARi cycle (see section 5.3.3.3, Table 5.9, Figure 5.76)
- Develop immersive experiences to allow for complex concept-grasping in short available time

These are explored and expanded in Chapter 8, section 8.5.

Chapter 6 – Evaluation



This chapter reports on the evaluation of the *Con[text]* theory, methods and tools, responding to Objective 5 of this investigation: to assess the potential impact and relevance of the research outcomes beyond the specific area of application in this research.

For the purpose of theory and research validation, an expert in sPSS was interviewed. This was followed by a focus group consultation, where participants were invited to evaluate and ‘reflect together’ (Tripp, 2003) upon process and outcomes of this research.

The objectives were:

- To gain a wider perspective on the potential impact of the research contribution to address sPSS problems in particular, but also to the larger context of service design (confirm/dispel assumptions of impact and novelty)
- To jointly identify areas for improvement, further applications and future research avenues
- To assess implications of implementing the framework in design practice and education, and so enrich the insights obtained during this research

The data collection took place during ServDes conference in Copenhagen, 25–26 May 2016. Research methods and sampling criteria for both evaluation stages have been described in Chapter 4, section 3.2.4. Further details about participants are provided in Appendix F2.

6.1 Results and findings

The purpose of this study was to evaluate the potential impact of the framework in order to assert its value to improve design practice. The framework was presented and discussed with an expert in the area and a focus group. Figure 6.1 illustrates the themes covered in both discussions, and provides a guide to interpreting results.

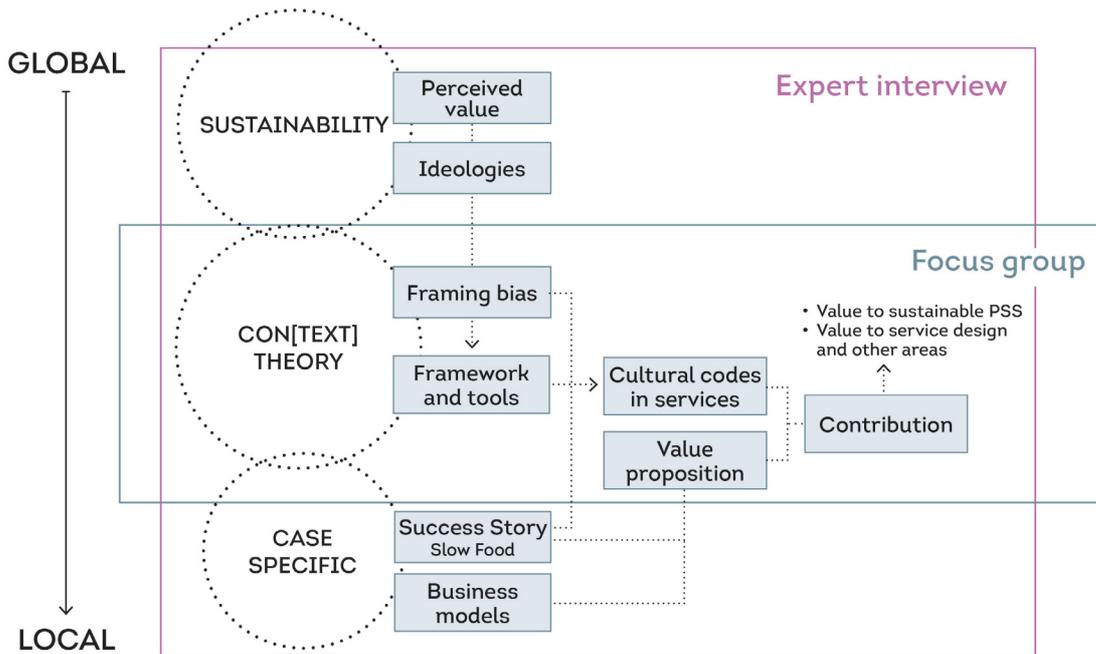


Figure 6.1 – Phase 4 research and contribution evaluation

The following sections describe the findings of both evaluations, followed by results discussion and conclusion.

6.1.1 Expert Interview

The participant, Professor Anna Meroni, was interviewed at ServDes conference. She is an expert in sustainability, social innovation and sPSS in the category of food.

The participant was shown a presentation by the researcher, and the interview proceeded in free-flowing form as the presentation progressed.

The topics discussed are expanded as follows:

Problem-framing: Sustainability Issues

- **Perceived value of sustainability**

The participant agreed with the view that sustainability is often perceived as a loss. These results are consistent with arguments in extant literature, as discussed in Chapter 2, section 2.1.5.

'I wonder if there is another way around in which . . . We are people that could adopt some behaviours if they don't relate it with sustainability. Because, it's not necessarily "cool" to be sustainable . . . I mean, I think people still relate it with sacrifice and deprivation . . .'

- **Sustainability ideology**

The participant strongly disagreed with the idea that sustainability should not be associated with desirability. This view validates the researcher's approach and disproves views collected in the Phase 2 focus group (Chapter 4, section 4.3.1), and PARi 1 (Chapter 5, section 5.3.1.4).

'Oh, no, no, no . . . this is pure ideology. This is the reason why sustainable products are low-quality, because they think that since the intention is good we can eat [rubbish]. I mean . . .'

Con[text] Theory

- **Link to perception and framing biases theories needs to be stronger**

The participant had issues with the validity of results from the semiotic analysis. She expressed that these are very interesting results but argued for stronger evidence. She did not consider the results as strong evidence due to the fact that they did not derive from user testing. This reaction could be attributed to the fact that, due to lack of time during the interview, results were presented in isolation from related evidence from other disciplines, and that the participant was not familiar with the methods of analysis.

'Here it says, "are not optimal for people" – how you can say that eco and environmental discursive frames are "not". How can you say that? How did you come to that conclusion?

' . . . at some point, you have to come to a certain confrontation with people to measure the result and impact of the method . . . very interesting for me . . . if you can bring details . . . evidence . . .'

Therefore, it is considered that these research findings should be more strongly linked to research on framing effects and biases provided by social psychology, which were discussed in Chapter 2, section 2.1.6. This connection opens up an interesting research avenue, highlighted in Chapter 8, section 8.5.

- **Contribution impact on PSS design**

Con[text] framework value

The participant confirmed that adding a sociocultural lens to the design process provokes interesting reflections to improve PSS design and user experience.

‘This is a good kind of reflection about cultural codes and how to deliver services or products which, in a way, match the cultural codes . . .’

How do codes translate to PSS?

‘For example, the code of sophistication, how do you . . . can you translate this thing to a service? Can you give me a case? Something to extrapolate, because, earlier on, you showed me a picture of a sophisticated lady – I can recognise that from my own culture, but when we are talking about a vegetable box scheme, what is the cultural code that you have mapped?’

How does the framework affect the quality of the offering?

It was confirmed that the best value that can be generated is to support the elaboration of a good-quality PSS offer, or reframing good PSS offers that are poorly positioned/communicated. The participant had strong views about tactics based on environmental benefits, and expressed that adhering to sustainability principles is not an excuse to deliver poor quality. She believes that PSS should not fall short of customer expectations, and therefore agrees with the concept of progressing sustainable innovations from ‘good’ to ‘great’. This means creating sPSS that have good *intrinsic* and *perceived* value.

*‘the **problem** with eco offerings, let’s say, products or services, is that **in many cases it’s not just in the value that is perceived, but it’s the value which is really embedded**. Because very often the problem is that insofar that they are sustainable, and all the **other qualities that are normally appreciated by the consumers are left behind, because they are considered at a second level**. So, [the challenge] it’s not*

just to help to perceive the right value, but it's also to create the right value in the offering. Because if you take the fashion system, for example, it's true that the eco fashion very often could be seen as not fashionable, and very few sustainable clothing companies are very nice.

So, the point here is that, the case of poor quality products and services that fall short of customer expectations . . . So, in this case, there's nothing that can be done. Even if you use the same codes of Chanel . . . Poor quality, beyond the environment you don't have a chance.

So, this is a case where you have a good value proposition and you communicate it well. So that also the perceived value is correct. Then you have a third case, where you might have a good value proposition where the perceived value is not. Good. So, I wonder, this framework, how can it serve the three cases?

- **Transferability**

It was confirmed that the Decoding–Encoding methods proposed by the *Con[text]* framework can support a wider area than PSS design.

*We had the same problem when we started to work with incubation of social innovation and then **we realised that what we have done was good also for all kind of innovations**. So, we said, on the one side this is good, because it can be “exported”, let's say. And, I think, you are in the same situation: you have a tool which is really interesting, but it can be applied to all kinds of cultural codes and for all kinds of innovations.*

However, the participant highlighted that this is both an advantage, but also a concern as to what can be done to provide designers with clear guidelines to support social innovation more specifically.

'you started from a clear assumption at the beginning – and this is one of things I wanted to ask about – that sometimes, it's not the right strategy to appeal to certain kinds of green style codes, should you want to hit the market, but these two things, so this [sustainability framing], and that [code mapping], are two separate reflections, I wonder if you can combine them? Because you can still do a mistake by doing this [code mapping], because this is not wrong, I mean, so . . .

But, if it's true, and I think it is, that sometimes it is not the right strategy to appeal to green codes, or conventional stereotype codes if you want to really make an impact to convince, in a way, the consumers to purchase a product or service . . . I wonder if this is the answer to that issue? Because this is too generic, so how can you . . . put an alert in that tool?

The framework does provide recommendations to orientate designers towards elaborating propositions that reinforce intrinsic, rather than extrinsic values. This would mean, for example, that exchanges for equal value may be preferable to discounts. The *Feature Analysis tool* (Appendix E5) should also prompt the designer to reflect as to how the innovation delivers benefits for the user, as well as keeping environmental features at its core. Although further research could be conducted to ensure a better 'fit' for the purpose of social innovation context in particular, the ethics and purpose for which knowledge is used rests with the practitioner. This point is further discussed in Chapter 7, section 7.5.1.

Case specific

- **Success example – Slow Food**

The participant offered a successful case study that evidences how a different discursive frame popularised sustainable food consumption, without highlighting sustainability within the value proposition:

'I've been working a lot with Slow Food and I think they found a way to . . . at least at the beginning of the story, the story of Slow Food is pretty educating in a way. Because, in the beginning their discourse was not on sustainability, it was about the pleasure of eating, and the right of eating – the right for humans to eat well and to have pleasure of eating. So, the emphasis was on quality, and then, they made us understand that eh . . . quality equals sustainability in food.

But the strategy, intentionally or unintentionally, was not to put sustainability at the forefront, but to put the idea of eating better, eating well and enjoying the pleasure of food. And, that thing was the right thing for everybody, not only for people, with money and resources, but for everybody because . . .

But, then, it was a winning strategy at the beginning. Now the movement is facing some troubles, because words have changed, the world has changed, but . . . still, I think this was a good strategy to let people understand the quality and then, to say,

you know what? If it is real quality, it is sustainable. And that is something that still, today, many people that eat Slow Food, so they do something that is sustainable not knowing to do that.'

This case contributes to the confirmation of Proposition 1 (Chapter 4, section 4.2.1), as the core of the value proposition is based on improved life satisfaction (well-being) benefits.

- **Viability of business models (vegetable box schemes)**

Discussion centres on implementation issues to deliver 'idealistic' value propositions – i.e. value propositions that, in reality, cannot be delivered as promised. The participant agreed that the solutions are temporary and transitional due to the complexities of bridging two socio-economic paradigms. However, she disappointingly wonders if these ventures will ever succeed, or whether they are just simply utopic. In this respect, the following issues were raised:

'In Italy, of course, if we go to the south we can cover almost the whole of the year, but I don't feel guilty if I eat oranges because ah . . . they travelled 500km, I mean . . . If we would really stay local, if we go local, we would not . . . I mean, this would be stupid; we are in the 21st century. Yes, I agree that we don't have to be too much . . . erh . . . integral. Otherwise we lose the game. Integral in communication, in the actual product offering, yes. In one way or another, we live in a century which is globalised, and we can try, we can have ideas for change but still we can be tempted by Zara, or we can be tempted by the supermarket . . . It's a reality . . . So, we must find solutions that fit into this complexity of everything.'

On trying to match competitor offer, underperforming and thinking customer will 'forgive', given the value proposition's sustainability/social benefit:

' . . . we said, "can we deliver door-to-door for everybody?" Yes, but you should have a logistic which is really impressive, it's going to be expensive for the customer'

On asking people to put up with clunky experiences, in the name of sustainability:

'There is trouble with delivery and collection points, inconvenience; if the produce is not fresh, we get complaints.'

On disappointment with business model/social experiments

'Currently in Italy we are facing so many failures, so the question I am asking now is why? We also have been working with some prototypes, and we quit after two prototyping faces, because we felt – and I think we were right – that the service was not mature enough to be launched in the market, because the cost would be too much for everyone . . .'

'I never heard a fully successful story about these food schemes. Never. I never heard a story that say, yes, it's five years that we are running this company and we are doing better and better . . . Maybe it's a dream. We are all dreaming of things that, actually, can never be done. I guess it's a chimera. I don't know, utopia. Maybe we are all working for nothing, for utopia.'

6.1.2 Focus group evaluation

The focus group session was conducted as per the description in Chapter 3, section 3.2.4. First, the research context, assumptions, methods and outcomes were presented over 20 minutes (Figure 6.2). Following the presentation, the participants were prompted to give their views on the potential impact and implications of applying the research outcomes in Service Design for Social Innovation practice and education (Figure 6.3).



Figure 6.2 – Presenting the Con[ext] framework at focus group session (Evaluation Phase)

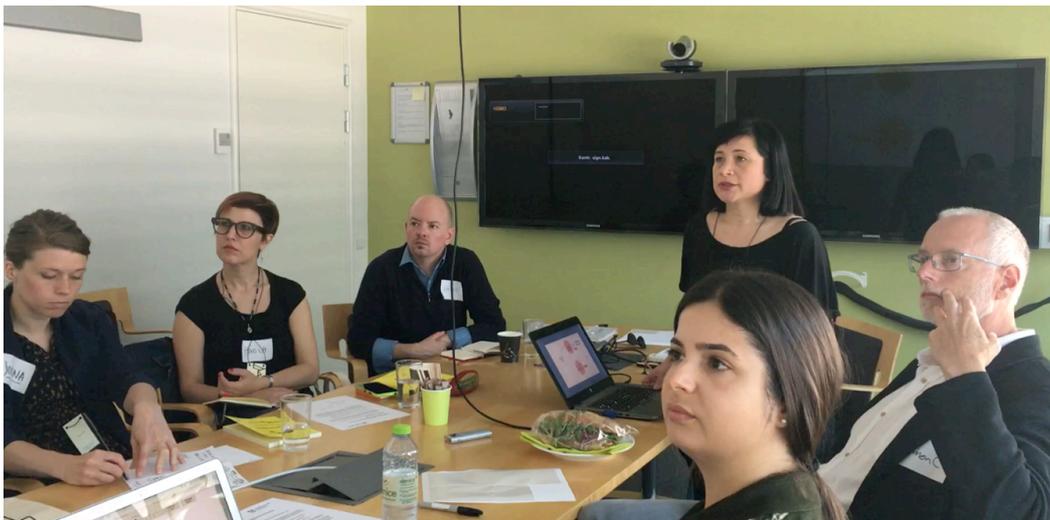


Figure 6.3 – Participants' round table discussion

The following questions were posed to prompt discussion:

1. What **impact** do you anticipate that this approach may have, or not, in the diffusion of Design for Sustainability and social innovation?
2. What **improvements** (or further research) would you suggest for further implementation of this approach in design practice and education?
3. Do you see **any conflicts in values** between Design for Sustainability and strategic approaches such as this?

Views collected during the discussion were grouped thematically, summarised in Table 6.1.

Factor	Contribution	Impact area
Impact (novelty and relevance to improve practice)	<ul style="list-style-type: none"> • Framework/method is useful and applicable to improve design of experiential services • Addresses the gap in methods to deal with meaning-making and cultural aspects of services • Provides support for elaborating better value propositions • Code Map provides good structure for the elaboration of criteria for touchpoint design • Lifestyles Visual Mapping improves ‘sticky note’ approach, as a richer way to represent/communicate user profiling (personas) • Is ready to apply to standard design research and service design process 	Service design practice
	<ul style="list-style-type: none"> • Method is valuable cultural transformation upon a better understanding of how codes can be played to ‘propose’ cultural change 	Strategic/transformational design
	<ul style="list-style-type: none"> • Framework theory (Decoding–Encoding) is good for developing critical and analytical skills and capacity in designers 	Design practice and education
Transferability (other uses)	<ul style="list-style-type: none"> • Can be used as a method to structure ethnographic research and produce case studies to learn from • Visual research and analysis provides richer way to summarise, represent and communicate insights 	Transdisciplinary
Suggestions for improvement/further research	<ul style="list-style-type: none"> • Issues were raised as to ways in which the method suits the researcher’s ambition and direction. More specific research to empower non-designers was suggested • Theory testing by iteration in other contexts • Further development of tools and methods in education context 	Diffusion and scaling up of sustainable social innovations

Table 6.1 – Thematic analysis of evaluation session results

The following sections expand on these findings:

Contribution: Impact

- **Improvement to service design practice**

As services become more experiential, they must have cultural relevance for users (Morelli, 2002). Participants agreed that this area is considerably under-researched within the service design discipline. Therefore, the *Con[text]* framework and cultural studies approach

(Decoding–Encoding) were found to be robust and highly novel, addressing knowledge and method gaps to deal with cultural aspects, which are crucial to deliver quality services and user experience.

‘. . . for me what’s interesting [. . .] is how cultural Decoding–Encoding in service design work and I think you can, and have made a real contribution into filling that gap [. . .] this is really extraordinary and exciting work that can kind of push the needle at what service design is doing. So, congratulations, it’s pretty good.’ (JV)

‘. . . the global–local thing that you had? They are starting to realise that there are no service design tools for it. And the service designers that use it, don’t know how to use those tools. I mean, they do not know how to do this relation. They are pulling bits from ethnography and they can pull bits of other things, but if you look at This is Service Design Thinking book, or any other service design books, the cultural bit is totally gone, there’s nothing. I don’t think you’ll find a chapter in any service design book, I don’t think . . .’ (SC)

‘. . . in fact, a lot of the ideas that we have tend to be solutionistic in their ends, lacking that cultural context that you mentioned before.’ (AS)

The framework was considered suitable for use within existing processes and methods:

‘[. . .] this approach can be already strongly connected to the actual service design research process, as it stands for now . . .’ (LS)

The approach was found to be applicable and useful beyond the area of application selected for this research (sPSS):

‘. . . the impact that your approach has is not just for design for sustainability and social innovation, I think it’s for all service design [. . .] this is relevant for all services that have experiential aspects. And it’s not just a bottom-up thing, because we are working with some big organisations, telecoms in over 14 countries [. . .] if you don’t have the cultural relevance, then you’re gonna miss. You’ve got to have the brand for the organisation that’s providing, and you’ve got to have cultural relevance. So, I really think that what you developed it’s gonna have a great impact in service design.’ (SC)

‘I absolutely agree with ensuring that you hit on relevance in a much broader than the contained context that you tested in.’ (JV)

Strategic/transformational design relevance

The proposed role of design as a cultural intermediary practice and its capacity to transform culture was well received. Participants reflected on the need and importance of considering cultural transformation. It was recognised that in product design, for example, it is fully accepted that products shape and have a response in the culture, but these considerations have been lacking in service design.

'I mean, look at Loewy with this streamlining and Jonathan Ive, and [. . .] where is that in service design? It's totally missing. There are no tools for designers to understand this . . . there's the journey mapping for contextual understanding, but there's no cultural transformation. And I was thinking, where? Who are the service designers today who have influenced culture? Like Jonathan Ive, or Raymond Loewy, Philippe Starck even . . . I couldn't think of any.' (SC)

Participants agreed that there is a lack of theories and methods to intentionally implement cultural transformation. The Con[*text*] method was found useful to support designers in this task.

'[current approaches are solutionistic] ' . . . or pure aesthetics . . . I'd say most organisations don't have the competencies to transform it [culture]. And that's the huge gap that's missing, I think. But that's where your thing comes in, because it offers transformation into an offering, and journey and touchpoints, and interactions that give the experience, but then reflects back into the culture.' (SC)

And some important premises of this research – a better understanding of codes, framing practices and cultural reproduction – were recognised as a valuable contribution, providing a good theoretical framework to support design agency in more intentional, directed cultural transformation.

' . . . there is this other piece of shaping culture, and breaking culture and doing those sorts of things . . . I think it would be a really interesting thing to play with as service design. OK, how do you understand culture enough to start shaping it, and shaping the context and saying, we need to bring these cultural codes along so that we can then break this one, and still have enough validity that people are still interested in partaking.' (JV)

Key benefits for design practice and education

The **Decoding–Encoding approach** was recognised as a valuable metaphor to describe the process of critical context exploration to extract insights, and ‘translating’ these into well-framed value propositions. It was highlighted that while cultural insights might be collected during user research, designers lack the skills and methods to successfully translate (or frame) them into value propositions and user experiences.

‘I think there are lots of trend companies, pulling out trends and cultural aspects, but I think what’s missing is that translation or transformation into the value proposition. And then the communication and the journey.’ (SC)

The framework was deemed valuable for **building professional capacity and skills**

‘. . . for me what’s interesting beyond whether the specific tools work or not is this kind of competency [. . .] around how cultural decoding and encoding in service design work, and I think you have made a real contribution into filling that gap around this competency. But I think that so many [designers] struggle with all this trend analysis and scenarios and things, and then they think, ‘yeah, that’s quite interesting’ but then the translation piece is not there [. . .] if you can help build people’s competency to think about these things in tangible ways, I think we are getting places.’ (JV)

‘. . . one of the gaps so often with horizon scanning and foresight work is that translation piece. In that, there’s something about [. . .] capacity in that agency to help you do that translation work for your customers that’s enabling it to become embedded.’ (AS)

‘the cultural . . . the global–local thing that you had? In teaching . . . we are developing service designers who don’t understand how to do that – so they are not going to be able to do it. All they’re going to do is journeys that are quite functional, but maybe not so desirable.’ (SC)

Visual mapping was considered a novel and superior way to convey deeper levels of meaning and emotionality, compared to the conventional practice that characterises service design mapping (the use of ‘sticky notes’):

‘I think that mapping with images is much better because people can capture much faster, they can build their own cultural relation through this pictures and moods

and what they cause, because they are automatically (naturally) emotional. And I think it's better because you can get much faster to the objective you want to achieve.' (LS)



Figure 6.4 – Discussions continue over lunch . . .

- **Transferability, improvements and further research suggestions**

It was recognised that this research opens up a variety of further research avenues in terms of applicability to different design contexts and situations where cultural issues are not currently being addressed due to lack of methods and tools.

' . . . maybe use your methodology to read solutions that are already there could be interesting. To understand how they have framed it in these institutions [. . .] what I'm exploring is to say, OK, the cultural values are already embedded in what they are doing there, so what can we do to learn from existing solutions? So . . . maybe these two things can dialogue because you can provide for people like me tools to understand these solutions, how they are working already.' (CP)

Make more obvious the connection between framework and tools, to ensure that the intentions to promote intrinsic values that underpin sustainable lifestyles (expressed in the framework) are not lost while using the tools, and to strive to align output to contribute more fittingly to social innovation aims, purpose and nature.

- **Ethical issues (power–knowledge)**

Some concerns were raised from participants working specifically within grassroots social innovation as to whether the tools can be shaped to better fit these situations, rather than the design process itself.

'I think, at the moment, it's a wonderful set of methods and tools, but maybe it's necessary – and I understand the last question – because it's a kind of decision we have to make with these tools. For example, these tools and methodology can be used, for example, in some slums or bottom-of-pyramid markets, to understand how they behave and then include them in the consumption and production issues. So, include their presence in the market. And it's OK. But, it's how and why and what kind of social change would we be promoting. So, I think it's an issue about direction. This is something that sometimes in research we avoid. To really enter into this discussion, because we have some idea that we should be somehow neutral, like, just develop a new tool. But at a certain point, how you shape this tool can take many kinds of directions.' (CC)

Also, access and capacity building of these tools for non-designers is crucial as a way to democratise knowledge and empower other agents initiating social innovation who are not designers.

'My reflection was, and you actually got there at some point, at the beginning you said that your intention was to support the bottom-up initiatives. So, I'm thinking for me it might be like a small group of people, students, somebody coming out of a design jam, a social entrepreneur with less resources than a big company . . . and this is your audience, in a way . . .? I was just wondering, when you then mentioned things around education and training, but you talked about designers. And I was just wondering how much you can do something that social entrepreneurs could do without working with designers, because they can't afford to work with an agency to develop their materials. Because you've been doing that with them as a consultant. They may not have that luxury and there is so much need for them to have some tools to refine their ideas . . .' (PP)

Although the original intention of the researcher was to produce tools that would be accessible to non-designers too, due to time and resource limitations the investigation focused on theory development as a first step. However, developing and further testing tools for different groups of social innovators (designers and non-designers) would be a very valid and worthwhile avenue of research to pursue, due to the potential empowering impact these tools could bring at different levels. This topic is further discussed in Chapter 8, section 8.5.

6.2 Evaluation Study Conclusions

The overarching aim of this research was to improve the design and value proposition formulation of sPSS (an example of bottom-up sustainable innovation), as a strategy to support a sociocultural transition towards sustainability, happiness and well-being. In line with this aim, the *Con[text]* framework was developed to aid designers with theories and tools to research and map the innovation's sociocultural context, identify and incorporate by design cultural codes that enhance symbolic value (relevance and appeal).

Through this final study, the research outcomes were evaluated, providing the following insights:

- The expert interview generated enriching insights in terms of situating the contribution in the context of a wider systemic problematic, and asserted findings of previous studies of the research, especially with regards to issues with the perception of sustainability, ideology and the quality of sustainable offerings.
- A wider perspective on the novelty and potential impact of the research contribution was obtained. It was recognised by both the expert and focus group participants that the *Con[text]* method improves service design current practice. In this, the contribution was considered relevant to all services with experiential aspects, and not just applicable to sPSS design. Highlighted transferability and future research avenues raised in this study are further discussed in detail in Chapter 8, section 8.5.
- The value of the framework to build capacity and skills through design education or professional training were also asserted by the focus group participants.

Through the study, it also emerged that as the contribution is valuable to other areas of service design beyond sPSS, some participants questioned the specificity and suitability of the contribution's direction, i.e. – its suitability to 'empower' grassroots innovations specifically. These limitations are discussed in detail in Chapter 8.

Chapter 7 – Discussion

This chapter integrates and discusses findings from the research. The next sections introduce the topics discussed in this chapter, followed by a discussion on the perception of sustainability in culture, the ideologies and values underlying Design for Sustainability, and the results of this research in response to extant gaps in knowledge and implications to design practice. Lastly, these issues are considered in light of new skills development within design education.

7.1 Introduction

The aim of the research was to explore ways in which design could strategically contribute to a paradigm shift towards lifestyles of sustainability and well-being – a cultural transition that is already emerging in society, but whose early manifestations are still experimental and need strengthening.

Focusing on sustainability as a cultural (consumption) rather than merely a technical (production) problem, inevitably leads to exploration of the role of designers as cultural intermediaries and the potential this poses for legitimising the emerging expressions of a new socio-economic paradigm. The cultural studies approach that informed this research provided language and a structure to link two apparently disparate aspects that concerned this investigation: the localised and subjective aspects of value perception and its relation to the globalised discourses of societal transformation.

Especial attention is drawn to the actual processes and methods that designers use (as defined in the context of this investigation) by virtue of their practice, to construct the meanings and symbolic value attached to artefacts. This is not an easy task, and this investigation does not claim to provide a definitive answer to such a complex undertaking, but to open doors to consider how methodologies and epistemologies of design – particularly Design for Sustainability – can be updated and improved in light of knowledge generated by other human-centred disciplines.

To deal with the diffusion and adoption of sustainable consumption, this investigation builds on empirical knowledge from cognitive science and applied semiotics, considering the large body of evidence generated by these disciplines to inform the effects and consequences that representation and perception play in human decision-making.

Although the aim of this research was not to investigate framing practices in design per se, the research journey naturally led to a consideration of these aspects in order to answer research questions related to the perceived value of sustainability in culture. By seeking to understand how designers can enhance the perceived value of sustainable innovations, it was inevitable to look into how to make framing practices more methodical and strategic, and the process more transparent and less 'black box' (Kolko, 2011).

Through this investigation, it was found that a better understanding of framing practices results in an even greater advantage than strategically bridging design intention and interpretation – by researching context and conducting framing more mindfully, designers are able to obtain knowledge that empowers them to act more responsibly, respectfully and ethically as cultural intermediaries.

Exploring the relationship between value systems (ideologies, representation, social practices) becomes more relevant than ever as design engages increasingly with communities and grassroots social contexts. Bottom-up social innovation is emerging as the new face of social movements and activism, providing a platform to contest the dominant and global by creatively rearranging and proposing localised and meaningful ways of living, new ideals of value and new ways of 'being in the world'. As designers engage with emancipation towards human flourishing in line with these new visions of the world, there is an evident need to acquire new skills and methods that enable practice in settings 'beyond the studio'. Perhaps less evident and harder to recognise is that adopting an attitude of humility and criticality that prompts personal examination of values, motives and intentions should be as much a part of 'design thinking' as the designerly toolbox.

Within these overarching themes, situating this investigation within the case of sPSS innovation provided an opportunity to examine these views from the perspective of practice. PSS serve as a tangible example of the complexities of 'designing a new system within the old system', and as such, also a challenge to develop practical knowledge that opens new possibilities to practice design agency in a more intentional and directed manner towards societal transformation.

7.2 Enhancing the perceived value of sustainability in consumer culture

Perceived value has an impact on the uptake of innovations (Conner & Patterson, 1982; E. Rogers, 2003), especially in developed 'market' societies (Zurlo & Cautela, 2014). Phase 1 of this investigation was concerned with understanding the issues affecting the perceived value of sustainability, as diffusion and uptake of sustainable innovations and practices remain slow and niche.

Concerns about the effectiveness of the sustainability discourse are widely voiced by academics and practitioners engaged in sustainability. Many have attributed the lack of uptake to an ineffective sustainability discourse, which fails to drive the desired behaviours due to the limited appeal, relevance and meaning it brings to bear in people's lives. As such, these concerns relate to a lack of appeal of sustainable products and services, but also with wider issues of cognitive dissonance – the value-behaviour gap (McKenzie-Mohr, 2013). Considering the responsibility that design bears as an enunciative practice (Floch, 2000), it was important to explore how design outputs are affected by the current framing of sustainability, and how design can contribute to making the discourse more clear and effective.

The critical discourse analysis conducted in Phase 2 of this investigation contributed to a better understanding of why the dominant sustainability discourse might be ineffective in reaching wider audiences. The study aimed to understand the relationship between ideology, representations and the behavioural attitudes and predispositions that different frames may generate, according to how information is presented to people, and their implications for sustainable design.

Two important issues related to discourse framing were found:

First, the findings reveal that as the concept of sustainability is popularised, there are considerable changes in the ideologies framed. Mapping the trajectory of the sustainability concept in culture (its past, present and emerging cultural associations) identified three 'eras' marked by important cultural shifts in the sustainability discourse: the *ecology* era, the *sustainability* era and the *innovation* era. This transformation of the meaning of sustainability over time reveals how the concept of sustainability has moved from

‘marginality’ (a concern of few) towards ‘popularity’ (being widely accepted and understood by many).

While the initial era adopted ‘social movement’ and ‘radicalisation’ frames (highlighting losses to environment and people), ‘ingenuity’ and ‘innovation’ frames (highlighting progressive views or gains) are increasingly being adopted in the later era. This means that a better predisposition for wider engagement with sustainability may be gained by articulating benefits, especially those related to subjective well-being (quality of life) discourse and values. Digital technologies and social innovation are already proving successful enablers for popularising more meaningful – and sustainable – modes of production and consumption while aligning with the well-being discourse, and without an explicit connection to environmentalism.

Secondly, it was found that the ‘value proposition’ of sustainability poses an unapparent opposition of interests between ‘planet’ and ‘people’ – a dilemma posed by sustainable consumption. To uncover the positions and ideologies in tension within the discourse, these polarities (global–local, planet–people) were mapped using the Greimas (1993) Semiotic Square. Results from this analysis prompted considerations on how these positions might influence people’s perceptions, beliefs and engagement with sustainable products, services and practices.

Accordingly, four different discursive frames reveal the ideologies (values, beliefs and positions) that are being historically adopted and identify the effect of different frames to generate adherence. The results suggest that while frames that present sustainability as a ‘planet’ issue (a global concern) might appeal to individuals with strong environmental values, discursive frames focused on ‘people’ (a local concern) – i.e. enhancing one’s personal and/or social well-being – may offer better predisposition and stronger appeal to engage wider audiences.

These findings can be explained by Prospect Theory (Tversky & Kahneman, 1981), which shows that a probabilistic loss is preferred to a definite loss (e.g. ‘might help if we do something for the environment’), and that a sure gain is favoured over a probabilistic gain (e.g. ‘it might help, but for now, my happiness comes first’) (certainty effect and pseudocertainty effect, Clark, 2009). Therefore, when sustainability is equated with loss – i.e. cutting down, sacrifices and compromises in quality – it becomes an unattractive choice

when compared with a 'sure gain' on tangible and intangible benefits that most consumerist choices offer.

In order to turn the tide of the consumerist paradigm and transition society towards more sustainable lifestyles, a reframing of the concept of sustainability in culture needs to take place. In this, designers as cultural intermediaries can and should play a key role. While sustainable design is not solely responsible for the framing of the sustainability discourse in its entirety, it affords privileges and responsibilities in legitimising the values and cultural practices that underpin humanity's flourishing. As such, a strategic, leading role should be played to support the ideologies that mobilise and enable the largest sectors of society towards this goal.

By providing a structured and logical analysis of the discrepancies between intended and perceived meanings, critical and systematic discourse analysis shed some light on poor engagement with sustainability. These considerations have implications for sustainable design, but are also relevant to sustainability communications in general. The study also demonstrated how semiotic and cultural analysis methods can enrich design research and practice, by anticipating the possible unarticulated sociocultural meanings that design artefacts and communications may bear in the context of innovation. Further to improve strategic design, much can be gained by a closer integration of critical and cultural theory and design theory, to encourage the development of capacity for cultural mediation, self-reflection and critique in sustainable design education and practice (Mazé, 2008).

Moreover, looking at the meaning, perception and value of sustainability in culture opens a new area of Design for Sustainability research, posing important opportunities for having a higher impact in society. But it also highlights the need for new theories, methods and skills to empower design to operate as an agent of change towards sociocultural paradigm transition.

7.3 Diffusion of sustainable innovations: a user or producer problem?

Increasing demand for sustainable innovations is key to pushing business, legislative and regulatory agendas. Barriers to the adoption of more sustainable consumption patterns have been attributed to entrenched habits, resistance to change, value-action gap, pricing,

inconvenience, lack of availability and regulation (Kollmuss & Agyeman, 2002; McKenzie-Mohr, 2013; Mont & Plepys, 2008). However, in a free market economy, such established norms and status quo arrangements are often disrupted by the introduction of radical innovations, i.e. new propositions offering better value (be it tangible or intangible). It is self-evident that cultures are in constant flux, with new technological advances (e.g. smartphones) and practices (e.g. healthy diet) widely and happily adopted at a global scale all the time (Norman & Verganti, 2014), when users judge them to add value to their lives, in material or psychological terms. Historically, brands and products have challenged established meanings and practices of entire categories, and with it transformed cultural practices and behaviours. In this, design has played a key role, leveraging technologies, legitimising values and social practices and reconciling dilemmas through its representations (du Gay et al., 2013; Maguire & Matthews, 2012).

As discussed above, transitioning users from 'cultures of consumption' to 'cultures of sustainability' takes much more than rational appeals to save the planet. Designers, therefore, have a responsibility to deliver solutions that first and foremost enhance individual and societal quality of life, while being smart enough to be operative within environmental constraints. However, to date, research on PSS has mainly focused on incentivising businesses to switch to servitisation, or developing processes (as with most other sustainable innovation fields), while customer acceptance, the most problematic barrier for diffusion, is an area that is being neglected.

Following the issues highlighted in the literature about the lack of appeal of sPSS (Tukker, 2004; Ceschin et al., 2014) the theoretical proposition that drove this investigation's main studies argued that by paying more attention to the elaboration of meaning – or symbolic value – designers can develop innovations that are more appealing and relevant to a wider range of potential users, especially by positioning sustainable products, services and systems as aspirational choices that offer improved quality of life (well-being and happiness) benefits.

The aim of this research was to respond to a need to better support sustainable innovators to deal with complex sociocultural and symbolic aspects of consumption in the context of market societies or 'consumer cultures'. Radical grassroots sustainable innovation such as PSS challenge are deployed into a saturated market where they often compete with dominant, status quo propositions that are better developed and implemented.

Consequently, to gain competitive advantage and wider appeal, it is imperative for sPSS to be perceived as ‘extraordinary experiences’ (Tukker, 2004).

It has been evidenced that in order to be relevant and desirable to users, these innovations need to be rooted in the context in which they will operate (Clatworthy, 2011; Crilly et al., 2004; Vezzoli et al., 2015; Wong, 2004). This rootedness in context implies that the designer should be able to navigate the sociocultural landscape, mapping existing offers, considering the user needs in light of such offers and identifying what aspects of the user needs can be met or improved on by the innovation that are not being currently met by existing options (Zurlo & Cautela, 2014).

Therefore, researching and mapping sociocultural meanings at macro (global) level and micro (local/contextual) level are key to strategically inserting radical innovations in the market (Norman & Verganti, 2014). At present, there is an evident lack of capacity and methods to deal with the sociocultural dimension of consumption (users’ identity, aspirations and expectations) in the design process, although these features appear to be crucial for enhancing the innovation’s perceived value, relevance and appeal. The main investigation carried out in Phase 2 of the research focused on theory and method development, aiming to address the gap identified in extant literature (Crilly, 2011; Crilly et al., 2004; Kazmierczak, 2003; Kolko, 2011) by exploring the potential that cultural analysis and applied semiotic methods (widely used in consumerist propositions) offer to support designers in this task.

As a result, the *Con[text]* framework was developed to add a new lens to the PSS design process that can enable designers to navigate more methodically, strategically and responsibly this sociocultural dimension (Morelli, 2003). The investigation proved successful, as the practical outcomes of the research and case studies evidence the value of the framework to supporting designers in framing sociocultural values in a more methodical and strategic manner.

The *Con[text]* framework is based on Hall’s (1980) ‘Encoding–Decoding’ conceptualisation of the process of communication from a cultural studies perspective. For the investigation, this concept served as a good metaphor to describe the process of ‘contextual deconstruction’ – i.e. discovery and mapping of contextual meanings; and ‘reconstruction’ as the process of synthesis and representation of meaning through the development and

delivery phases of the design process. Simply put, Decoding is about ‘designing the right thing’ and Encoding, ‘designing things right’ (Nessler, 2016).

7.3.1 Designing the right thing

Formulating value propositions and maintaining coherence have been identified as the most challenging task for PSS design (Diehl & Christiaans, 2015; Valencia et al., 2014). The studies conducted in this research (PARi 1 and PARi 2) confirmed that elaborating good value propositions is challenging, and requires the capacity to reconcile interests between the service provider and users. However, the design interventions proved that conducting sociocultural contextual research and code mapping can provide designers with strong insights that contribute to approaching this meaning-making task more methodically, and obtaining more fruitful results.

In essence, venture-type social innovations usually start with a ‘business concept’ or a value proposition. The value proposition poses a bargaining scenario between two parts: *providers* who invite the *users* to take part in an exchange of value and benefits (Morelli, 2003). As such, when users are confronted with choice, a process of mental accounting that has rational and irrational elements (emotional and symbolic) is set in motion (Tversky & Kahneman, 1981). This negotiation scenario is materialised and mediated by discursive articulations and representations (framed) which influence the way in which the offer is perceived (Crilly et al., 2008; Druckman, 2001a; Kazmierczak, 2003). Hence, the stronger the appeal is *perceived* to align with the user’s calculation of ‘sure gains’ and moral binding frames (values), the higher the chances of engagement (Kahneman & Tversky, 1984; Wolsko et al., 2016). The ‘sure gains’ or benefits can be tangible or intangible (Tukker, 2004). Strong appeals contain both rational and emotional components, and this is where functionality, usability and desirability come into play.

Designers equipped with traditional skills and training operate confidently in the technical and organisational dimensions, and, generally speaking, they find no problems in elaborating ‘tangible’ benefits for all stakeholders. However, traditional skills and capacities do not equip designers for the elaboration of meaning, or ‘intangible’ and socio-symbolic benefits – and these are key to aligning the service with context and users’ ideals of value, an aspect that is intrinsically linked to desirability (Beckett, 2013; Clatworthy, 2011).

This investigation found that by introducing a sociocultural lens to the design process, designers are better equipped to deal with value proposition formulation: the negotiation and alignment or common 'meaning' and communication of benefits (framing). That is, the synthesis that is expressed through the value proposition formulation, which reconciles the innovator's interests with the needs, aspirations and expectations of the user.

Creating innovations that supersede existing options requires benchmarking the innovation against existing offerings, customer expectations, needs and aspirations. Implementing these sorts of research and strategy methods stretches the current capacity of designers and requires the elaboration of methods to map such meanings. Some existing tools recognise the importance of these aspects (Corubolo et al., 2015), however, there is a lack of methods to actually execute this in practice – i.e. the process of what is to be researched, where to look for and how to analyse these aspects is not explicit.

The *Con[text]* framework-positioning tools address the gaps in methods at two levels: positioning the innovation with respect to existing options (global meaning), and positioning it within the target group (local meaning). Adapting tools and methods used in semiotics to design context was of great use for positioning and framing value propositions at both levels:

Positioning within target group – The first PAR intervention demonstrated the framework's value for positioning the innovation against competitors and within target groups, opening new possibilities for the provider to reach wider audiences through a better understanding of cultural codes. As people grow, develop and insert themselves as members of societies, the influence of sociocultural context in shaping people's aspirations, identity and lifestyle decisions cannot be overlooked. As such, user research should encompass understanding of users as individuals, and as social beings, or members of social groups.

Positioning within cultural landscape – While conducting user research in a globalised society context, it is therefore invaluable to understand the sources that influence and shape users' values, beliefs, aspirations – popular culture, consumption trends, role models – as these sources contribute to the formation of social identities. Brands, products and services play a key role in this space, and also contribute to shaping perception of what is legitimate and desirable. Therefore, conducting sociocultural research at a global level enables the designer to establish the paradigmatic contextual boundaries of the innovation's space, picking up the right contextual signifiers as ingredients for formulating

strong value propositions (meaning-making), and positioning the innovation in the wider cultural landscape.

During the research, it was found that the process of Decoding–Encoding proposed by the framework was valuable at any ‘point of intervention’, because the innovation’s positioning always implies a global (against other options) and a local (within target group) level of sense-making. However, in practical terms of implementation, it is of course better to ‘design the right thing’ from the start, to maximise resources.

The second PAR intervention study made evident that, in essence, the object of design or ‘design outcomes’ were not material (e.g. touchpoints); rather, what had been designed was ‘meaning’, i.e. a ‘value symbol’ or a proposition of value that benefits stakeholders at a personal level, but also implies wider societal benefit.

Framing good value propositions, therefore, is concerned more with the elaboration of meanings, finding a synthesis that culturally ‘fits’ the context, because that meaning can be understood and appreciated by the target group. Good value propositions, therefore, can be considered the result of framing as ‘crystallising’ an alignment of interests, informed by web of interconnected contextual meanings that not only ‘communicate benefits’, but also evoke and express certain values and emotions to enhance human experience (Clatworthy, 2012).

7.3.2 Designing things right

Maintaining consistency throughout the service touchpoints, the communications and the way the offer (or value proposition) is represented is key to ensuring quality experience, as this influences the adoption of innovations and new practices (Rogers, 2003). It has been pointed out that translating insights into design criteria and specification and maintaining the value proposition relevant and interesting throughout the different touchpoints is also very challenging for designers (Diehl & Christiaans, 2015; Valencia et al., 2014).

The framework has proved useful equally as a way to summarise insights from which ‘design constraints’ can be drawn for elaboration of symbolic aspects of the PSS innovations. This implies the mapping of local meanings, in order to align representations that open sensibilities of the target user group. To achieve this, the *Con[*text*]* framework

Encoding step was used, to establishing a ‘common’ language by identifying the signifiers, and incorporating these into the service and touchpoints design.

Currently, design tools such as empathy mapping and user personas are employed to understand the demographic and psychographic aspects of users’ needs and ‘pain’ points. However, tools for mapping the social dimension of target users *as a group* – i.e. what values, practices and socio-symbolic signifiers bind them together as communities, is lacking. The Code Mapping tool developed through this investigation supports these aspects by structuring the research and mapping of the group codes, suggesting three key categories by which to elaborate contextual relevance:

- *Appreciated values* – What do they strive for? It also requires an awareness of user group values, as values influence user goals, aspirations and behaviours.
- *Common practices* – What do they do? How are values represented through patterns of behaviour of this group? What are the expected sociocultural behavioural rules?
- *Aesthetic codes* – What do they like and why? What are the sensorial stimuli that trigger the associations with the group’s values and practices? What is the correct language?

Through this investigation, this tool was found to be most useful for prompting research directions and quickly summarising findings. Most importantly, it kept the design and development phases focused on ‘respecting certain important rules’ that connect users together and reinforce their sense of identity and belonging.

Although the tools help to visualise these three highly interconnected socio-symbolic aspects of users, these should perhaps be explored in more depth on their own, for example by different experts within a design and development team.

Another important aspect that the investigation highlighted is the benefit of visual mapping over the current common practice of ‘user persona’ profiling. PARI 1 and PARI 3 evidenced that visual referencing aids considerably in communicating insights and codes between stakeholders and within the development team, providing more precise and accurate means to convey the codes as ‘design criteria’ or ‘service characteristics’ to aim for.

To conclude, the *Con[text]* framework proved successful in supporting the sociocultural dimension of design practice in the PSS process, in terms of elaboration of the value

proposition, innovation positioning and identification of parameters or design criteria upon which new products and services can be accepted or refused (Morelli, 2003).

However, the value of 'designing things right' goes beyond enhancing an innovation's competitive advantage, in that product and services' appearance and experience affect users' quality of life (Crilly et al., 2004) and subjective well-being (Kahneman & Riis, 2005).

Furthermore, cultural context 'deconstruction' practices encourage designers to adopt an aesthetic-semiotic direction rooted in the user's cultural context. This enables designers to contribute more purposefully to the cultural dimension described by the Four Pillar model of sustainability (Hawkes, 2001). By reusing and reinterpreting local and familiar 'symbols and meanings', a 'sense of place' and belonging are maintained, but also framing of cultural values can be updated and contemporised by linking them to more sustainable consumption-production practices and new associations of value.

7.4 Meaning-making and Cultural Transformation

Ehrenfeld (2008, p. 7) holds that 'unsustainability springs from the cultural structure of modernity itself: the way we hold reality and ourselves as human beings'. In practical terms, this requires a fundamental shift to our world view (i.e. *values, beliefs, practices* and *behaviours*) to take place alongside technological innovation.

Living sustainably implies a radical transformation of our lifestyles and pursuits. On the other hand, these are shaped or constrained by existing societal structures of production and consumption, but radical innovations (such as sPSS) can only have a wider impact when they are meaningful and can facilitate better ways of living in the world. For the most part, Design for Sustainability as a discipline has focused on the development of sociotechnical innovation that alleviates environmental impact. However, in order to fulfil its transformational ambitions, it is essential that such innovations be recognised and incorporated by wider society, superseding and displacing dominant provision modes on the merits of the benefits they provide – i.e. by offering better 'return on investment' than existing options for users and other stakeholders.

Cultural transitions are generally considered slow, but the introduction of radical innovations that enable people and enhance their quality of life can accelerate the adoption of new practices and associations of value. Designers constantly contribute to

cultural transformation through their signifying practices (du Gay et al., 2013; Hall, 1997; Maguire & Matthews, 2012). This research argues that building on valuable cultural references and positive associations already present in the cultural context of the user, designers can help accelerate the introduction of more sustainable processes and practices and so help create new associations of value. This theoretical proposition stands on design's cultural intermediary role, i.e. design is affected by and affects culture (du Gay et al., 2013).

The critical discourse analysis conducted in this investigation demonstrated that this area offers unexplored potential for design to legitimise new consumption practices that enhance users' quality of life, upon a better understanding of how design representation and discursive frames may predispose certain attitudes and corresponding behaviours towards sustainability.

This proposition implies, therefore, that designers intentionally seek to extend the concern of their practice beyond the formulation of a concept, and into the impact and consequences that innovations are able to provoke in their context (Ceschin et al., 2014; Zingale & Domingues, 2015). Extending the role of the designer to this field of 'design action' requires a greater control and mastery of meaning-making practices – i.e. the 'design of meanings' – and the key ingredients of representation: aesthetic and semiotic codes, cognitive frames and values.

If we consider that a design artefact's meaning is a construction of values, frames and aesthetic codes, their potential to shift dominant associations of values can be understood as the interconnection of the processes of aesthesis, semiosis and ethics (Figure 7.1).

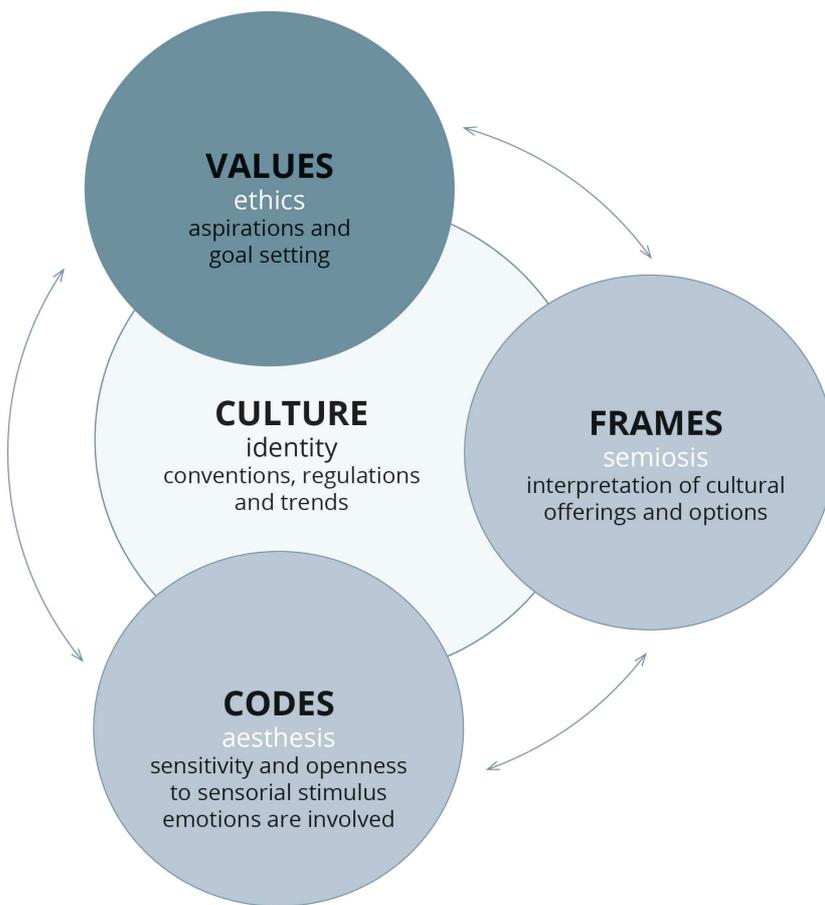


Figure 7.1 – Interrelated aspects of meaning-making as a cultural process

Although services and user experiences may be immaterial, they are always mediated/facilitated by material and cognitive artefacts. Users internalise (make sense) of values by decoding (interpreting, by association) the values in question, through the stimuli (codes).

The aesthetic codes are stored in the user's memory and act as 'shortcuts', aiding the user in the recognition of the same set of values in other offerings. By association with previous experiences or positive endorsement, likelihood of adoption is higher as they are perceived as coherent with their other choices – i.e. they 'look like' 'that other thing that I consider of value' (Wolsko et al., 2016). Thus, values are communicated and represented through discursive frames, and frames are materialised through representations using aesthetic codes. The aesthetic appeals to users' sensibilities, provoking openness in users to 'connect' with the artefact's framed values, as they recognise in the proposition something that is important for them, or something they aspire to. Therefore, the aesthetic codes embedded in artefacts are equated with the values it represents.

According to Reynolds (1993) 'ethos, like postmodern subjectivity, shifts and changes over time, across texts, and around competing spaces' (ibid., p. 336). However, it is the meaning of ethos that expresses inherently communal roots. This explains the relationship between representation, culture and identity.

Design outputs frame meanings and values. In this, 'inscripting' artefacts with certain sociocultural associations can affect people's perception. When things are perceived to be of high value, they become much more desirable. Aesthetics and semiotic codes play a big part in shaping our view of *what* we want, although many times users may not be conscious or clear of *why* they want it. As other users also connect at this level, a community of 'like-minded' users who share similar values is formed around the artefact, and the artefact becomes a 'symbol' of the shared values communicated through it.

Through the process of socialisation, 'individuals [identity, aspirations and behaviours] are formed by the values of their culture and not the other way around' (Reynolds, 1993, p. 336). This means attempts to change behaviours will be unsuccessful unless there is a shift in values, i.e. affecting behaviours requires the internalisation of new values.

By enhancing the perceived value of sustainability in culture, a reorientation towards sustainability values is achievable through framing and representation of commonly held signifiers. As sustainability values are reframed through texts that are culturally relevant to the context, and selectively using contextual signifiers and associations that are the most aspirational and representative of high value, aesthetic aspects open sensibilities, predisposing users to move along the journey to internalise new practices and values (Wolsko et al., 2016). Figure 7.2 illustrates this process, based on the Conner and Patterson (1982) adoption of change model.

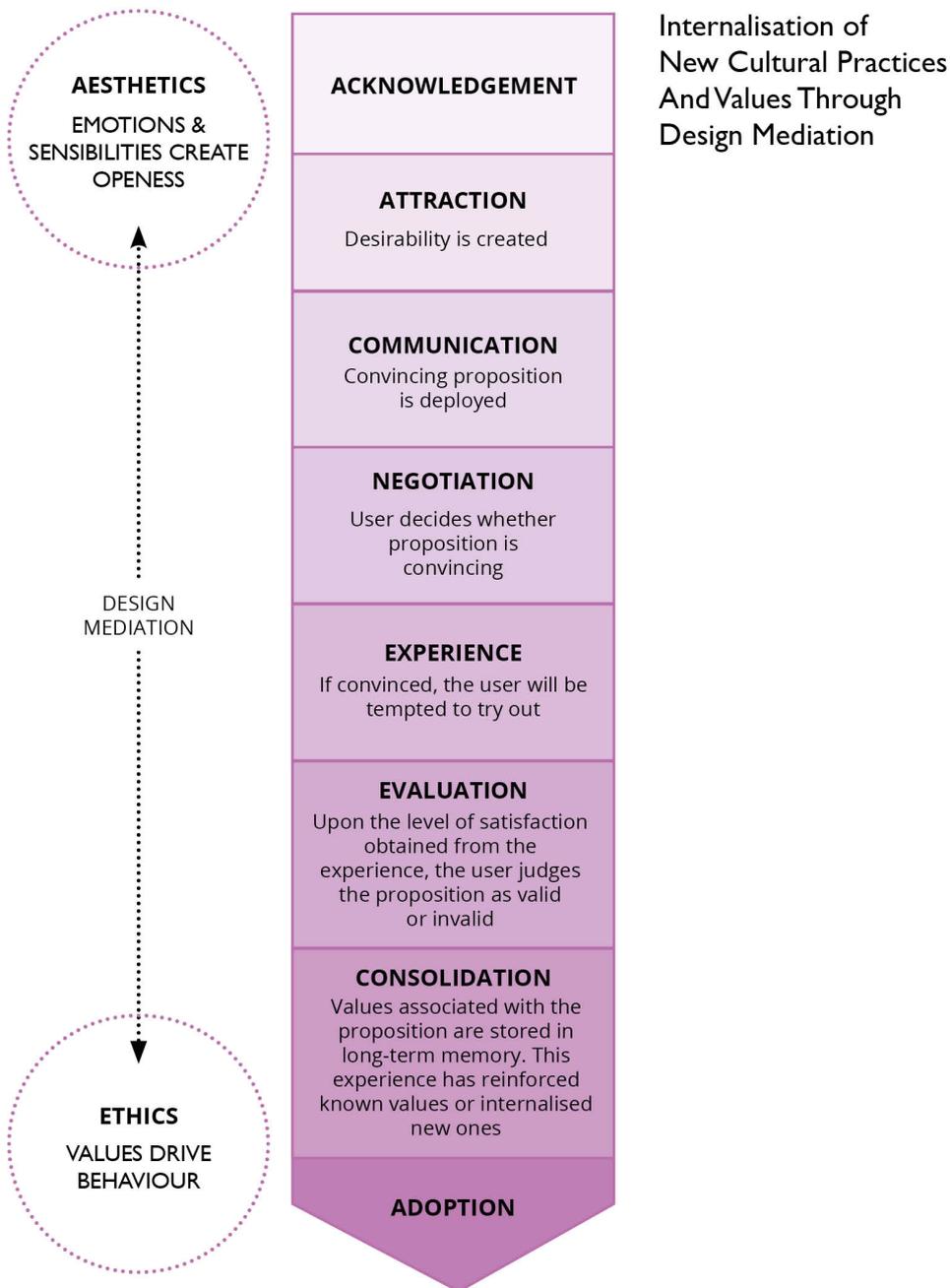


Figure 7.2 – Process of value internalisation mediated through the adoption of sustainable innovations

Therefore, aesthetics and framing are useful not only to enhance a product’s or service’s appeal and competitive advantage. Due to the link to culture and identity, product and service appearance and experience affect users’ quality of life (Crilly et al., 2004) and subjective well-being (Kahneman & Riis, 2005).

As public interest in the redefinition of ‘the good life’ rises and great social changes gain momentum (H. Brown & Vergragt, 2015), designers are challenged to support systemic

change by developing sustainable products and services that improve not only current environmental conditions, but also the users' quality of life by fulfilling their expectations, personal aspirations and social identification needs (Gilbert-Jones, 2013).

Framing values through meaning-making practices brings to bear consequences that are political due to the values that are legitimised and mobilised through design (Zingale & Domingues, 2015). As designers orientate people, and create desirability towards certain goods, opportunities and responsibilities arise with respect to framing practices, to conduct practice strategically and directionally to support the societal transition of a new paradigm of well-being and sustainability.

Meaning-making in the design process is a subtle and highly complex task. While this research was not aimed at investigating the link between framing and design specifically, it indicates both the importance and the need for further attention to this aspect.

Still, the *Con[text]* framework developed through this investigation contributes to a better understanding of design's cultural mediation and agency – by facilitating the anticipation of potential effects and consequences that design artefacts bring to bear in culture, understanding context as a contestation space between dominant and emergent sociocultural arrangements and ideologies, and considering in which ways design outputs contribute to legitimise one or the other – in order to act more intentionally and responsibly within new spheres of practice.

7.5 Disciplinary Implications

Having dealt with production efficiencies, this investigation calls for Design for Sustainability to adopt a more strategic role, by turning attention to 'softer' aspects such the elaboration of meaning, especially to elaborate solutions that challenge ideals of value that are socially constructed.

'From Good to Great' proposes progressing Design for Sustainability from a 'problem-solving' towards a 'delighting people' agenda. While the first focuses the discipline's preoccupation with efficiencies, the latter aims to discover what people enjoy, their aspirations, expectations and values in order to offer options that, in the eyes of the user, are more fulfilling and satisfying. This mindset sends the designer in search of opportunities to develop 'smarter' innovations that can disrupt dominant 'unsustainable cultures',

because they offer superior value by reinforcing the intrinsic values that underpin personal and social well-being.

When design artefacts offer such benefits and symbolic associations, there is no need to 'change behaviours', as people are usually on the lookout for 'things' that can make their lives better and make them and their loved ones happier. Trouble-shooting environmental concerns tips the designer into a problem-solving mindset, where 'changing people's behaviour' drives the brief, which by implication means that 'people are the problem to be solved'. Approaches such as nudging consequently lead design interventions to 'change the problem' – i.e. change people.

Liberated from the straitjacket of efficiencies – i.e. producing innovations that operate 'within environmental constraints', Design for Sustainability might embrace more fully the value of design for opening people's sensibilities through aesthetics, challenging established habits by enabling people with better ways of doing things, envisioning and imagining what has not been imagined before. All these goals design has historically achieved, mainly through the production of material artefacts, and has contributed a great deal to a consumerist culture which has promised but failed to deliver societal well-being and happiness. In that, the power and central role of design has been well evidenced.

This research calls for Design for Sustainability to take a critical look at itself and accept that there is still much to be learned from other disciplines to make a bigger impact. This investigation, for example, demonstrates the importance and relevance of updating Design for Sustainability theories with knowledge from cognitive and social sciences in order to address the framing biases in the sustainability discourse and representations, a problem for which perhaps, unknowingly, our own discipline is partly responsible.

Equally, by drawing on methods from cultural studies and socio-semiotics, this investigation highlights the importance for the discipline to embrace critical approaches that encourage reflective practice on the values and ideologies to whose mobilisation design contributes, but that also empowers designers with strategic tools to bring about wider societal transformation.

7.5.1 Implications for Design Education

It has been accepted that the canonical, linear, causal and instrumental model is no longer adequate to describe the complexity of the design process, especially in the context of service design and more so in grassroots innovation.

Through this research, discussing and analysing the constraints and limitations that exists in the context of education jointly with the module tutors, tutorial discussions with students and analysis of their logbooks and reflective reports, contributed to elaborating the implications for implementation of the *Con[text]* framework in design education.

One of the most relevant aspects to this research is the need to develop designers' ability to recognise and use a wider variety of methods for design research. Especially highlighted were a better use of ethnography and other meaning-making and context-situating methods that enable students to build empathy with users, and to 'immerse' themselves in the context and challenge assumptions – e.g. by denaturalising, strange-making, enacting and experiencing.

Over all, it is argued that the archetypical model of a curriculum for design education (the three-part art/science/technology structure) needs to be updated. Findelli (2001) proposes a new model inspired by systems thinking, complexity theory and practical philosophy, with a three-part structure that comprises *perception* (visual intelligence), *action* (a moral act) and aesthetics logic, arguing that visual intelligence, ethical sensibility and aesthetic intuition should be developed and strengthened throughout the whole course, forming the 'basics' of design education. Congruently, the implementation of the *Con[text]* framework implies the development of such skills and capacities in students.

Framing and meaning-making imply the study of meaning, especially how meaning is formed and interpreted. Incorporating basic knowledge from cognitive science, semiotics and communication theory as part of a designer's education will prove invaluable in this regard. While practical skills are, of course, vital to a designer's education, it is also important that a design student gets an understanding of what design does and how it does it (Beckett, 2013).

Desirability of artefacts is an effect of meaning (Beckett, 2013), and is intrinsically linked to culture, values and their representation in social discourses. At present, too little time is dedicated to analysing existing design, especially assessing the effects that design has upon

us and how these effects are achieved. Introducing theories of cultural reproduction and ‘cultural deconstruction’ activities (du Gay et al., 2013) can prepare design students to understand the central role that design occupies, and consider the dimension in which design influences society by manipulating, reproducing and legitimising cultural meanings.

The discussion of the framework with experts posed some interesting questions with regard to the direction and specificity of the framework to support grassroots social innovation. Although the framework incorporates guidelines for embedding intrinsic values that support societal well-being and sustainability, the purposes for which design tools should be used – as with any form of knowledge generated by other disciplines such as science and technology – often rests on the moral values and ethical responsibilities upheld by practitioners. Design values are acquired and must be nurtured (Manzini, 2015). In this, it is the responsibility of the educator not only to pass on the knowledge, but to provide guidelines for students to be self-reflective and critical about their own practice, and to find their own moral compass. For example, teaching the new knowledge generated by this research in the context of Service Design for Social Innovation reveals a clear intention from the educators.

A paradigm shift requires a transformation of one’s vision of the world, which involves all aspects of one’s being: intellect, imagination, sensibility and will. How we conceive design, and consequently how we choose to develop, or limit, ourselves in the role of designers, is formed during the education of our university years. Only by forming critical and responsible individuals can we have responsible professionals (Findeli, 2001).

Chapter 8 – Conclusions and Future Work

This chapter brings together all the chapters of this research into a general conclusion, showing how the aim and objectives of the research were met. It suggests a contribution to knowledge, experienced limitations of the investigation and opportunities for future inquiry.

8.1 Meeting the Research Aim and Objectives

Given the societal challenges concerning environmental and human flourishing, sustainable development emerged as a way to better manage the world's resources in order to ensure sufficient provision for both present and future generations.

Within the complexity of such goals, strategies are required from different sectors of society, and design has its part to play. Due to its central position between production and consumption, design has the potential to contribute in many ways towards the transformation of society and human flourishing. While problems regarding efficiency in production have been well addressed by the discipline for a few decades, it is now evident that technological advances alone do not suffice to transition society towards a new socio-economic paradigm. Sustainability is a cultural as much as a technical problem. However, the role that design plays in cultural reproduction, and the opportunities and responsibilities afforded by that role in encouraging and legitimising sustainable lifestyle practices, have been little explored. Although this is an inherent characteristic of design practice, as demonstrated throughout this research, awareness of the consequences and values that are inevitably legitimised and mobilised by design is hardly acknowledged within mainstream practices.

Consequently, the journey and outputs of this research project (methods and evidence) reflect an attempt to contribute to design as a 'meaning making' practice, particularly within sustainable design in the context of bottom-up PSS innovation – that is, to articulate and reaffirm the ability that designers pose to 'make sense', and reconcile users and producers' interests through the process of innovation of this nature.

With that purpose, the research investigated how the intrinsic as well as the perceived value of sustainable design innovations could be improved by design by introducing a sociocultural lens to the design process. Specifically, the investigation explored the

incorporation of cultural analysis and applied semiotics methodologies to the design process, to enhance sustainable innovation's relevance and desirability, as a strategy to encourage their wider appeal and so contribute to accelerating the adoption of more sustainable lifestyle practices society-wide.

A literature review was conducted which revealed that there is gap between the designer's intentions and the users' interpretations of sustainable propositions. This further revealed that designers lack the support to conduct contextual research and map sociocultural and symbolic aspects of consumption that influence users' preferences for certain 'goods' over others. This aesthetic-semiotic approach extends the scope of design beyond functionality and usability features to encompass the elaboration of *symbolic* features – the meanings that these innovations are intended to carry for the user. These meaning-making aspects require the development of new capacities and skills in designers, towards which this investigation contributed by developing adequate theories and tools, thus helping to bridge the intention-interpretation gap.

The following paragraphs outline how the aim and objectives of this research were met.

Objective 1 To emphasise the connection between the goals of social and environmental sustainability and the cultural values that underpin it, in order to inform the role that design can play in legitimising these values.

The literature review conducted at Phase 1 (Chapter 2) highlighted that sustainable development is a means by which to achieve a more dematerialised and less resource-intensive way of development, which also has the potential to improve human flourishing by reinforcing intrinsic values that underpin well-being and happiness. In turn, such cultural values were identified, and recommendations for favourably framing those values through design representation were elaborated.

Objective 2 To challenge, through design representation, the generalised view that sustainable lifestyles and practices are constraining and less appealing than non-sustainable ones, and to empower designers with culturally relevant discursive narratives and ideological positions so that sustainability can reach wider audiences.

As part of Phase 2 of the investigation, a discourse analysis of sustainability representations was conducted to establish the implications of the meaning of sustainability as a cultural

category (Chapter 4, section 4.1). This study demonstrated how different ways of framing artefacts and communications affect users' predispositions and attitudes towards sustainability. It identified that associating sustainability with 'ingenuity' and 'improvement of quality of life', discursive frames pose greater chances for sustainable innovation to be perceived as relevant for wider audiences, than promoting them on the basis of environmental benefits. This study also stands as a much-needed example of the value that cultural and semiotic analysis methods can add to design research and strategic design.

An analysis of views from different disciplinary sectors summarised issues with the sustainability discourse and representations, concluding that the concept of sustainability as a lifestyle proposition needs to be strengthened (Chapter 2, section 2.1.5). The discourse analysis findings (Chapter 4, section 4.1) identified that communicating the benefits of sustainable living as ways of 'enhancing' quality of life, rather than just 'caring for the planet' present greater chances to enhance the meaning and appeal of sustainable goods and services. These findings imply that the problems with sustainability's 'poor appeal' are partly due to a gap between offer provider's *intention* and users' *interpretation* of the offer benefits, which often impact negatively on the offer's perceived value. This phenomenon can be explained by Prospect Theory (discussed in Chapter 2, section 2.1.6) – i.e. when people perceive sustainability as a constraint to personal progress, propositions are accounted as a loss rather than a gain. Risk aversion also accounts for users not opting for 'radical' sustainable solutions, as the perceived (personal) gains are outweighed by the uncertainties and 'sacrifices'. Such issues of perception are influenced by the way that information is (re)presented (framing bias) through the value proposition, the service offer, brand and communications.

The study found that discursive frames that communicate environmental, rather than personal benefits, first, generate poor engagement with sustainability. Results also suggest that a better predisposition to adopt sustainable values may be generated by discursive frames based on a universally appealing well-being discourse and values.

In summary, the semiotic discourse analysis helped to identify a clear strategic route for sustainable design representation: to increase the focus on 'improving the quality' of people's lives as well as the environment.

Objective 4 To develop a design intervention (i.e. methodology, framework) that empowers designers to develop more relevant, aspirational and meaningful

sPSS innovations, rooted in their sociocultural context and capable of encouraging the adoption of more sustainable lifestyle practices, particularly focusing on improving users' quality of life as outcomes.

To compensate framing biases, this investigation identified methods from semiotics and cultural studies that could support designers in conducting framing in a more strategic and systematic manner (Chapter 2, section 2.2.3.2). In turn, this required the development of theories, methods and tools adequate to design, but also the means to develop designers' capacity to conduct these complex aspects.

Following the literature review and critical discourse analysis, an initial theory and conceptual framework, *Con[text]*, were elaborated to address this gap (Chapter 3). The *Con[text]* framework was enriched and developed by practical, iterative application through a series of three participatory action research interventions. These interventions also produced a set of initial methods and tools for the implementation of the framework to design practice, and to build designers' capacities and skills through design education (Chapter 5).

Objective 5 To assess the potential impact and relevance of the research outcomes beyond the specific area of application in this research.

At Phase 4, the value and impact of the *Con[text]* framework was evaluated with experts in sPSS specifically (Chapter 6, section 6.1.1), and service design discipline in general (section 6.1.2). It was found that the framework's principles and method are useful to support design research and innovation for all services with experiential aspects, and are not limited to sustainable design PSS innovation exclusively (section 6.2).

Objective 6 To democratise and disseminate relevant knowledge that can empower social innovation by making it accessible.

Through the interventions carried out in Phase 3 (Chapter 5, section 5.4) of this research, semiotic and cultural insight methods employed in top-down settings, by specialists in market research and cultural insights, were adapted and made accessible to designers for use in bottom-up innovation scenarios.

8.2 Overall Conclusions

To date, PSS research has concentrated mostly on the design and management of systems (processes and efficiencies) while the consumption side of PSS research is underdeveloped. Equally, the field has been mainly focused on the business-to-business market, and there is little research conducted on consumers' perception of PSS, markets and customers, even though customer acceptance is one of the most problematic barriers in PSS and sustainable innovation in general.

Naturally, in terms of competitive advantage, strong value propositions are important for diffusion, and some authors have highlighted that to be successful, a PSS solution in the consumer market must be sensitive to the culture in which it will operate. Yet methods and tools for eliciting users' ideals of value to develop customer-orientated PSS innovations are scant. There is still a great need to understand cultural issues within design, especially how users' expectations and behaviours are shaped by their social contexts and communities of practice.

In seeking to enhance the perceived value of sustainable innovations created through the process of design, this research focused on developing design methods to better understand the sociocultural and symbolic aspects that influence users' preferences, to create relevant services that can effectively compete with existing options by offering improved quality of life.

This investigation addressed some of these gaps by developing support for designers to better deal with the elaboration of symbolic aspects of consumption. In detail:

- The dominant socio-economic paradigm based on cultures of consumption is hindering humanity's happiness and well-being, as well as damaging the biosphere – our life support system. There is a need to view sustainability as a cultural problem, not only in terms of consumption cultures, but as an erosion of 'sense of place', traditional practices and cultural diversity and richness caused by a globalised market society. The widely diffused Three Pillar model of sustainability (social, economic, environmental) does not contemplate these important aspects of human activity. Therefore, adopting a Four Pillar model of sustainability (social, economic, environmental and cultural) extends the current definitions and

perspectives, recognising that lifestyles of sustainability are underpinned by cultural values with a less materialistic pursuit of well-being at its centre.

- Cultures of consumption are driven by extrinsic motivators that result in greater unhappiness and unsustainability. Emergent expressions of a societal shift in values are breeding cells of cultures of sustainability, underpinned by intrinsic human motivation and a more holistic and dematerialised pursuit of well-being and happiness. This poses an opportunity for wider societal engagement with sustainable practices, but the concept of sustainability and its ideological position needs to be aligned to this wider, universally appealing well-being discourse and values. Consequently, the understanding of sustainability (as a lifestyle proposition) needs to shift ‘from good to great’ – i.e. from proposing an ‘environmental’ to an ‘improved quality of life’ concern. This means to embrace a more human-centred approach to sustainable innovation that communicates sustainability’s personal benefits *in addition* to environmental benefits.
- In order to seize important opportunities for greater societal impact, there is a need for Design for Sustainability to assert design’s strategic role as a cultural intermediary practice. In this role, designers can support the values that underpin the sustainability paradigm by adopting a more strategic approach to the representation of artefacts that contribute to the legitimisation of sustainability in culture. Building on cultural references and associations already present in the innovation’s context, it seems possible to ‘design’ a smoother transition to radical sustainable processes and practices and support the already emerging new associations of value. Working within this role, however, requires widening the scope and skills of designers to deal with cognitive-semiotic (meaning and sense-making) aspects.
- This research made evident that a discourse analysis of representations was needed to locate conflicts and contradictions posed by sustainability representations in consumer culture and its implied consequences for design. The investigation illuminated how the meaning of sustainability has evolved through time, how representations of this concept express certain cultural and ideological values and which discursive frames are most favourable to make the concept of sustainability appealing to wider audiences. This also clarified the need to integrate a sociocultural lens to the design process, based on semiotic and cultural analysis

methods and theories, to support designers in the articulation and elaboration of such symbolic meanings.

- While the research found that designers were able to use semiotic and cultural analysis methods in an experimental situation (Chapter 5, section 5.2), incorporating these approaches into practice requires developing stronger knowledge, capacity and skills through design education and training.
- The purpose of conducting framework and practical methods' development under PAR also allowed for the achieving of other objectives. First, raising awareness among designers and social entrepreneurs of the sociocultural and symbolic aspects of consumption, and highlighting the influential role of design in legitimising values and social practices. Secondly, although the investigation's focus was on framework development, engaging through action research with 'real life' cases provided the additional benefit of practical outcomes that serve as a solid starting point for the implementation of sociocultural context research during the design process.
- The value of the framework to build capacity and skills were asserted. To this end, relevant theories were gathered to produce teaching materials that contextualise them within Service Design for Social Innovation. These theories were presented to students in an educational setting as part of their core teaching, and were found to be relevant and suitable to start building critical skills.

8.3 Contribution to Knowledge

This research focused on the development of theoretically informed design methods for improving design practice, generating contributions to knowledge in various respects. By drawing from cognitive science, cultural studies and applied semiotics, the research illuminates aspects such as the relevance of perceived value of design outputs for the diffusion and uptake of sustainable innovation, framing and meaning-making practices in design, expanded knowledge and methods for human-centred design research and the relevance and political implications of design mediation in cultural reproduction. The following sections expand on the areas highlighted above.

8.3.1 Contribution to Sustainable PSS Design

This thesis identified a split in the PSS research field, and clearly this work is positioned to contribute to ‘sustainable PSS’ research. However, by challenging how sustainability is currently framed, it argues for new positions to be adopted to reach wider audiences by legitimising lifestyles of sustainability and well-being.

Although in this research the framework was developed within sustainable PSS, as discussed in Chapter 6, section 6.1.2, it is relevant to the discipline of service design in general, as a useful sociocultural lens through which to interpret and create services that bear greater resonance and meaning with users. Therefore, the framework can be applied in bottom-up and top-down innovation scenarios to inform cultural aspects of design, and is especially relevant to the innovation and design of services with experiential aspects.

The *Con[text]* framework (Figure 8.1) offers a new perspective for understanding the sociocultural dimension of design and its relationship to the context of innovation. In this, it proposes to enlarge the focus and scope of design research from a user-centred to a ‘context-centred’ approach to elaborate insights and design constraints. As PSS are part of sociocultural ecosystems, this aspect is especially relevant to the developing of solutions that contribute to transformational innovation at system level.

The framework’s novelty lies in its value in supporting the identification of contextual cultural codes that can enhance the innovation’s relevance and appeal – i.e. ‘Context Decoding’, and translate sociocultural insights into design criteria to inform the elaboration

of the value proposition, and other design-related service features such as brand, communications and touchpoint design – i.e. ‘Innovation Encoding’.

Con[text] is a theory-informed pragmatic method that supports designers in navigating the sociocultural landscape of innovation – i.e. to understand aspects of consumption as social signifier, users as social beings and the rules and conventions that influence users’ preferences and decision-making. The *Con[text]* framework can positively contribute to improving the innovation’s competitive advantage, aiding in elaborating stronger value propositions and providing guidelines for better touchpoint design.

Most significantly, the framework encourages designers to adopt an aesthetic-semiotic approach rooted in the innovation’s cultural context, which contributes to improving the innovation’s relevance and desirability, but also preserves cultural diversity by contemporising local values and signifiers.

Meaning-making is an intrinsic activity in sPSS design (as well as other services) that makes use of cultural resources. The framework offers a good basis to tackle these aspects more methodically, and is ready to be applied within existing design research and service design processes.

In practical terms,

- The *Con[text]* framework enables designers to understand that **the object of design in service innovation is concerned with meaning- and sense-making**, the result of which is the interplay of organisational, technical and socio-symbolic dimensions.
- The *Con[text]* framework approach (**Decoding–Encoding**) is a good structure for **understanding two main phases in the design process: research (decoding context) and development (encoding innovation)**. In turn, this equips designers to deal with meaning-making practices such as framing value propositions and other visual and experiential aspects of services in a more methodical rather than intuitive manner.
- Methods to support a more holistic understanding of users in context, whose world views, preferences and behaviours are greatly shaped by sociocultural rules. They **can help develop ‘cultural literacy’** to deconstruct cultural myths, preconceptions and other ‘soft’ and tacit rules that influence users’ behaviours. This expands on the current focus and methods for design research (users as individuals), by providing methods to understand users as members of ‘cultural groups’ who share values, practices expressed through certain aesthetic and symbolic representations.

- **Code mapping** provides a good structure for the elaboration of design constraints and criteria for developing value propositions and service experiences that are more ‘in tune’ with users. The framework aids in mapping codes in three dimensions:
 - *Aesthetic Codes*, related to matters of style and taste
 - *Valued Lifestyle Practices*, related to what is normally enjoyable for people in this group to do, and
 - *Appreciated Values* related to the aspirations, i.e. what is worth pursuing, standards for measuring perceived quality of life

Moreover, **visually mapping lifestyle aspirations, preferences and choices enriches current approaches** (e.g. using ‘sticky notes’) by communicating more accurately the nuances and subtleties.

8.3.1 The Role of Design in Cultural Reproduction

This research raises awareness and contributes to the further understanding of the central role design plays in cultural reproduction, influencing and legitimising ideological systems (values, aspirations and identity) and empowering designers to conduct their practice responsibly, but also purposefully and strategically contributing to paradigm shift and societal transformation.

This thesis highlights the need to develop theories relevant to better understanding issues of culture in design. As demonstrated by this research, socio-semiotic, critical theory and cultural studies proved useful by providing an effective theoretical lens for underpinning the development of methodologies to improve design practice in general – e.g. for gaining a deep, holistic understanding of users in their sociocultural environments, but which can greatly enrich Design for Sustainability research and practice in particular.

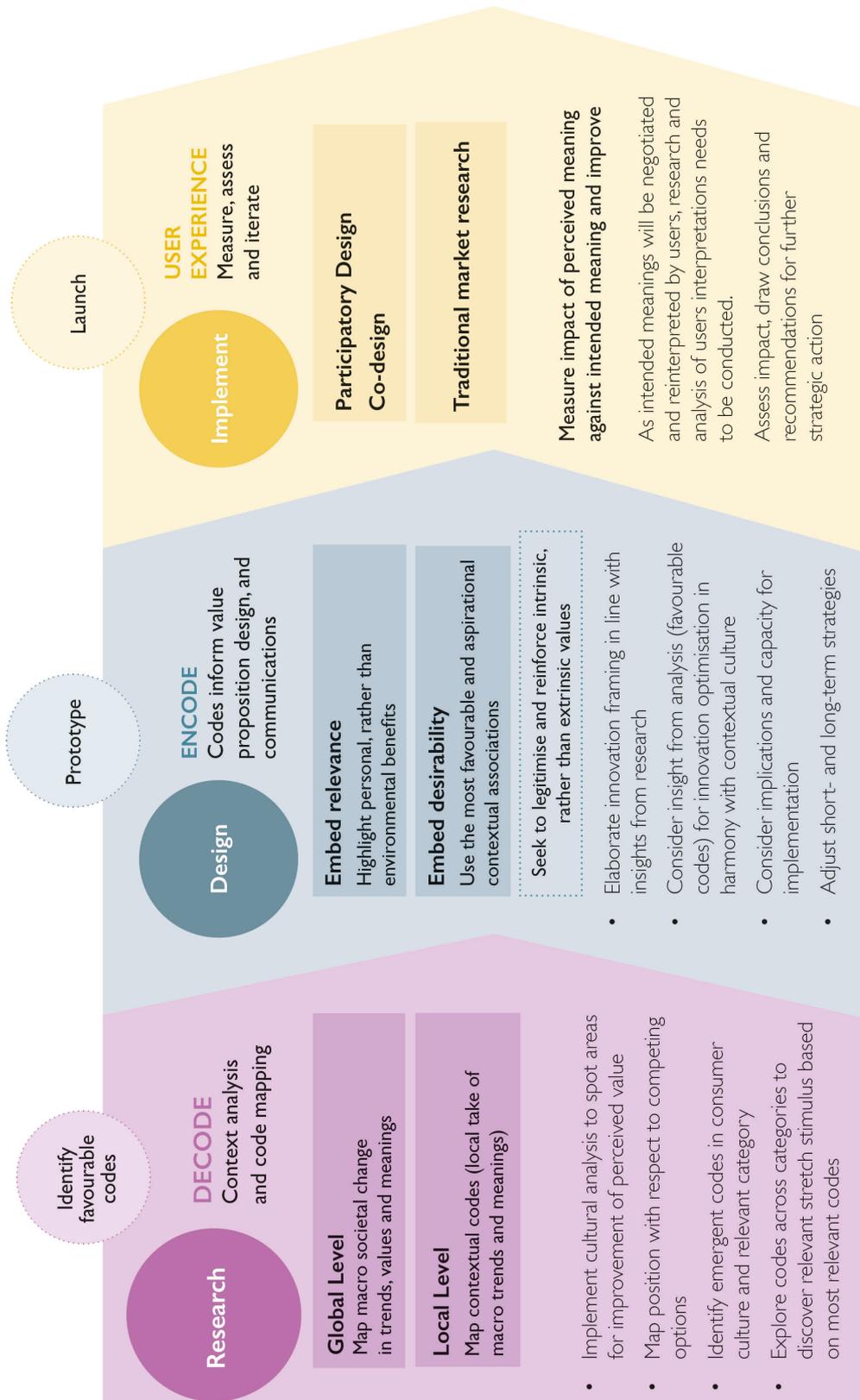


Figure 8.1 – Con[text], a framework to add a sociocultural lens to the PSS design process

8.3.2 Contribution to Design Practice and Education

This investigation contributes a wide range of insights for improving design practice, most of which have been discussed throughout the Main Study. For ease of access, the most relevant are summarised below:

Although the **role of the designer** within sustainable bottom-up innovation is not at the centre of this investigation, it is important to highlight some insights that this research, due to its applied nature, can contribute:

- Most social innovation ventures are still at an experimental stage. In this context, talking about diffusion and scaling up means keeping the business afloat, i.e. gathering a sufficient critical mass of customers to make it financially viable and self-sustainable. Raising awareness among social entrepreneurs of the sociocultural and symbolic aspects of consumption affects the selection of target users (beyond marketing), as well as their strategies for product and service development.
- Social ventures operate under very limited resources, and often designers fulfil several roles. The concept of ‘multiskilled, multidisciplinary team’ widely spread in the practice of service design bears little resonance in these contexts. Designers possess valuable skills that can have a great impact on the venture, especially driving user- and context-centred strategy and processes for the introduction, legitimisation and scaling-up. But designers must be able to produce realistic roadmaps for implementation, as introducing change within constrained resource settings can be slow, and of high risk for these kind of ventures. Therefore, engaging in this setting requires familiarising with user behaviour and cognitive aspects, communications and cultural aspects, branding and marketing strategy, business and management aspects.
- Designers are highly influential in terms of legitimisation of cultural values and social practices through representation, and not always fully aware of: 1. Their power to influence and orientate stakeholders towards certain outcomes; 2. How their own world views may affect their design decisions in the leveraging/introduction of innovations in a sociocultural setting. Hence, it is important to develop stronger capacity and skills for reflexivity and criticality.
- The investigation made evident that design can support and legitimise sustainable, bottom-up innovations as valid lifestyle choices. Conversely, a lack of access to design resources is clearly one of the factors that limits the scaling-up and diffusion of these

grassroots ventures. Therefore, investigating the value of design to support social innovation in this sector (ventures) may be futile if access to design resources is only granted on a commercial basis. For most grassroots enterprises, such as those engaged as participants in this research, contracting designers is simply out of reach. This arrangement alone generates a gross disadvantage, as only those who can afford design can access the legitimising and ‘amplifying’ benefits that design can provide.

8.3.3 Value to Design for Sustainability

The aim of the investigation was to enhance the perceived value of sustainable products, services and systems so that users may consider them more relevant, appealing and desirable than existing ‘unsustainable’ choices.

By digging into the root of the problem, the research identified that the concept of sustainability as a lifestyle proposition in consumer culture needs strengthening. This can be achieved by **communicating sustainable living with its resulting benefits as a smart way for ‘improving quality of life’, rather than equating sustainability with *constraints and sacrifices* that must be made if one ‘cares for the planet’**. Reframing sustainability as such presents greater chances to enhance the relevance and appeal of sustainable products and services. Evidence provided by research on Prospect Theory illuminates and justifies this claim: when people perceive sustainability as a constraint to personal progress, propositions are accounted as a loss, rather than a gain. Risk aversion also accounts for users not opting for ‘radical’ sustainable solutions, as the perceived (personal) gains are outweighed by the uncertainties and ‘sacrifices’. This perception is influenced by the way that information is represented (framing bias) through the value proposition, the service offer, brand and communications.

In terms of design, **the problem with sustainability’s ‘poor appeal’ has been reinterpreted as a gap between *intention* (of designers or service provider) and users’ *interpretation***. **The *Con[text]* framework contributes towards bridging this gap, by making designers aware of contextual and representational biases**. Conducting a more self-aware and methodical approach to design enables designers and other stakeholders to make decisions centred on users and context, keeping personal preferences and preconceptions in check. Therefore, by supporting cultural deconstruction, *Con[text]* aids in setting the paradigmatic

dimension of innovation, and can positively orientate design to link familiar 'aspirational symbols and meanings' to new, more sustainable consumption and production practices.

8.4 Limitations

While this research project has covered a significant amount of work, there were limitations in scope, theory application and development, plus personal aspirations that the researcher could not achieve within the time frame. The following sections expand.

8.4.1 Research Scope

The first limitation is related to the scope of investigation. Although research on PSS is well established, there is still a lot to learn about the barriers and enablers to the adoption of sustainable innovations, especially in terms of sociocultural and symbolic aspects of consumption. The relationship between intangible characteristics (meanings and symbolic value) of sPSS, design methods and sociocultural adoption of radical innovation had limited previous research. This made it difficult to select a tight focus for investigation early on, as the researcher first had to search for theories and evidence from a wide range of academic disciplines (i.e. cognitive science, social psychology, socio-semiotics, cultural studies) to inform the direction of the inquiry, as well as from methods from commercial practice (i.e. applied semiotics, with little published work) to make these frameworks relevant and applicable to design, and so bridge the knowledge gap.

Consequently, the research focused mainly on selecting and adapting methods and tools from other disciplines. Even in the application of the theoretical framework to practice through the PAR interventions, the focus was mainly to challenge the framework and make it robust by producing evidence of its value. Therefore, the question of up to what extent the *Con[~~text~~]* framework may encourage adoption of sustainable innovation in *quantitative* terms remains open, and further empirical investigation would be worth pursuing, given the impact that sociocultural research may pose to enable strategic design's agency in the cultural legitimisation and diffusion of sustainable innovations.

8.4.2 Development and Implementation

During the implementation of the framework to practice, several limitations were encountered. In all three cases of intervention, there were limitations at the implementation phase of the design process.

In all cases, the interventions focused heavily on contextual research and code mapping – i.e. the framework's 'Decode' phase. This was somehow expected, given that the interventions were intended, primarily, to answer the second research question:

How can the design process of sPSS be better informed by the socio-symbolic and cultural aspects of user and context (i.e. people's expectations, aspirations and social identity needs)? (Chapter 1, section 1.3.3).

In the first two interventions (PARI 1 and PARI 2), implementation limitations were related to the level of resources, commitment and time schedules that introducing the findings of the 'Decode' phase would imply. In the first case, the results of sociocultural research pointed to the need for deep, structural and operational changes to the service system. Such modifications, however, would have required assigning time and financial resources not available to the enterprise at that point. Building on this learning, and to keep within a tight project schedule, during PARI 2 the researcher decided to keep the 'Decode' phase as the main focus of the investigation, therefore opting out of engaging into the 'Encode' phase (prototype development and testing). However, some 'sample' applications of the codes identified by sociocultural research were produced to guide and encourage the participant towards further development and application.

The application of the framework in PARI 3 evidenced its strength to aid in structuring design research and guide secondary research by prompting students to look into trends, cultural myths and mapping contextual signifiers. It also evidenced how this data contributes and informs the design and value proposition generation. More difficult, however, was to determine more precisely how much the framework contributed towards these aspects, given that students used this knowledge in combination with other tools and methods. The research evidenced through the Pilot Study and PARI 3 (Chapter 5, sections 5.2.4 and 5.3.3.5) that, in principle, designers do not encounter major difficulties in using semiotic and cultural analysis methods. However, participants of both studies highlighted the need to go through the activities in more depth, and with more time. This was expected, given that, for example, 'it can take three semioticians half a working day to get

to a good Semiotic Square analysis' (Evans, 2014). Therefore, to fully benefit from the application of this knowledge and obtain robust and novel insights requires developing strong skills and capacity in designers, as well as providing enough time to conduct this type of research, which is normally a challenge in the packed curricular schedule. The third intervention found the framework to be a promising method with which to support the development of critical, cultural deconstruction and meaning-making skills and capacities, but as results are limited to a single case study, further application in other contexts of Design for Sustainability and service design education are required to fully assert its value in this respect, and develop more solid teaching methods and materials.

By addressing the research questions, therefore, this research produced theories, methods and strong evidence, contributing robustly to the knowledge gap that was initially identified: to support the sociocultural context research – i.e. how to research, map and identify contextual codes. However, the limitations highlighted here imply that more research is needed to further develop the 'Encode' and 'User Experience' phases of the framework by seeking to develop and test prototypes, and measuring customer perceptions and experience.

8.4.3 Access of Knowledge Generated

Bottom-up sustainable innovations are more often initiated by non-experts than by designers. Considering that most have limited or no access to design (evidenced in this research by the two social enterprise case studies, and confirmed at the Evaluation study by experts engaged with NGOs), the original intention of the researcher was to 'democratise knowledge' by producing methods and tools that would be accessible to all. However, due to time and resource limitations, the investigation focused on developing support for designers as a first step. Although the researcher's personal aspirations to empower other 'grassroots innovators' was not met, the ground has been laid to pursue further investigation on how the *Con[text]* framework can be adapted to bridge that gap.

8.5 Further Work and Research Avenues

Further research routes that would expand on the knowledge generated by this research have been suggested throughout this thesis. For ease of access, these are summarised and grouped by topic, as follows:

Theory development

- More research is needed to further develop the 'Encode' and 'User Experience' phases of the framework by seeking to develop and test prototypes, and measuring customer perceptions and experience
- Theory testing by iteration in other contexts
- Through this research, empowerment through learning and 'change of practice' of the participants engaged (including the researcher) have been evidenced. However, the impact that applying the framework may bring to wider society is still to be investigated
- *Con[text]* can be used as a framework for structuring and guiding ethnographic research to produce a map of the 'cultural landscape', for example, to build case studies successful meaning-driven innovation, or widely adopted sPSS cases to learn from, as suggested at the Evaluation study (Chapter 6, section 6.1.2)
- The concept of codes is a valuable lens to develop strategies for cultural transformation. It would be valuable to further research how codes can be 'played' to spark or activate cultural change

Toolkit development

- Workshop/training development
- Develop toolkit and methods in more detail (package better), making stronger link between Framework and Tools
- Develop more immersive experiences to foster critical understanding of cultural naturalisation and other socio-semiotic concepts in short time (due to curricular constraints), but also to make them accessible to other design agents such as social entrepreneurs, public bodies, etc
- Further development of tools and methods is necessary for educational context
- The *Con[text]* framework has relevance for transcultural and multicultural design teams undertaking design briefs for innovation other than their own culture, i.e. designing with and for others (Bohemia, 2014)

Diffusion and scaling up of sustainable social innovations

- The research highlighted a need to further investigate how grassroots innovators may gain access to design resources. Some avenues are being explored, but further

investigation, such as the presence and diffusion of design in social innovation incubators, for example, is needed

- Developing and further testing tools for different groups of social innovators (designers and non-designers) is a very valid and worthwhile avenue of further research to pursue, due to the potential empowering impact these tools could bring at different levels

Implications of Prospect Theory to Design Theory

While this research was not specifically aimed at investigating the link between framing biases and design at theoretical level, however, little published research was found on how/whether Design Theory is being informed by Prospect Theory. Therefore, it is important to highlight that this topic is worth pursuing with further research and investigation.

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Appendices

Appendices

Appendix A – Preliminary Study (Stage 2A) PAR Consultation

AI – Participants' Details

Code	Name	Nationality	Degree	Area of Work/Interest
ES	Ege Sezen	Turkey	PhD Student MA Graphic Design	Design for Sustainability
SB	Spyros Bofylatos	Greece	PhD Student (Design) MA Product Design	Design for Sustainability Higher Education (Assistant Lecturer)
AS	Antonio Starnino	Canada	MA Service Design BA Design & Fine Arts	Service Design
LR	Liliana Rodriguez	Colombia	PhD Research Student (Design) MA Interaction Design BA Product Design	Product Design and Service Design (Mainly in Higher education)
KL	Katharina Leistenschneider	Germany	MA Design	Service Design
LP	Leandro Porras	Guatemala	MA Service Design BA Business Administration	Service Design
DF	Prof. Davide Fassi	Italy	PhD Architecture	Lecturer, Product Service System Design
EB	Prof. Elisa Bertolotti	Italy	PhD Visual Communication Design	Adjunct professor Visual Communication Design
SF	Stephanie Frawer	Germany	BA Visual Communication and Interior Design	Service Design Communication Design
KT	Konstatinos Toussas	Greece	MA Sustainable Design BA Fashion Design	Fashion Design Sustainability and Social Enterprise
DM	Donatella Mancini	Italy	MA Service Design BA Product Design	Product Service System and Service Design for Social Innovation
EA	Eva Andreakou	Greece	MA Service Design Product and Systems Design Engineering	Product Service System and Service Design for Social Innovation
PK	Prof. Peter Kroes	The Netherlands	Professor of Philosophy of Technology	Philosophy of Science, Philosophy of Technology, Ethics and Engineering, Critical thinking
BM	Prof. Birgit Mager	Germany	Co-Founder and President of the International Service Design Network	Service Design
SW	Prof. Stuart Walker	UK	Professor of Sustainable Design	Sustainable Design, Wellbeing, Social Innovation

A2 – Participant Information Sheet

INFORMATION SHEET

PARTICIPATORY ACTION RESEARCH STUDY

RESEARCH TITLE: Using Cultural Codes to Enhance the Perceived Value of Sustainable Product-Service Systems in order to Encourage Their Mainstream Adoption

RESEARCHER NAME: Laura Santamaria

DATE: August 2014

Purpose of the session

The purpose of this study is to raise awareness of the issues regarding the diffusion and mainstream uptake of sustainable Product Service Systems. It aims to generate a discussion and a 'set of guidelines and questions' that should be considered when investigating how designers construct the symbolic meaning that affect the innovation's desirability, cognitive and emotional connection with potential users who are not normally interested in sustainable issues.

Objectives

Study will be conducted with the following objectives:

- To gather designers' views of the problematic, and opinions about an Initial Theory elaborated by the researcher and open discussion to suggestions for improvement
- To generate a sense of collaborative 'framing' of the research problem
- To generate a set of questions for the next phase of the research (to be answered individually)

Data handling

The data collected in this session is intended as a group outcome of a discussion and decision-making process, rather than to be analysed on an individual respondent level.

At all times, it will be treated confidentially and no part will be published or distributed in any form without prior consent of the participant.

All participants have the right to request that information and individual data is destroyed if they do not wish, at a later stage, their data to contribute to this research study, by contacting the researcher by email: l.santamaria@lboro.ac.uk, or telephone: +44 784 660 6944.

Participation consent

Participants are by no means obliged to participate of this session and can opt out if preferred. A consent form has been provided with this information sheet which should be signed by the participant to give consent and agreement of participation.

Many thanks for your collaboration.

A3 – Ethical Clearance Checklist Sample

**Ethics Approvals (Human
Participants) Sub-Committee**

Ethical Clearance Checklist

Has the Investigator read the 'Guidance for completion of Ethical Clearance Checklist' before starting this form?	Yes
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Project Details

1. Project Title: Participatory Study with Professional Designers

Applicant(s) Details

2. Name of Applicant 1: Laura Santamaria	10. Name of Applicant 2: Tracy Ross
3. Status: PGR student	11. Status: Staff
4. School/Department: Loughborough Design School	12. School/Department: Loughborough Design School
5. Programme (if applicable): Click here to enter text.	13. Programme (if applicable): Click here to enter text.
6. Email address: l.santamaria@lboro.ac.uk	14. Email address: t.ross@lboro.ac.uk
7a. Contact address: 167 Southwood Lane, London N6 5TA, UK	15a. Contact address: design School, Loughborough University
7b. Telephone number: +44 7846606944	15b. Telephone number: 01509 226913
8. Supervisor: No	16. Supervisor: Yes
9. Responsible Investigator: No	17. Responsible Investigator: Yes

Participants
Positions of Authority

18. Are researchers in a position of direct authority with regard to participants (e.g. academic staff using student participants, sports coaches using his/her athletes in training)?	No
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A4 – Participant’s Informed Consent Sample

 **Loughborough University**

Experts Consultation Participatory Workshop
Aalborg University, 24th May 2016

INFORMED CONSENT FORM
(to be completed after Participant Information Pack has been read)

The purpose and details of this study have been explained to me. I understand that this study is designed to further scientific knowledge and that all procedures have been approved by the Loughborough University Ethical Approvals (Human Participants) Sub-Committee.

I have read and understood the information sheet and this consent form.

I have had an opportunity to ask questions about my participation.

I understand that I am under no obligation to take part in the study.

I understand that I have the right to withdraw from this study at any stage for any reason, and that I will not be required to explain my reasons for withdrawing.

I understand that all the information I provide will be treated in strict confidence and will be kept anonymous and confidential to the researchers unless (under the statutory obligations of the agencies which the researchers are working with), it is judged that confidentiality will have to be breached for the safety of the participant or others.

I agree to participate in this study.

Your name EMILE DEVEREAUX

Your signature E. Devereaux

Signature of investigator Laura Justreman

Date 25/5/16

Appendix B – Pilot Study Details

BI – Session Schedule

	Start Time	Time	Content	Objectives	Activity
Activity 1 Icebreaker	10:00	10-12 min	Introduction	To encourage participants to familiarise with each other	Round intro icebreaker My name is... Sustainability to me is...
Activity 2 Lecture	10:15	30 min	Lecture, presentation of theory, concepts & tools	To introduce participants to semiotic and cultural analysis tools, giving a historical perspective and highlighting their usefulness in the context of design for sustainability	Take notes
	10:45	5 min	Questions	Feedback and clarification	
	10:50	10 min	Break		
	11:00	5 min	Introduction to activities & forming groups		
Activity 3 Design exercise	11:05	15 min	Elaborate proposition	To immerse participants in the design situation (interdisciplinary PSS teams) and thinking about sustainable innovation in a way that they would normally do. To obtain a 'before and after' situation where we can reflect on the usefulness of the analysis tools by comparing the outcome of this activity with that of Activity 5 (after using the tools).	Work in groups and elaborate an idea for a new sPSS.
	11:20	10 min	Concept presentation		
Activity 4 Cultural Analysis and reformulation of brief	11:30	15 min	T1 RDE Cultural analysis	To test which methods might be most useful for the purpose To gain insight on how these methods can be best structured/shaped for implementation with design teams To locate any issues or gaps that need to be addressed for their implementation into design practice	Classify resources as Dominant, Residual, Emergent
	11:45	15 min	T2 Meaning Mapping		Map cultural binaries and archetypes
	12:00	10 min	T3 Code Mapping		Map discursive resources: textual and aesthetic codes
	12:10	15 min	T4 Competitor analysis		Consider: what needs, aspirations and desires do current offers fulfil? How can you improve the offer?
	12:25	10 min	T5 Adjacent categories mapping		Consider: what categories relate to your specific one? What can you learn from the cultural meanings they carry?
	12:35	5 min	Activity summary & conclusions		Consider: what is the best 'cultural space' for positioning your innovation? What needs can your innovation fulfil that aren't currently met by other options?
Activity 5 Reframing	12:40	10 min	Repositioning	To get the design team reconsidering and reformulating their innovation in light of their cultural analysis findings. What new aspects has the analysis highlighted that they were not taken into account during Activity 3?	Reformulate the innovation's offer according to cultural analysis findings
Activity 6 Reflection	12:50	10 min	Reflections and conclusion	To obtain feedback on the usefulness (or not) of the cultural analysis process, and on each of the different tools To locate any issues or gaps that may need to be addressed for future workshops	Feedback forms
	13:00	Session ends			

B2 – Pilot Session Information and Preparation Sheet

Semiotics & Sustainability

Session preparation

I look forward to meeting you all at the sessions next week.

Cultural and semiotic tools will be illustrated and discussed with reference to a wide range of categories so please don't think the themes & brands discussed will be limited by the range of topics in the recommended pre-work below. But some thinking ahead to get our minds in gear would be useful, and we have to start somewhere.

In order to get our minds in gear for the session, it would be useful if you could do a some preparatory thinking and preliminary/information gathering. This needn't take more than 20 minutes in total.

Have you come across semiotics before? And why do you think semiotics is (or might be) useful in the context of sustainable design? (Answer spontaneously in minimum 1 word, maximum 30).

Think about one or more recent images of groceries (food) and cars communication (ads, websites, magazine cover, displays, etc.) that have caught your attention. Bring it/them with you in hard copy if you can. How does the advertising image/s work in the context of evolving food & transport imagery & identity in culture more generally – does it look dated, in line with current mainstream norms, or more interesting & innovative? A Google images search for 'food ads 2014' or 'car ads 2014' can be a good place to start. Remove the date from the search for a wider selection of stimulus.

Also think about, and bring with you if you can, at least two pieces of communication you find interesting or thought-provoking around the theme of sustainability. Ideally one piece of brand communication and something not overtly branded (e.g. a magazine article, TV show, website, film, book, photograph).

Thanks again, and looking forward to working together next week.

Laura Santamaria
l.santamaria@lboro.ac.uk

B3 – Pilot Session Workbook

Semiotics & Sustainability

Methods and tools for service design ethnography

Laura Santamaria

ABSTRACT

Sustainability calls for changing the levels and patterns of consumption. For our western cultures, this implies radical lifestyle changes where the concept of what constitutes a 'good life' is redefined. Sustainable Design can contribute to this transition by developing strategies for shifting society from material-intensive consumer culture to a society with less materialistic aspirations. In this session we will explore some semiotic and cultural analysis methodologies and their relevance for tackling some of the cultural barriers that prevent a wider adoption of sustainable products and practices society-wide. These methodologies can help designers to understand how different ways of 'framing' or 'positioning' sustainable innovations in the marketplace can impact their perceived value and appeal, according to the associations they trigger in people's minds. During the practical session, students will be guided to elaborate a sustainable product service system proposal. Using a framework that draws from cognitive science, communication theory and applied semiotics, students will conduct contextual cultural analysis to position their innovations based on people's aspirations, goals and deeply embedded cultural values in order to enhance their appeal.

ACTIVITY 1 – Icebreaker

Please introduce yourself and tell us what sustainability is for you.

ACTIVITY 2 – Lecture

See thumbnails printout.

ACTIVITY 3 – Design Exercise

Working in groups, we will now generate some PSS design concepts around the food and transport categories. Read the brief that corresponds to your group below:

Design Brief Group A – Local Food

Develop a PSS concept, based on providing a urban neighbourhood/community with the opportunity to consume local, sustainable produce.

Things to consider:

Your system must cater for single, urban and international young people as well as middle class families with +2 children.

Can you offer an off-line buying option?

You need to cultivate a large customer base in order to keep in business and offer competitive pricing. Think about the best ways forward for rapid growth/scaling up.

Group B – Getting from A to B

Develop a PSS concept, based on providing individuals/families with the opportunity to leave the car at home and use more sustainable transportation modes.

Things to consider:

Your system must cater for single, urban and international young people as well as middle class families with +2 children.

You need to cultivate a large customer base quickly for your system to make a significant difference in society and hence be worth the investment. How would your system motivate habit/culture change?

ACTIVITY 4 – Cultural Analysis

In your group, work through the following tasks:

TOOL 1 – RDE

Step 1. Group the semiotic resources according to the following categorisation: Residual, Dominant and Emergent. Use the description clues at the top of the chart below to guide you through.

Step 2. In the chart, list the common characteristics you observe in each group (what makes these resources look residual, dominant, or emergent? Colours, words, themes, evoked emotions, assumed values and associations).



TOOL 2 – CULTURAL BINARIES & ARCHETYPES

Step 1. Consider: How is this 'world' divided up. What are the themes, and how do they relate to each other? Are they in opposition or do they complement one another? Make a list of the oppositional pairs that you find.

Step 2. In the themes that you have identified, consider what cultural associations do they play on? Are there villains and heroes, princesses, helpers, protecting fathers or nurturing mothers? What feelings do these associations evoke?

Map them below.

TOOL 3 – CODE MAPPING

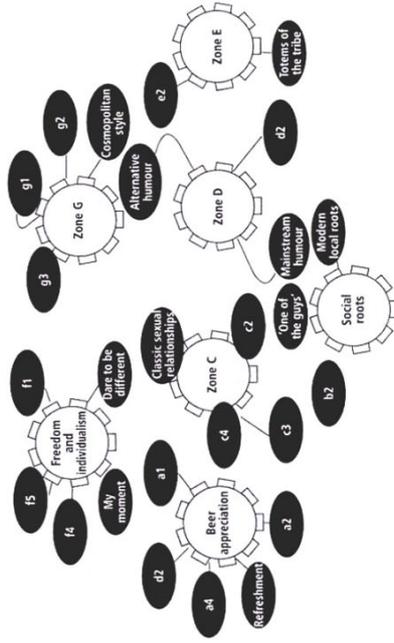


Figure 1 International language of beer advertising – outline structure of the code map

ACTIVITY 5 – Reformulating the Innovation

Working in groups

ACTIVITY 6 – Reflection and Conclusions

Working in groups

B4 – Pilot Study Feedback Sheet

<p>Semiotics & Sustainability Session Feedback</p> <p>Please provide feedback on what you thought was good, useful and not so. Continue overleaf if you need more space.</p>	Positives	Thing to improve	
	Introduction	Analysis tools	Workshop flow and content

B5 – Participants’ Feedback

	Positives	To improve
INTRODUCTION / LECTURE	<p>Overall the presentation was good, clear and straight forward</p> <p>Original, new knowledge. Very beautiful slides and well-communicated. Nice ice-breaking.</p> <p>Good.</p> <p>It was comprehensive. Some ‘difficult’ ideas to grasp if you haven’t come across them before.</p> <p>Good background with definitions and that you stated your experience.</p> <p>Introduction was very helpful as semiotics was/is rarely/never considered when creating communications.</p> <p>Very enthusiastic. Good examples.</p> <p>Fun, relaxing atmosphere.</p> <p>Very clear, fluid visuals. Information was summarised well. Aesthetically pleasing!</p>	<p>It will be good to replace some of the graphics used, particularly the one called semiosis and how representation works</p> <p>Add references. Separate the lecture from the workshop. Make 1 hour lecture first and then plan the workshop separately. Provide case studies of semiotics applied to design companies to make workshop participants understand soon the benefit of the session.</p> <p>First 20 minutes centred on ‘semiotic’ and ‘brand identity’. Word semiotic disappeared at the end.</p> <p>Maybe structure intro around examples.</p> <p>Could be more describing with more hands-on examples. The area is broad and difficult to grasp.</p> <p>I wish there was more time to discuss this (the topic).</p> <p>You came across as very nervous.</p> <p>A bit more in-depth – it was a bit of an overview.</p> <p>Add an intro about yourself (background, experience, etc.)</p> <p>Speak about your work with more confidence and conviction. Show your audience how passionate and enthusiastic you are about it.</p>

Appendices

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">ANALYSIS TOOLS</p>	<p>The tools were quite useful.</p> <p>A lot of good visual support provided. Low tools needed. It was enough (this is an advantage: it is 'easy' for you to set this session within companies).</p> <p>N/A</p> <p>Simple, easy to understand.</p> <p>No thoughts. Don't really looked in the go the goals yet.</p> <p>The overview is concise and the concepts were explained very well.</p> <p>It didn't seem like hard or intensive due to its presentation.</p> <p>N/A</p> <p>Very systematic and fluid.</p>	<p>It will be good to not explicitly indicate who has experience in semiotic to ensure that all engage in the process. Maybe having some volunteer to help facilitating the discussion.</p> <p>Don't define it as 'tools' (we don't need more tools and you are not proposing new tools) but as 'process' or 'method'. Make clear what outcome you expect.</p> <p>Plan the outcome in a way that helps you quantify/assess the benefit of your session.</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>It lacks in-depth analysis. Maybe it would help if there was a case study?</p> <p>Very brief (too brief). Please add more so that it is recognised as an actual activity.</p> <p>N/A</p> <p>N/A</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">WORKSHOP FLOW AND CONTENT</p>	<p>Overall all went well. The facilitator was lovely.</p> <p>Well done. I am happy to help further, if needed.</p> <p>N/A</p> <p>It felt like the right length for what we did. Wanted to go back and work through things at the end.</p> <p>Positive that it was a workshop and not just info.</p> <p>Instructions just need to be explained further but it is very good.</p> <p>Very good flow. Everything led onto the next thing. Good examples. Kept the class involved.</p> <p>Easy to follow exercises. Good selection of images (to analyse).</p> <p>Content was explained and demonstrated well. I was very clear on what I was supposed to be doing.</p>	<p>It might be worth to allow more time for the activities but also to wrap up the session.</p> <p>Facilitate more participation. Create more links to smooth the flow throughout the exercises. Better time management. Think about the target for your workshop: I would find it interesting to test it with commercial companies first (to give designers more freedom). But then as 'meanings' may not fit into brandings, I think the best target for these workshops are social innovation agencies, to bring some commercial features into social practice teams. More multidisciplinary teams.</p> <p>N/A</p> <p>N/A</p> <p>I found the workshop a little confusing. Didn't really know what to do.</p> <p>We need more time for the workshop, also to analyse.</p> <p>There's quite a bit of text to get through during the presentation. Include examples on slides not relying on verbal.</p> <p>Add sources to slide 9 and 10 as they are important and may need extra reading. The workshop would benefit from a bigger room.</p> <p>Manage time better although I realise how difficult this is given the richness of the material. It would have been good to have more time for the final discussion at the end. Maybe allocate more time for the next one?</p>

Appendix C – Main Study PARi I

CI – Scoping Questionnaire

Exploring the Value of Cultural & Semiotic Analysis to Enhance the Appeal of Sustainable Products, Services and Systems

Cycle I – Participatory Action Research with Social Enterprises

SESSION I – FAMILIARISATION

1. What methodologies/tools/processes, if any, have you used to organise your business proposition and related operations? (i.e. delivering fresh, local produce)
2. What methodologies/tools/processes, if any, have you used to get to know your potential customers?
3. Do you do any sort of market research and customer feedback on a regular basis?
4. In which ways have you considered the social and cultural context of your potential customers?
5. Have you reflected/considered the 'symbolic' aspects that your product/service represents? E.g. In which ways does your service make customers to be on the 'in group', or expresses aspects of their identity?
6. Have you ever measured or analysed how your audience perceives your , especially against competing options? If yes, tell us how.
7. Do you wish your service could reach a wider audience?
8. Have you considered how you could position your service to appeal to a wider group?
9. Do you have the capacity to scale up, if you had more demand for your service?
10. If you answered yes to the above, what resources do you consider essential to scale up?
11. Have you collaborated with/employed designers ever since you came up with your innovation? If yes, tell us what design disciplines you engaged with and how useful they were.
12. Do you have access to design resources at present (i.e. market research, service design, branding and communication design) that can support you in scaling up your business?
13. If these resources were more readily available to you, do you think that your business would be better suited to compete with less sustainable offerings – i.e. in your case, supermarkets, for example?
14. How critical are the above resources for scaling up your business? Use the value scale below, where 1 is 'not critical at all' and 10 is 'most critical'.

Market Research

1 2 3 4 5 6 7 8 9 10

Service Design

1 2 3 4 5 6 7 8 9 10

Brand strategy and marketing

1 2 3 4 5 6 7 8 9 10

Public Relations

1 2 3 4 5 6 7 8 9 10

Appendices

Product

Concept/overview of product/service

Unique features and benefits

What problems does the product solve?

How will the product be used and will it work with other products? If so, which ones?

List competitor companies and product brands – please provide visual examples

Describe how the product is differentiated from competitor products (please include both functional and emotional points of difference)

Where and how will the product be sold?

(please list primary countries/language markets, channels of distribution, sales force, etc.)

Possible line extensions and/or future vision?

How will the product be introduced into the marketplace?

(please describe advertising strategies and promotional campaigns)

Audiences

Who are the target audiences?

Purchaser profile?

User profile?

Target Audience:

Purchaser/User Profile:

AGE

MARITAL STATUS

DEPENDENTS

HOME

INCOME BRACKET

CULTURE

EDUCATION

LIFESTYLE

CHARACTERISTICS

ASPIRATIONS

Naming

Describe the image and personality the name should portray to the customer/end-user

What words, associations and connotations should/could the name reference?

(please list in order of importance, if possible)

Names already considered or preferred concepts

State reasons why already considered name candidates have been rejected/not taken forward

Key concepts, words or word-parts to explore

Key concepts, words or word-parts to avoid

In what trademark classes will the brand name be registered? (please provide class numbers)

Design

Describe the image and personality the visual identity should portray to the customer/end-user
Corporate/Brand identity guidelines/manual – are there any existing restrictions/rules to adhere to (colour, font etc.)?

Historical evolution of the brand (past designs)

How has the visual development of the brand evolved over time?

Please list and provide any existing marketing collateral

Please list and provide any advertising material (current and previous)

Key visual concepts, colours, font styles to explore or already considered

Key visual concepts, colours, font styles to avoid or already considered

Any packaging/regulatory requirements (to be specified for each market if different)

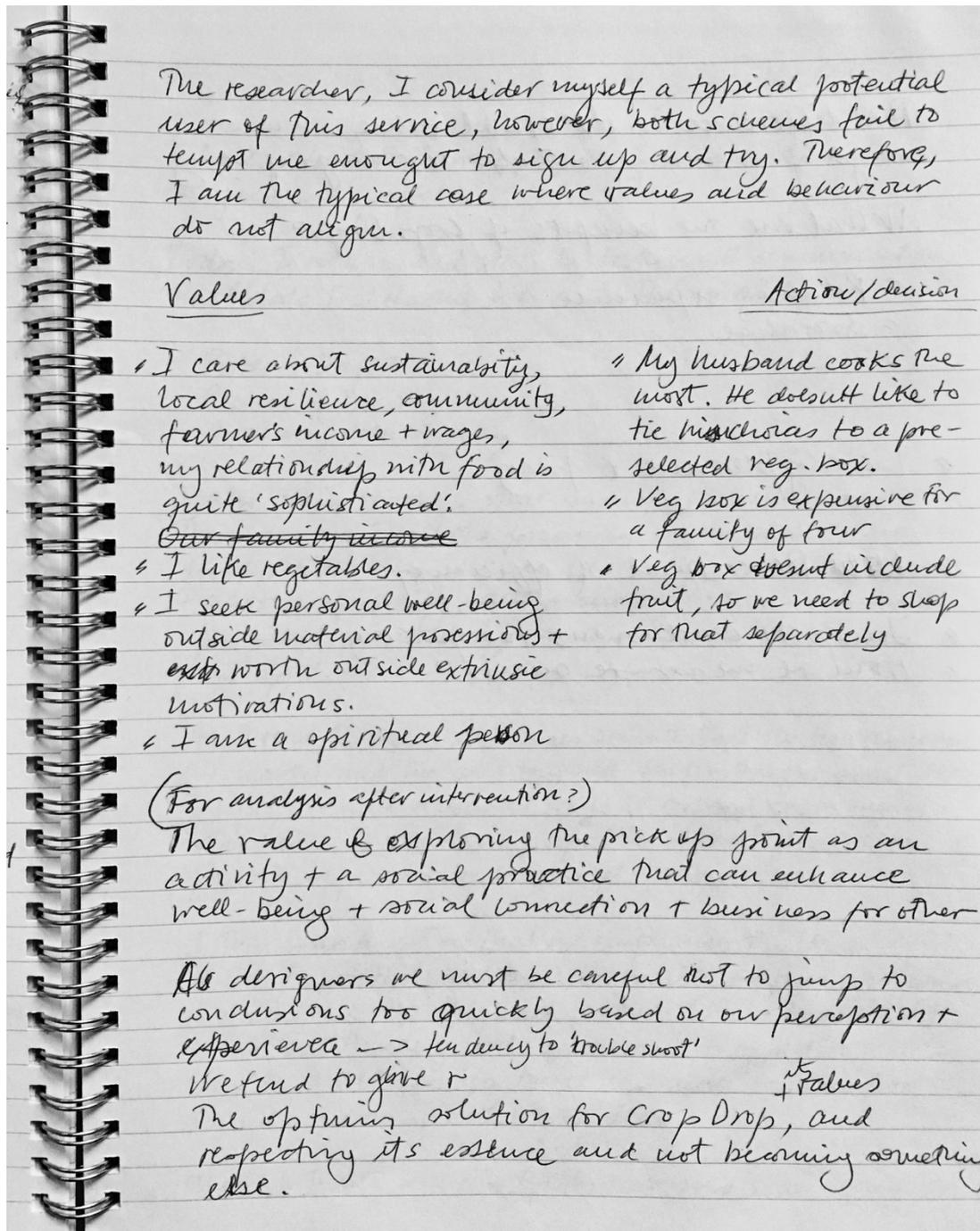
Other

Please provide any currently available additional research and/or positioning data (if relevant)

Please outline expected project timeframes. When will the registration process start?

Additional points to consider

C2 – Journaling Samples



I have condensed insights ~~and~~ into a report that I sent to Rachel digitally.

She has responded well and is inline with my thinking. ~~She~~ She mentioned that she has already disseminated some of these ideas with others running box schemes through growing communities programme.

Apparently, she had a divided room when she proposed these ideas - with some people frowning and ~~others~~ feeling this was too marketing led, a bit deceiving and ~~distasteful~~ dishonest conduct.

① "Not inline with sustainable values." (why?)
 // This needs to be discussed in Discussion chapter //

6/1/16

Working on Rachel's (Crop Drop) website interface

"I am considering how to go about building web prototype."

I have assumed that if we promote the company using the new "rebranding", that needs to be put to the test to see if we can engage a greater number of customers / or new customers from other areas.

In this, we have to make the following considerations:

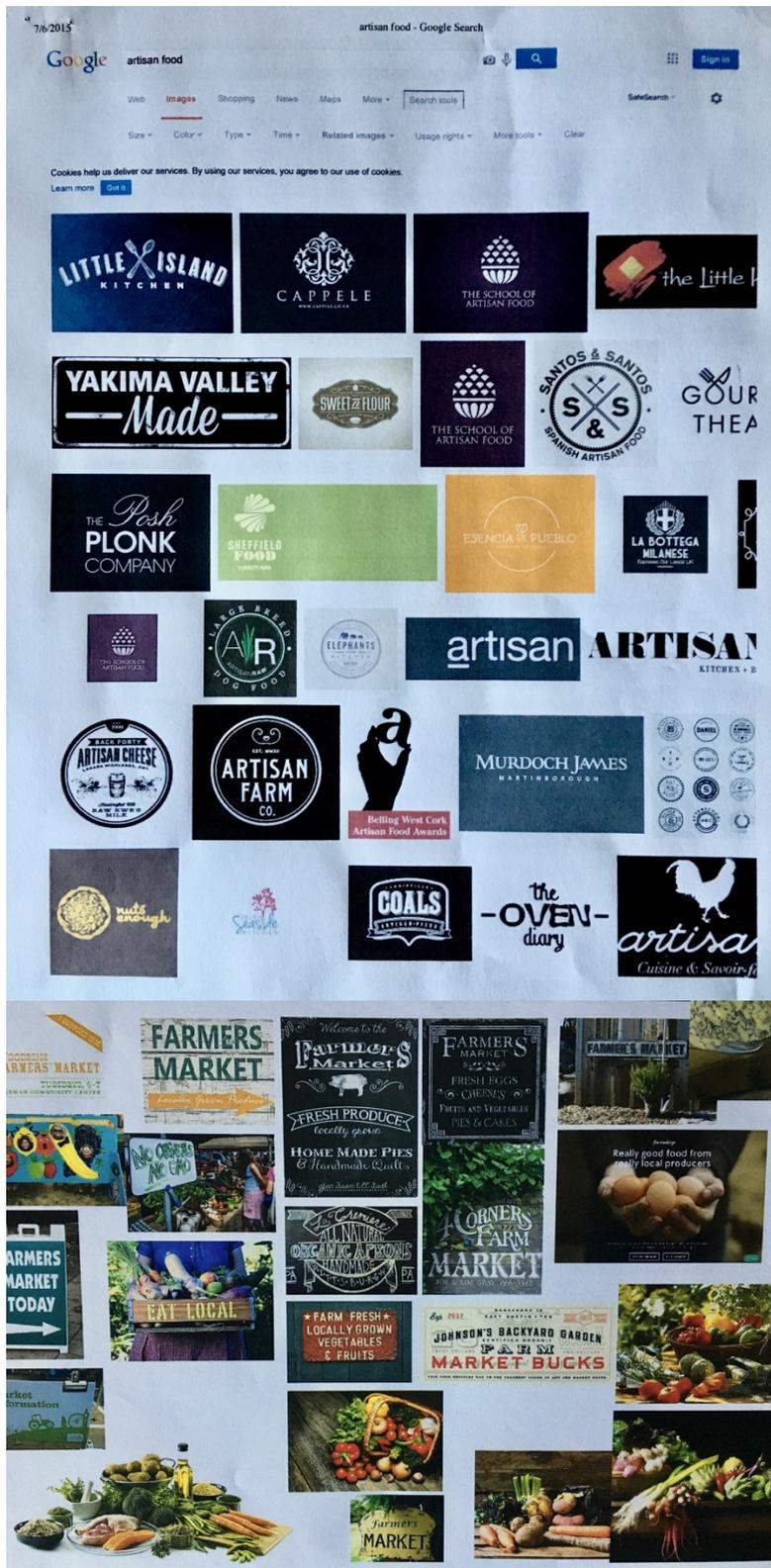
- How to be attractive to customers but not deceiving?

It is easy to deploy marketing / branding techniques that raise customer expectations to a standard that the company can't deliver. i.e. give the impression that the company is bigger than they are / or are a corporate set up / spin off.

The aim is to position it to a good standard (incorporating insights) while still remaining "familial" enough.

Appendices

C3 – Semiotic Analysis Resources (Data Sample)



C4 – Process Output

Stage	Objective	Tools employed
Familiarisation	Familiarisation of designer with the business Gathering of business information	<ul style="list-style-type: none"> Structured questionnaire (devised by researcher) Unstructured interview (informal conversations to fill in gaps)
Organise business operations	Understand how business operations, processes, resources and stakeholders align	<ul style="list-style-type: none"> Service blueprint, incorporating customer journey and touchpoints Business model canvas
Contextual Analysis		<ul style="list-style-type: none"> Initial Theoretical Framework (to guide the process)
Step 1	Map the meanings of the category at a broad level to understand global symbolic associations and their social practices	<ul style="list-style-type: none"> Greimas Square represented as a Four Quadrant Diagram intersecting two dimensions
Step 2	Defining exiting position “we are local” as opposition to “global”, followed by Map global and local representations	<ul style="list-style-type: none"> A list of associated words, paired with opposite meanings Continuum diagram
Step 3	Explored the adjacent categories that are popular with users	<ul style="list-style-type: none"> Desk research, looking for associated categories Visualised by infographics
Step 4	Mapping the competitors	<ul style="list-style-type: none"> Four quadrant diagram intersecting two dimensions
Step 5	Mapping trajectories in residual dominant and emergent associations	<ul style="list-style-type: none"> Categorisation of visual imagery, grouped under Residual, Dominant and Emergent categories
Step 6	Understanding potential user groups	<ul style="list-style-type: none"> Infographic that incorporates archetypal illustrations to represent group, combined with quantitative and statistical data
Step 7	User Persona (archetypes)	<ul style="list-style-type: none"> Template with categories to look at Mood board to map lifestyle choices
Step 8	Mapping the aesthetic associations that differentiate this group	<ul style="list-style-type: none"> Mood boards / Collages
Step 9	Mapping the cultural practices valued target user social group	<ul style="list-style-type: none"> Mood boards / Collages
Step 10	Summarising findings into recommendations	<ul style="list-style-type: none"> Report (but could also be called ‘contextual reference map’)

C5 – Feedback Questionnaire



Participant feedback

Response ID	Completion date	
190224-190217-13774551	12 May 2016, 17:09 (BST)	

1	Please enter your name and surname	Rachel Dring
----------	------------------------------------	--------------

2	Your age	34
----------	----------	----

3	Your qualifications	BA hons Drama and theatre studies
----------	---------------------	-----------------------------------

Section 1 – About you and your target customers

4	<p>Previous to the research process, what formal methodologies/tools/processes, if any, have you used to organise your business proposition and related operations?</p>	<p>I wrote business plan which included market research on competition and demand in the local area.</p> <p>At the business planning stage I did a questionnaire which I distributed to my neighbours and some other local people to assess their interest in a local, community-led food initiative, how they currently shop and what were their priorities when buying food.</p> <p>I wrote a marketing plan at the very beginning where I created customer profiles - age, occupation, values, consumer behaviours, etc. and identified existing networks and businesses which would have synergy with Crop Drop that we could promote our brand through.</p>
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5	<p>Previous to the research process, what formal methodologies/tools/processes, if any, have you used to get to know your potential customers?</p>	<p>A questionnaire that customers complete when they join the scheme - mostly demographics and some questions about how many people they're feeding, how they get to drop point, how close it is to their house. This questionnaire is set by Growing Communities as it's embedded in their joining form process which we are using, so it's asking questions based on Growing Communities monitoring requirements. If we had control over this we'd ask some different questions.</p> <p>Annual customer survey - this is a 10 question feedback survey where we invite customers to tell us what they think of the survey and what improvement/changes they would like.</p> <p>Leavers survey - similar questions to above, but more about why they left and what are their priorities when choosing where to buy food.</p>
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6	Do you currently do any sort of market research and customer feedback on a regular basis? Please describe.	We have an on-going open questionnaire which is included in our weekly newsletter which asks our customers for feedback on their crop drop experience. I keep an eye on our competitors prices and products and marketing campaigns, but I don't record this formally in any way
7	In which ways have you considered the social and cultural context of your potential customers?	In our initial marketing plan that we developed in the pre-launch phase, we defined our target customer as environmentally conscious, degree educated professionals. We took into account the local transition and sustainability networks, other related businesses and services in the area, what newspapers & online publications the target customer reads, where they shop, socialise and what types of work they do. This information was all based on our research into the local area and our knowledge of the target customer and culture.
7.a	Have you ever reflected on/considered the 'symbolic' aspects that your product/service represents? (i.e. whether your service makes customers feel in the 'in group', or helps them to express certain aspects of their identity, or their values).	We considered the values of Crop Drop (sustainability, fairness, supporting local enterprise) and how being a customer helps customers live their values and express their commitment to their values through being part of the scheme.
7.b	Have you ever measured or analysed how your brand is perceived, especially against competing options?	No
7.b.i	If yes, tell us how.	
8	Do you wish your service could reach a wide audience?	Yes
8.a	If you answered yes above, had you considered, prior to the research exercise, how you could position your service to appeal to a different customer groups/wider audiences?	Yes but we were thinking more along the lines of how we got our existing promotional materials in front of a wider audience, rather than how do we reframe the brand through design.
9	Do you have the capacity to scale up, if you had a lot of demand for your service?	Yes
9.a	If you answered yes to the above, what resources do you consider essential to scale up?	A robust customer management and e-commerce system. Drop points - this is one of the limiting factors - finding willing venues that have space for more than 40 bags. Personnel - a packing and delivery team, admin & customer care support. Larger premises All of this would require investment, so we'd need some capital!
10	Prior to this experience, have you collaborated with or employed designers ever since you came up with your innovation?	Yes

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10.a	If yes, tell us what design disciplines you engaged with and how useful was the experience to achieve your objectives.	We engaged DT Practice, a graphic design duo, who designed the logo and identity for Crop Drop. As we had a very small budget for the work, they did not undertake an extensive cultural design analysis - they did do some background research on the competition, the social/cultural context of our brand but the majority of the work was intuitive. They produced a logo, flyers and posters plus some stamps for bags and generally provided some advice on the look of the bags. I felt like they really understood our brand and the designs they created really fitted with my expectations. I had lots of positive feedback about the design and how it stood out and made a big impact. Every flyer/poster run we did directly resulted in conversions. The only negative thing about the design that came up was that it made some people think we were a bigger, more established business than we really were, so their perception of Crop Drop was a bit inaccurate.
11	How relevant are the resources listed below to better equip your business to compete against less sustainable choices?	
11.1	Market research (market size, opportunities, trends)	
11.1.a	Rate relevance (higher score is most relevant: i.e. 1 not relevant, 5 very relevant)	5
11.2	User research (getting to know your potential customers so you can serve them better)	
11.2.a	Rate relevance (higher score is most relevant: i.e. 1 not relevant, 5 very relevant)	5
11.3	Service design (what you offer, how and to whom)	
11.3.a	Rate relevance (higher score is most relevant: i.e. 1 not relevant, 5 very relevant)	5
11.4	Brand strategy (your identity, what you stand for and how you put that across to your target users)	
11.4.a	Rate relevance (higher score is most relevant: i.e. 1 not relevant, 5 very relevant)	5
11.5	Marketing planning (publicity and awareness campaigns)	
11.5.a	Rate relevance (higher score is most relevant: i.e. 1 not relevant, 5 very relevant)	5
11.6	Communications planning (Social media, Public Relations)	
11.6.a	Rate relevance (higher score is most relevant: i.e. 1 not relevant, 5 very relevant)	5
11.a	Have any of the designers you engaged with in the past used or suggested to use any of the above?	Yes
12	Do you have access to design resources at present (i.e. user research, service design, branding and communication design) that can support you in scaling up your business? Please comment.	No, unless I engage a designer, I don't have access to these resources.

13	Have you come across these tools before? Please also rate them from 1-5 according to relevance.	
13.1	Service Blueprint	
13.1.a	I know what this is	Yes
13.1.b	I've used it before	No
13.1.c	This was the first time I've come across it	Yes
13.1.d	Relevance to you/your business (higher score is most relevant: i.e. 1 not relevant, 5 very relevant)	4
13.2	Business Model Canvas	
13.2.a	I know what this is	No
13.2.b	I've used it before	No
13.2.c	This was the first time I've come across it	Yes
13.2.d	Relevance to you/your business (higher score is most relevant: i.e. 1 not relevant, 5 very relevant)	1
13.3	Customer Journey Map	
13.3.a	I know what this is	No
13.3.b	I've used it before	No
13.3.c	This was the first time I've come across it	No
13.3.d	Relevance to you/your business (higher score is most relevant: i.e. 1 not relevant, 5 very relevant)	4
13.4	Personas (user profiles)	
13.4.a	I know what this is	Yes
13.4.b	I've used it before	Yes
13.4.c	This was the first time I've come across it	No
13.4.d	Relevance to you/your business (higher score is most relevant: i.e. 1 not relevant, 5 very relevant)	4
13.5	Competitor Analysis	
13.5.a	I know what this is	Yes
13.5.b	I've used it before	No
13.5.c	This was the first time I've come across it	No
13.5.d	Relevance to you/your business (higher score is most relevant: i.e. 1 not relevant, 5 very relevant)	5
13.6	Brand Positioning	
13.6.a	I know what this is	Yes
13.6.b	I've used it before	No
13.6.c	This was the first time I've come across it	Yes
13.6.d	Relevance to you/your business (higher score is most relevant: i.e. 1 not relevant, 5 very relevant)	5
13.7	Innovation Adoption Curve	
13.7.a	I know what this is	No
13.7.b	I've used it before	No
13.7.c	This was the first time I've come across it	Yes
13.7.d	Relevance to you/your business (higher score is most relevant: i.e. 1 not relevant, 5 very relevant)	1

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13.8	SWOT Analysis	
13.8.a	I know what this is	Yes
13.8.b	I've used it before	Yes
13.8.c	This was the first time I've come across it	No
13.8.d	Relevance to you/your business (higher score is most relevant: i.e. 1 not relevant, 5 very relevant)	4
13.9	Residual, Dominant & Emergent Trends Mapping	
13.9.a	I know what this is	Yes
13.9.b	I've used it before	No
13.9.c	This was the first time I've come across it	Yes
13.9.d	Relevance to you/your business (higher score is most relevant: i.e. 1 not relevant, 5 very relevant)	3
13.10	Product Category Theme Mapping (i.e. within the 'car' product category, themes could be 'small car', 'sport car', 'safe car', 'commuter car').	
13.10.a	I know what this is	Yes
13.10.b	I've used it before	No
13.10.c	This was the first time I've come across it	Yes
13.10.d	Relevance to you/your business (higher score is most relevant: i.e. 1 not relevant, 5 very relevant)	5
14	Having engaged with this research, what do you know now that you might have not considered before about:	
14.1	The socio-cultural context of your business and your users/customers	
14.1.a	Please comment	We can play more on the specialty, rarity, luxury categories more than we do.
14.2	Potential users/customers	
14.2.a	Please comment	That our potential 30-something progressive family customers value experiences over "things" and that they want to acquire knowledge/be seen to be knowledgeable about topics. I hadn't considered this, and this opens up a whole area of our offer that we don't give that much priority - sharing our specialist/insider knowledge about the local food scene, providing opportunities for providing unique food experiences.
14.3	Competing options	
14.3.a	Please comment	That we don't stand out that much from Able & Cole or Riverford in our category positioning - we're all inhabiting the wholesome space, and that there is actually room for Crop Drop to expand into the luxury category, which neither of the others are doing.
14.4	Your own business offer/proposition	
14.4.a	Please comment	We're offering a very limited product range and asking people to put up with a user experience that is quite clunky (the joining process on the website, 2-stage direct debit process, collection points that can have broken locks, be messy, have limited time frames for collection etc). I knew this before though! I guess what I learned is that all of this can appeal to a customer's desire for novelty, rarity and feeling like they're part of something emergent. It's now making me think about how we can turn these "weaknesses" into opportunities to make us stand out against the competition.

14.5	Strategic design	
14.5.a	Please comment	not sure what you mean by this
14.6	The 'symbolic' aspects that your product/service represents (i.e. whether your service makes customers feel in the 'in group', or helps them express certain aspects of their identity or values).	
14.6.a	Please comment	I think we knew already that Crop Drop makes people feel part of something, and that our customers are proud to identify as part of the scheme. The research helped me see how we can better align ourselves with other "friendly" brands or movements that can increase this sense of being part of something - like the craft beer scene. UNTil then we'd been aligning with campaigns and sustainability networks, which is wjhere we found our "low-hanging fruit" who join on principle because they get the socio-ecological problem that we're address. But these groups are not in the "consumer realm" - they're not geared up to be spending money, as such. They're about fighting causes, so while some people will put their money where their mouth is, other will just like what we're doing but not be moved to join. Whereas, craft beer is a consumer activity, so people are already in that frame of mind when we make that association.
16	Have the sessions' methods and tools made you aware of how you can go about:	
15.1	spotting potential opportunities (for example, offering new products or services)	
15.1.a		Yes
15.1.b	Comment	
15.2	engaging/targeting different user groups (for example, diversifying your offer)	
15.2.a		Yes
15.2.b	Comment	
15.3	tailoring your offer, your operations or communications (for example, to appeal to more/new customers)	
15.3.a		Yes
15.3.b	Comment	
15.a	If none of the above, please tell us what you were expecting to learn, find out or achieve	
17	How likely are you to recommend these methods to other social entrepreneurs?	
17.1	Not likely vs Very likely	5
17.a	If you selected 4 or 5 above, what would you tell other entrepreneurs these methods are useful for?	I have shared it with other community box schemes already as I think it's a great way to step back and look at where your brand sits in the bigger picture. It also pushes you to move out of your comfort zone and stop relying purely on intuition, which is what we're all mostly doing. As a result we only attract more people like us and don't diversify. It's also a risk - as our campaign results suggest, the flyer/poster design wasn't a success. But this is a learning process, and helps you discover what works and what doesn't. "madness is doing the same thing and expecting the same results"

Appendix D – Main Study PARi 2

DI – Feedback Questionnaire

Method Evaluation Questionnaire		
Question	Business owner (R)	Colleague (M)
How relevant do you consider these methods and tools could be to build skills and capacity of students in the area of Service Design for Social Innovation?	Very relevant	Extremely relevant
Please list at least 3 core skills and capacities that you think these activities could build in students wishing to engage with social innovation	Aligning messages Creating strategies and timelines Market positioning	Being more critical of their ideas Considering further the socio-cultural context of their potential users/customers Being aware of the impact of the symbolic message they convey through their design Being more convincing if they apply the tools appropriately. I think there are a lot more, it can be quite a detailed process which require skills (research etc.). If done in group, it is a very good team-work exercise to go through
Do you think these tools work for?		
<i>Brand positioning</i>		✓
<i>Elaborating guidelines for developing service touchpoints</i>		✓
<i>Value proposition elaboration</i>	✓	✓
<i>Business concept generation</i>		✓
<i>Developing marketing and communications materials</i>	✓	✓
<i>Strategic design</i>		✓
<i>Marketing & brand strategy</i>		✓
<i>Clarifying service design purpose</i>	✓	✓
<i>Conducting innovation context research</i>		✓
<i>Summarising user insights</i>	✓	✓
Do you think that the process/methods we used in the session need to be improved/modified to suit an education context? If you agree, how would you improve/modify them?		I think it is about having the time to engage with the tools. Create some role plays with a main facilitator to get students to think about the dynamic of the group? As it is an iterative process, indicate within the scheduled time when the concept has to be reviewed before moving on to another step
In which phase of the design process do you think these methods are best suited?		
Discover	✓	It could be used at the discover stage but I think it creates a lot of bias to use the tool there. Maybe it can help in indicating what is needed to move on to the define stage?
Define	✓	✓ This is the stage where I will use the tool as well as the develop stage
Develop	✓	✓
Deliver	✓	

Appendix E – Main Study PARI 3

EI – PARI 3 Module Guide



Loughborough Design School

Module Title: Service Design for Social Innovation	Module Code: 15DSP834
Module Weight: 15	Assessment Points: 2
Module Leader: Dr Carolina Escobar-Tello	Tutors: Dr Val Mitchell, Andre Brito, Ksenija Kuzmina Guest Lecturers

Introduction
Service Design is increasingly taught within Interaction Design and related programmes, and is a rapidly growing area of professional User Experience Design. It is a user-centred approach to the design of services that involves systemic thinking, and the design of multiple touch points between the service and the users. Service Design is often used to enable social innovation as it facilitates consideration of hard to define complex problems, and their consequent societal and business challenges. Sustainability, creativity and co-creation techniques are used to explore problems and develop solutions with relevant stakeholders facilitating the involvement of non-designers in design.

Aims
The aim of this module is to provide the student with a practical experience and competence in service design from a social innovation perspective:-
- To broaden the experience and skills of the student designer to include knowledge of, competence with, an introduction to service design principles applied in the context of social innovation and their application to the design of interactive products and services.
- To enhance knowledge and skills in user experience design, to include the ability to apply systemic thinking and the design of multiple touch points between the service and the users.

Feedback from Last Year

Student Likes	<ul style="list-style-type: none"> • Learning about an emergent area of design; how to design services; • Learning how to overcome the challenges of working with a real project/people/team • Lecturers team • Video prototyping sessions
Suggested Improvements	<ul style="list-style-type: none"> • Introducing more 'service design' case-studies earlier in the module. • More library resources • Video prototyping equipment

What has been changed this year

- The module's structure (lectures and workshops) has been reviewed improving the flow of all inputs.
- Previous project's outputs and other service design for innovation case-studies will be included in the module.
- The library resources have been reviewed.

Methods of working

This is a taught module weighted with 15 credits. The total student effort for the module is 150 hours on average comprised of:

a) contact time - lectures, practical classes and workshops, guided external visits independent study, and tutorials

b) private study - comprising guided reading and preparation associated with lectures, workshops, fieldwork and tutorials; student self-directed general reading in the subject area of module; preparation and production of assessed coursework.

Session Coursework and Assessment

Deadline	Assessment Description	Weight	Feedback Due	Type
Week 8 (20.04.16)	Interim Formative assessment Group seminar presentation (15 minutes)	n/a	On the day	Generic Group and Individual
Week 13 (25.05.16)	Individual Coursework (One assessment point with three elements: Presentation 45%, Individual Log Book 40%, Self-reflection Report 15%)	100%	Week 16 (15.06.16)	Individual

Reading List

- Berman, D. (2009) *Do Good Design*, New Riders, Berkeley
- Bhama, T. and Lofthouse, V. (2007) *Design for sustainability: a practical approach*, Gower [Student copy received at induction]
- Brown, T. and Wyatt, J. (2010) *Design Thinking for Social Innovation*, Stanford Social Innovation Review, Winter 2010, pp.30-35.
- Buchanan, R. (1992) *Wicked Problems in Design Thinking*, *Design Issues*, Vol. 8, No. 2 (Spring, 1992), pp. 5-21
- Buchenau, M. and Suri, J. F. (2000) *Experience Prototyping*, *DIS '00 Proceedings of the 3rd conference on Designing interactive systems: processes, practices, methods, and techniques*, pp. 424-433
- Dewey, J. (1938) *Experience and Education*, Touchstone, New York.
- Fued-Luke, A. (2009). *Design Activism – Beautiful strangeness for a sustainable world*. Earthscan.
- Hawken, P., Lovins, A. B., and Lovins, L. H. (2000) *Natural Capitalism*, Earthscan. Note: Available free online at: <http://www.natcap.org/>
- Keeley, L., Walters, H., Pickett, R., and Quinn, B. (2013) *Ten Types of Innovation: The Discipline of Building Breakthroughs*, Hoboken: Wiley.
- Lewis, H., Gertsakis, J., Grant, T., Morelli, N and Sweetman, A. (2001) *Design + environment: a global guide to designing greener goods*, Greenleaf
- Manzini, E. (2006). *Design, ethics and sustainability - Guidelines for a transition phase*. Milano: DIS-Indaco, Politecnico di Milano. Available form: <http://www.sustainableeveryday.net/manzini/> [Accessed 9 October 2007].
- Margolin, V. (1996) *Global Expansion or Global Equilibrium? Design and the World Situation*, *Design Issues*, Vol. 12, No. 2, pp. 22-32
- McDonagh, W. and Braungart, M. (2003) *Cradle to Cradle*, North Point Press
- Mulgan, G., 2007. *Social Innovation: what it is, why it matters and how it can be accelerated*. London: The Young Foundation.
- Papanek, V. (1985) *Design for the real world: human ecology and social change*, Thames and Hudson
- Pilioton, E. (2010) *Depth over breadth: designing for impact locally, and for the long haul*, *Magazine Interactions*, Vol. 17, No. 3., pp.48-51
- Suri, J. F., and Howard, S.G. (2006) *Going deeper, seeing further: Enhancing ethnographic interpretations to reveal more meaningful opportunities for design*, *Journal Of Advertising Research*, Vol. 46, No. 3, 246-250

Appendices

Week	Date	Time	Venue	Activity
1	Wed 3 rd Feb	2hrs	ZZ103	13.30 – 14.30 Introduction to Semester 2 and Project Briefing (CET/SP/NM/Project partners) 14.30 – 16.00 Guests' Lecture - Mollie Courtenay, Designer & Researcher (SH.24, No.11WW & Design Council). Focus – Introduction to the Brief and previous social innovation case-studies.
2	Wed 10 th Feb	1hr	ZZ103	13.30 – 14.30 Social Innovation Lecture (CET)
		1.5hr		14.30 – 15.45 Systemic Thinking and Mapping the Problem – workshop(CET/FM) 15.45 – 16.00 Introduction to next session: External Guided Visit 1 Start 'Discover' phase Focus –Initial mapping of the problem.
3	Wed 17 th Feb	2hr	Delice Cafe (Town centre)	14.30 – 16.30 External guided visit 1 (CET, FM) Focus – Introduction to the company/companies; Informal conversations; mapping the problem further and initial identification of potential design directions (Continue 'Discover' phase).
4	Wed 24 th Feb	1hr	ZZ103	13.30 – 14.30 Approaches and Methods for social interventions. (KK)
		2hr		14.30 – 16.20 "Mapping the field" workshop (KK/CET) Focus – plan further data collection and identify suitable tools & methods. (Continue 'Discover' phase)
				16.20 – 16.30 Introduction to next session: External Guided Visit 2

4a	Fri 26 th Feb	1hrs	SMB104	9.00 – 10.00 Introduction to Video Prototyping (AB)			
5	Wed 2 nd Mar	3hrs	LO52.33	13.30 – 16.30 Exploring Context and Sustainability aspects (LS/CET) Focus – Exploring Context and Sustainability aspects related to the problem and chosen design direction (Continue 'Discover' phase and start 'Define' phase).			
5a	Fri 4 th Mar	1hrs	SMB104	9.00 – 10.00 Video Prototyping session 2 (AB)			
			Town Museum (Town centre)	11.00 – 13.00 External guided visit 2 (CET/SC) Focus – Getting to know your users/stakeholders. To gain deeper understanding of the stakeholders' experiences related to the problem/design brief and deploy planned data collection strategy. (Continue 'Discover' phase and start 'Define' phase).			
6	Wed 9 th Mar	3hrs	ZZ103	13.30 – 16.20 Creativity for Idea Generation Workshop (SC/CET) Focus – elaborate on identified and chosen design direction. Generate design ideas to fulfil that direction/need/context (minimum of 3 ideas). (Start 'Develop' phase). 16.20 – 16.30 Introduction to next session: External Guided Visit 3			
6a	Fri 11 th Mar	1hrs	SMB104	9.00 – 10.00 Video Prototyping session 3 (AB)			
7	Wed 16 th Mar	2hrs	Town Museum (Town centre)	14.30 – 16.30 External guided visit 3 (CET/NM) Focus – Present initial ideas to users/stakeholders and narrow down 'best ideas' (2-3 ideas). Design/idea iterations. Refine ideas. (Continue 'Develop' phase).			
8	Easter break						
	Wed 20 th Apr	2hrs	ZZ103	13.30 – 15.30 Interim Assessment (CET/NM) Formative Group presentation			

- Thorpe, A. (2012). *Architecture & Design versus Consumerism: How Design Activism Confronts Growth*. London: Routledge
- Vezzoli, C., Kohala, C., and Srinivasan A. (2014) *Product-service System Design for Sustainability*, Greenleaf Publishing Limited, Sheffield
- Whiteley, N. (1993) *Design For Society*, Reaktion Books, London

Links to key websites and other resources will be uploaded on LEARN

Study Schedule Semester 2

E2 – Project Brief



DSP834 Service Design for Social Innovation

You will be working together in groups and individually to complete a 'social innovation' design project. The project brief has been developed with Love Loughborough. It will focus on how service design for social innovation can be used to grow tourism in Loughborough. In detail:

Growing Tourism

Historically the Loughborough town is associated with the world's famous bell foundry, its steam railway, textile manufacturing history and 'Ladybird' books. Nevertheless, nowadays Loughborough is often only recognised for its University with its two main specialisms:- sports and engineering. The lack of broad knowledge on what Loughborough has to offer limits its development; it is a problem that poses economic and socio-cultural challenges. Exploring and unpicking the varied array of 'knowledge', 'skills' and 'time capacity' base available in Loughborough presents an opportunity to enhance the social structure of the town. Loughborough could benefit economically and socially from increased tourism. There is also an opportunity to encourage local people to take more interest in the heritage of their town, perhaps leading to greater willingness to get involved in community projects and events. In order to grow tourism, we need to understand more deeply what makes Loughborough unique? How can we communicate Loughborough's heritage to young and old generations; local and global? How can we use service design principles to put Loughborough on the tourist map?

Desired Output: More visitors to the town; greater involvement of local residents in community events and projects

Submission requirements

You will be required to prepare and present 2 assessment points:

1. Assignment 1 - **Interim Formative assessment:**
Hand-in date Week 8 - 20th of April 2016
Seminar presentation (15 minutes)
[group & individual] formative feedback
2. Assignment 2 - **Summative assessment:**
Hand-in date Week 13 - 25th of May 2016
Project Coursework 100% composed of three elements as follows:
 - a.) Design Proposal via final presentation of group work (15 minutes) (45%)
 - b.) Individual Logbook (40%)
 - c.) Self-reflection Report (1000 words max) (15%)

CHECK ASSIGNMENTS' BRIEFS AND FEEDBACK SHEETS FOR DETAILED SUBMISSION REQUIREMENTS AND CRITERIA

Appendices

E3 – Workshop Protocol

	Start Time	Time	Content	Objectives	Activity
Activity 1 Icebreaker	10:00	10-12 min	Introduction	To encourage participants to familiarise with each other	Round intro icebreaker My name is... Sustainability to me is...
Activity 2 Lecture	10:15	30 min	Lecture, presentation of theory, concepts & tools	To introduce participants to semiotic and cultural analysis tools, giving a historical perspective and highlighting their usefulness in the context of design for sustainability	Take notes
	10:45	5 min	Questions	Feedback and clarification	
	10:50	10 min	Break		
	11:00	5 min	Introduction to activities & forming groups		
Activity 3 Design exercise	11:05	15 min	Elaborate proposition	To immerse participants in the design situation (interdisciplinary PSS teams) and thinking about sustainable innovation in a way that they would normally do. To obtain a 'before and after' situation where we can reflect on the usefulness of the analysis tools by comparing the outcome of this activity with that of Activity 5 (after using the tools).	Work in groups and elaborate an idea for a new sPSS.
	11:20	10 min	Concept presentation		
Activity 4 Cultural Analysis and reformulation of brief	11:30	15 min	T1 RDE Cultural analysis	To test which methods might be most useful for the purpose To gain insight on how these methods can be best structured/shaped for implementation with design teams To locate any issues or gaps that need to be addressed for their implementation into design practice	Classify resources as Dominant, Residual, Emergent
	11:45	15 min	T2 Meaning Mapping		Map cultural binaries and archetypes
	12:00	10 min	T3 Code Mapping		Map discursive resources: textual and aesthetic codes
	12:10	15 min	T4 Competitor analysis		Consider: what needs, aspirations and desires do current offers fulfil? How can you improve the offer?
	12:25	10 min	T5 Adjacent categories mapping		Consider: what categories relate to your specific one? What can you learn from the cultural meanings they carry?
	12:35	5 min	Activity summary & conclusions		Consider: what is the best 'cultural space' for positioning your innovation? What needs can your innovation fulfil that aren't currently met by other options?
Activity 5 Reframing	12:40	10 min	Repositioning	To get the design team reconsidering and reformulating their innovation in light of their cultural analysis findings. What new aspects has the analysis highlighted that they were not taken into account during Activity 3?	Reformulate the innovation's offer according to cultural analysis findings
Activity 6 Reflection	12:50	10 min	Reflections and conclusion	To obtain feedback on the usefulness (or not) of the cultural analysis process, and on each of the different tools To locate any issues or gaps that may need to be addressed for future workshops	Feedback forms
	13:00	Session ends			

Week 4 – Mapping the Context

Session Plan

The purpose for this session is to implement context mapping during the design process of PSS for social innovation development.

Participants are postgraduate (masters) interaction design students.

General research objectives for the session:

- To investigate how cultural analysis and semiotics skills can be introduced to students in the context of design for social innovation education.
- To gain insight on how these methods can be best structured/shaped for implementation with design teams.
- To assess time, skills and capacities for implementation.

Learning objectives for students

- Raise awareness of the cultural mediation role of design artefacts and design practice
- Familiarise students with basic communication, semiotics and cultural reproduction theories and tools
- Provide methods for the identification and selection of favourable codes to elaborate a good 'cultural fit' and acceptance of their innovations.

Workshop Format

The session will be structured as a workshop comprising three sessions:

- Session 1 – Introduction
- Session 2 – Tools Testing
- Session 3 – Context Mapping for your project

Theory will be delivered in small blocks of 20-25 minutes, followed by a practical activity to consolidate knowledge (30-40 minutes including presentation/discussion)

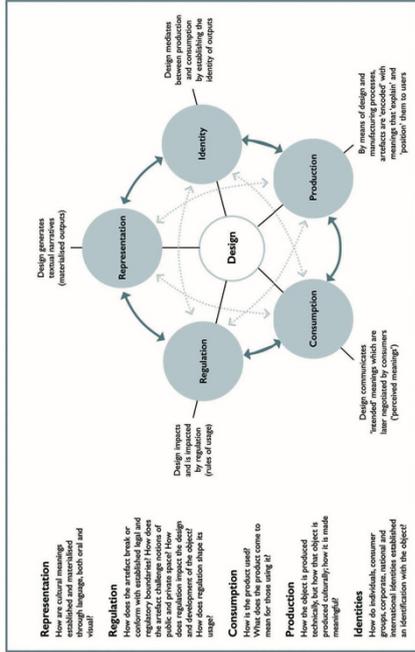
Session 1 – Introduction (60 minutes) – Theory

Format: Lecture slides (20 min)

Content:

- Introduction to theory and principles of semiotics (signification), cultural reproduction (representation) and design.
- Link to module activities and outcome (four pillar model of sustainability).

Sustainability Dimension	Factors that may be considered by Design	Three Pillar Model	Four Pillar Model
Environmental	sPSS innovation provides environmental benefits (e.g. low resource consumption)	✓	✓
Economic	sPSS innovation is economically viable and self-sustainable	✓	✓
Social	sPSS innovation provides social value (e.g. social cohesion, job generation, social inclusion)	✓	✓
Cultural	sPSS innovation is widely diffused and assimilated in its context as an improvement to quality of life	?	✓



Prompt: The 'things' we design derive consequences – good design can be transformative

What about bad design?

Activity

Format: Group activity, guided by tutor with templates/material provided.

Content: Part 1 – Analyse a product using the Circuit of Culture.

Part 2 – Analyse a service touch points using the Circuit of Culture.

Session 2 – Tools Testing

Theory 1 (15 min)

Format: Lecture slides

Content:

- Introduction to the concept of 'symbolic value'.
- Introduction to PSS feature design (environmental, practical and symbolic functions).

+ Moving from good to great

Designing desirability features in sustainable Product-Service Systems

Usability **Utility**

Pleasurability

"Pleasurability is about how the whole solution makes you feel. It relates to a sum of the details within your service and often relates this to culture from the world outside" – Simon Clarkworthy, This is Service Design

Activity 1 (15 min)

Format: Group work, assisted by tutor throughout.

Content:

- Part 2 – Case study. Students analyse a provided product/service example in light of benefits, aiming to articulate as much as possible on symbolic aspects. (3 Jam jars, Co-wheels vs Drive Now)

Theory + Activity 2 (65 minutes)

- Tutor to introduce code mapping tools (RDE, Semiotic Square, etc.). Students work on templates to produce analysis.
- Discussion
- Tutor to summarise and present activity for after break.

BREAK (15 min)

Session 3 – Code mapping for your project

Theory 3 (10 min)

- Introduction to Conf[ext] framework

Activity 3 (40 min)

Format: Group activity

Content:

- Students use framework and methods (tools) to produce a 'code map' of established cultural practices and aesthetic associations in relation to their chosen user group and context.
- Discussion.
- Introduce online tools such as RealTimeBoard.com
- Tutor conclusion on how to take this map forward throughout the design process, and improve it further through prototype testing phase
- Expectations about how the use of the code map will be recorded in log diary and reflection assignments

E4 – Lecture Slides

Exploring Context & Sustainability

Laura Santamaria

Session structure

- Part 1 – Why explore context?
- Part 2 – Methods & tools
- Part 3 – Context mapping for your project

Part 1 Why explore context?

Context in Design for Services

Sociocultural Context
Peoples' habits, values, behaviours and aspirations

Creating great services

We create value through 3 key ingredients

Getting to know the culture of our users by researching 'the world outside'

Studying the context

is about understanding users

on their own

and

as social beings

- on their own**
 - Personal habits & routines
 - Behaviours
 - Preferences
 - Cognitive aspects common to all humans
 - Personal values
- as social beings**
 - Cultural expectations & values
 - Ideals of achievement & worth
 - Social adequacy/inclusion
 - Their identity
 - Cultural values
 - Peer influence

User and context research

on their own

Directly

- Interviews
- Observations
- Questionnaires
- Focus groups

explicit evident conscious

and

as social beings

Indirectly

Researching the 'cultural landscape' where the users are immersed

implicit imperceptible unconscious

Human-centred approach

(Meroni & Sangiorgi, 2011)

What do we look for?

users as social beings

Researching the 'cultural landscape' where the users are immersed

Indirectly
we analyse the representations where tacit meanings materialise

implicit imperceptible unconscious

social rules, conventions and aesthetic associations called 'cultural codes'

A design artefact in context...

...is subject to a 'circle' of cultural reproduction

Regulation
How does the artefact break or conform with established legal and regulatory boundaries? How does the artefact challenge notions of public and private space? How does regulation impact the design and development of the object? How does regulation shape its usage?

Representation
The establishment of cultural meaning through language, both oral and visual.

Identities
How individuals, consumer groups, corporate, national and international identities established an identification with the object.

Production
How the object is produced technically but how that object is produced culturally; how it is made meaningful?

Consumption
How is the product used? What does the product come to mean for those using it?

(du Gay et al., 2014)

The 'things' we design bear consequences for user and context

based on Zingale & Domingues, 2018

Studying context allows us to be informed about the possible interpretations, meanings and uses the service will bear in that space [consequences]

Design Logic Intention

But also, it allows us to align our service with the values, aspirations and identity of our particular user group, and so aim to improve their quality of life [user experience]

Let's try it out ...

activity 1

- Analyse these products using the Circle of Culture
- Analyse these services in the same way, by looking at the touchpoints provided

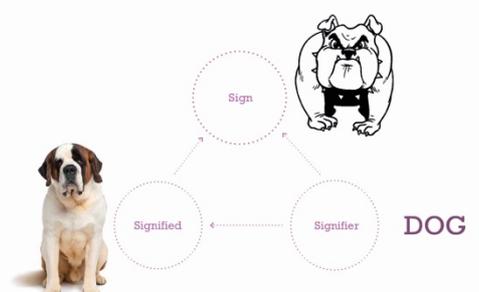
Part 2

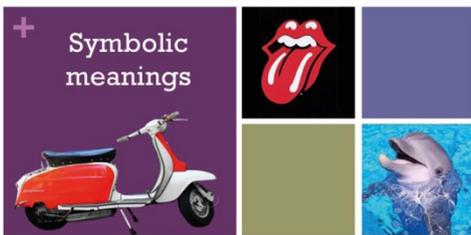
Methodological approach for mapping contextual clues

Hi guys, how are you doing?

<p>Good morning ladies and gentlemen</p> <p>Welcome.</p>	<p>Good morning ladies and gentlemen</p> <p>Welcome.</p> <p>HI GUYS, HOW ARE YOU DOING?</p>
--	--

<p>+ What is semiotics?</p>  <p>semiotics / si.mi'ɒtiks, sɛm-i-ɔː/ noun the study of signs and symbols and their use or interpretation.</p>	<p>+ Signs, symbols and codes are our cultural 'software'</p> 
---	---

<p>How representation works</p>  <p>DOG</p>	<p>+ Content + form</p>  <p>The 'how' as well as the 'what' in communication</p>
---	--

<p>+ Symbolic meanings</p>  <p>Denotation (the literal) & connotation (the symbolic)</p> <p>Nuances and emotional meanings that come with specific signifiers.</p> 	<p>+ Ideology & positions</p>  <p>How we are positioned and interpolated by communication, e.g. referring to people as consumers</p>
---	--



In language, visual signs, music, media, radio, TV, digital and material culture – all areas of design.

+ Semiotics draws from

- Linguistics
- Ethnography
- Popular culture
- Design
- Cognitive science
- Communication theory
- Mass media
- Discourse analysis

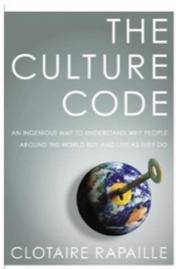
+ Applied or commercial semiotics

- Starts in the 1990s in Europe
- Mixes 'structuralist' and 'pragmatist' approaches
- Is used by large corporations and brands (complements traditional market research) for product innovation, brand positioning and cross cultural product launch

Code mapping – Themes

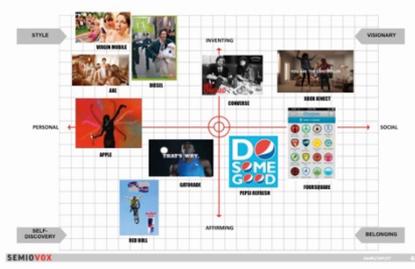
Small car category themes





Positioning in culture

Youth culture brands positioning



Emergent codes

New meanings and themes, or old meanings played in new ways in popular culture



Design Logic Intention

Service Design for Social Innovation

A four pillar approach to sustainability



- ✓ **Environmental** innovation provides environmental benefits (e.g. low resource consumption)
- ✓ **Economic** innovation is economically viable and self-sustainable
- ✓ **Social** innovation provides social value (e.g. social cohesion, job generation, social inclusion)
- ✓ **Cultural** innovation is assimilated in its context and adds to users' quality of life

Let's try it out ...

Analyse these services' features using the chart provided



To summarise,

Code mapping is used by large brands and corporations to develop and position products, services and brands successfully in the market

These tools we used today can help us develop sustainable design that bears a greater 'cultural resonance' with the user, increasing their potential to become more popular and widespread, thus, contributing to a cultural switch towards more sustainable lifestyles

Designers necessarily employ codes all the time, but use them more unconsciously than strategically. In sustainable social innovation, code mapping is not being used strategically enough to construct symbolic features that enhance the appeal of social innovations

**Part 3
Case study and
templates for code
mapping**

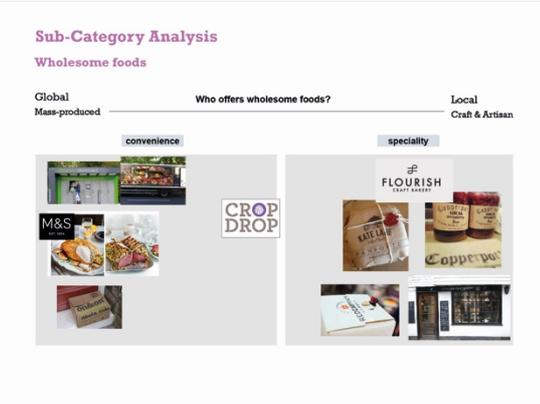
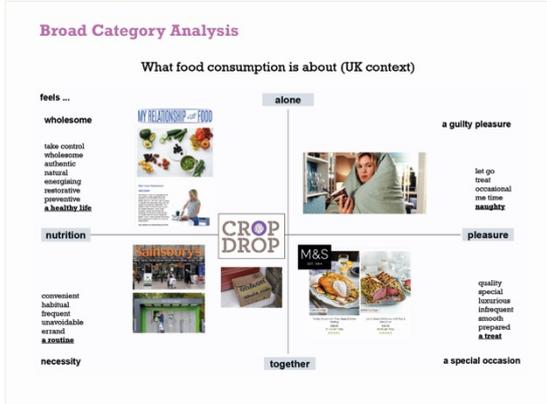
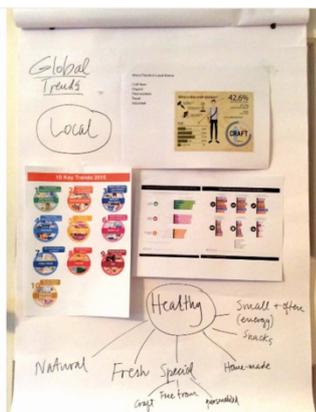


Case study



Service Blueprint

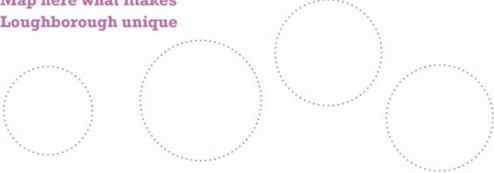
Spotting capacity and requirements to serve a wider customer base



Map here the local version of global trends

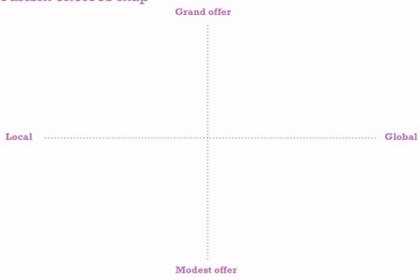


Map here what makes Loughborough unique



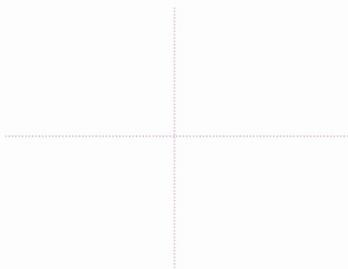
Summarise these into a 'sense of place'

Market positioning
Putting Loughborough in the tourism choices map



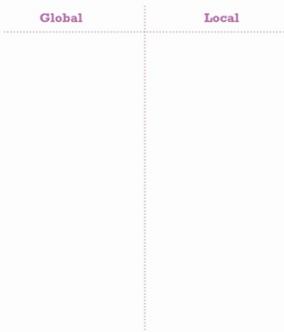
Competitor positioning

Consider Loughborough tourist offer in comparison with other neighbouring cities and towns

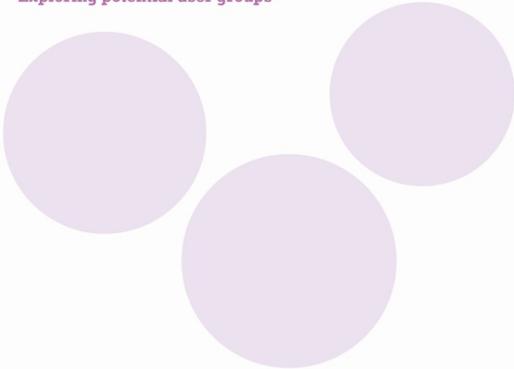


Offer definition

What does it mean to be a 'local' provider?



Exploring potential user groups



Personas



Map lifestyle references visually

By studying the user lifestyle choices, we can tailor the services offer and touch points to 'speak their language', and in essence a better customer experience.

Appendices

How is the meaning of tourism changing?

Classify images according to these three categories

Residual

- Around for some time, dated
- Out of step with cultural context
- Potential to revive residual meanings

Dominant

- Heavily played codes in popular culture
- The mood of today
- Current norms

Emergent

- New ways of thinking and styles of communication
- Not always consciously identified by users
- First clues and expressions of future norms

Contextual code map

Summarise your insights in this map, so you can use it during the design and prototyping phases

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What we expect you to do with your contextual map

- You need to improve it as your research progresses
- Use [Prezi.com](https://prezi.com) or [RealTimeBoard.com](https://realtimeboard.com) to create an online version so you can all share and contribute
- You need to refer to it during ideation & prototyping, to ensure that
 - your service offer (value proposition) is in line with the user's values, aspirations and expectations.
 - your design representations (brand + touch points) speak the user's 'language'. If they don't, they will be out of their 'radar'

Remember to note in your log books when, how and why you are using these tools.

Further reading

Du Gay, P., Hall, S., Janes, L., Madsen, A., Mackay, H., & Negus, K. (2013). *Doing Cultural Studies: The Story of the Sony Walkman* (Second Ed.). London: SAGE.

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Lakoff, G. & Johnson M. (1981) *Metaphors We Live By*, University of Chicago Press; New edition edition. ISBN: 978-0226468013

Chandler, D. (2007). *Semiotics: The Basics*. Journal of Pragmatics (Second ed., Vol. 35). Routledge/Taylor & Francis Group.

Floch, J. (2000). *Visual Identities*. London: Continuum.

Oswald, L.R., 2015. *Creating Value: The Theory and Practice of Marketing Semiotics Research*. Oxford University Press, Oxford, UK.

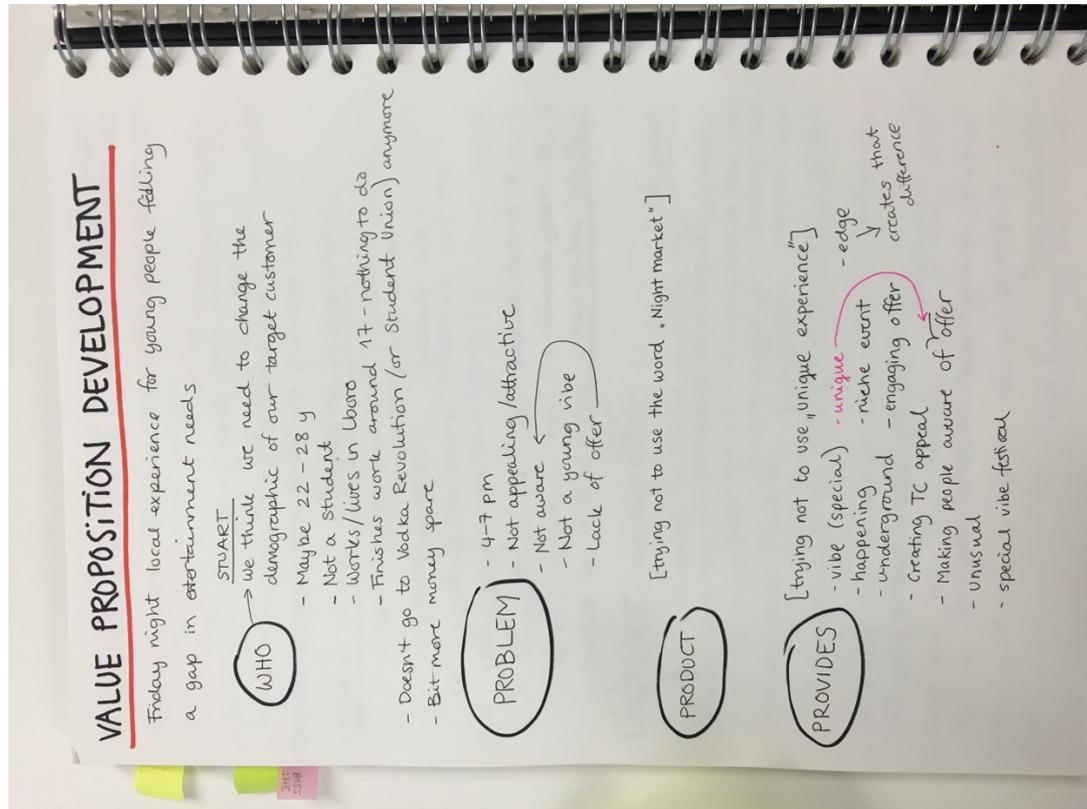
Oswald, L. R. (2012). *Marketing Semiotics: Signs, Strategies, and Brand Value*. Oxford, UK: Oxford University Press.

Rapaille, C. (2007). *The Culture Code: An Ingenious Way to Understand Why People Around the World Live and Buy as They Do* (Paperback). Crown Business

E5 – Feature Analysis Tool

Innovation feature analysis		
Environmental Features	How is the innovation sustainable?	
Functional Features	<ul style="list-style-type: none"> • What are the practical benefits that your innovation offers? • Saves money • Saves time • Is more convenient than existing options ... • It works 	
Symbolic Features	<ul style="list-style-type: none"> • What sort of symbolic associations should your innovation convey? • I feel connected • I feel important • I feel proud • I feel knowledgeable • I feel like a hero • I feel like a winner • I show that I care • It's the cool thing to do • It's fun • I feel important • I feel respected • I feel I stand out from the crowd • I feel worth it • It makes me happy 	

E6 – Student Logbooks and reflection assessment samples



I came into this project very enthusiastic about learning more about service design. And I truly believe that I did, although I felt our group dynamics took a lot of attention from spending time on applying what we had learned. I'm currently on my 4th year of an Industrial Design degree, and I have had a lot of experience with different teams. The feedback that I have previously received is that I work efficiently, I am thorough and I am comfortable in a leading role. Constructive feedback I have received is that I can be too detail oriented and micromanage things and I can be too focused on how things look graphically and I take on too much. These are things that I wanted to work on in this module.

Understanding the concept

The concept that we landed on, the night market, was a challenge for the group. The fact that it ended up being more about the experience and less of a tangible concept, made it difficult to grasp ourselves and to discuss as a group. The cultural and age differences made this even harder. We spent a lot of time going back and forth. And it became very apparent after the second presentation that we hadn't really collectively wrapped our heads around it. This became much clearer when we pinned down the value proposition and three brand identity words: Engaging, Underground and Quirky, which we should have done sooner.

Group dynamics

It was hard to get everyone onboard. I think cultural and language barriers made it difficult, so I tried to ask open questions eg.: "What do you think we should do?" to encourage independent thinking and also boost motivation and ownership for the project. The challenging with this, was when I didn't get a response or that I already had some suggestions in my mind, and what they said deviated drastically from what I thought was right. I actively tried to not push my ideas on them, but rather come up with a solution through discussion. What happened a bit too often was it ended up as a one way discussion and the result was going through with my idea. I realise that I controlled the situation and because of time pressure I didn't encourage everyone to participate as much.

Our group consisted of especially three members who had very strong opinions. Into the later stages of the project this became an obstacle for our progress as we often didn't have the same views. What I found useful in this situation was to try and let everyone have their say without being interrupted before discussing it. I think that it's important in teams that everyone feels that they are being heard. This, unfortunately was something that faded somewhat as the pressure came rolling in, and frustration kicked in.

Communication

We did have a few miscommunications in the group, where some of the group members thought we were focusing on one concept, while the rest of the group had decided on another concept. This led to some misunderstandings and frustrations. From this I learned that if a team member can't attend a meeting, they should always receive a short summary of that meeting.

We had a situation where one of the members became clearly upset after a discussion. I sent her an email after the meeting where I asked her about it and also explained that it is important that we as a team can discuss and disagree without it being any hard feelings afterward. She took it really well and I felt I understood her a little better after that. In hindsight, this was probably a conversation we could have had face-to-face as it is a very delicate subject, and the high probability of misunderstandings in written language.

Appendix F – Experts’ Evaluation

FI – Expert Consultation Data Analysis Sample

Anna Meroni – PSS and Sustainable Food Expert. Interview Analysis

Topic	Quote	Reflections
Sustainability discourse preconceptions	'I wonder if there is another way round in which... We are people that could adopt some behaviours if they don't relate it with sustainability. Because, it's not necessarily 'cool' to be sustainable ... I mean, I think people still relate it with sacrifice and deprivation...'	Participant agrees with sustainability discourse representation problems ...
<p>Theory – How do you know what framing works? Did you test with users?</p> <p>[Yes, I understand what you are saying. The typical marketing study, A and B testing in focus groups]</p> <p>[this assertion is based on prospect theory, which has already evidenced how framing works. Recent studies of framing bias tailored to climate change messaging confirm it. Social Psychology]</p> <p>[to be able to test with users, we have to conduct analysis and why we didn't go that way, was that a lot of people say that they prefer environmental options and they don't follow with their actions.]</p> <p>[there is evidence that supports that people will actually go for things that benefit them, and also looking at the categories of products, or services, that are more accepted in culture, or more widespread, for instance, the organic phenomenon builds on personal benefit, direct benefit to the user. So that is what I mean with this. Is not that this [environmental option] is not valid, it's just that it's too narrow and linked with an ideology that is niche.]</p>	<p>here it says, 'are not optimal for people' how you can say that eco and environmental discursive frames are 'not'. How can you say that? how did you come to that conclusion?</p> <p>at some point you have to come to a certain confrontation with people to measure the result and impact of the method...</p> <p>very interesting for me... if you can bring details... evidence...</p>	<p>... but had issues with validity of results from semiotic analysis [these were presented as conclusive evidence, without presenting the analysis methods due to lack of time]</p> <p>Did not consider as evidence because it was not tested with users.</p> <p>Researcher argument valid but could be stronger, more logical. Be more clear in discriminating what the theory is, and what it does, based on <u>existing</u> framing/prospect theory evidence.</p>
<p>Tools – Contextual map Contribution</p> <p>[So, this is the typical Personas profile that you'd have in an exercise of service design, especially at this grassroots level [of social enterprise] because maybe a big company will do a lot more. Now, this lifestyle references are what we are starting to map. So, this is a kind of mood board of the lifestyle of the person, and when you look at those, you start to see similarities, for example, the use of the colour black here, and here, and here. OK, that's a visual thing, yeah, and then, what else do we look for? Well, they like Etsy, they like the charity shop and they like outdoor lifestyle so, there is an appreciation for curation, and individuality, craftsmanship, and uniqueness. There we are mapping appreciated values.]</p> <p>[the template is for insights to be summarised, visual references of the user lifestyle are mapped and analysed, and codes/themes are extracted for 3 categories: aesthetic, aspirational values and lifestyle practices]</p>	<p><i>How do visual codes translate to services?</i> for example, the code of sophistication, how do you... can you translate this thing to a service? can you give me a case? Something to extrapolate, because, earlier on, you showed me a picture of a sophisticated lady – I can recognise that from my own culture, but when we are talking about a vegetable box scheme, what is the cultural code that you have mapped?</p>	<p>If it is found that users appreciate 'sophistication' that concept will need to be explored using semiotic methods to analyse representations of that concept, in relation to context and user group. Then, the codes and practices of the user group that appreciate sophistication are mapped.</p> <p>Those codes are then applied to construct a value proposition, and deliver that proposition consistently via service brand and touchpoints that incorporate the codes.</p> <p>So, in essence, the codes are 'reference criteria' or 'design constraints' for designing touchpoints and service experiences.</p> <p>Developing the value proposition in this manner, it's an exercise of sense making where the designer reconciles and aligns the innovator's intention/ideals/values with the user's interest. Creativity comes from uniting two apparently disconnected strands and finding synergy between the two (John Wood)</p>
<p>Framework's value</p> <p>[the intention is not only to 'fit in' but to anticipate customer's unarticulated expectations, mental accounting (gain vs loss) and appeal to emotional factors of decision making through by benchmarking their aesthetic preferences and sensibilities. This information should serve the designer/innovator to devise better informed strategies]</p>	<p>this is a good kind of reflection about cultural codes and how to deliver services or products which, in a way, match the cultural codes...</p>	<p>This could be interpreted as an exercise by which we try to 'fit in' the innovation, and it appears that we are not really innovating. However, what code mapping provides is an eagle's view of the innovation's territory, a map to navigate through the landscape. How much we decide to 'stand out' or 'mimicize' with the context by adopting or breaking the codes is a decision to be made by the designer or stakeholders. There is leverage there to play in terms of the objectives. And that gives possibilities to prototype diverse solutions and perhaps test them with the targeted user group to decide which strategy suits best.</p>

F2 – Focus Group Session, Participant Details

Code	Name	Nationality	Occupation
MJ	Máira Prestes Joly	Brazil	PhD Researcher, University of Rio de Janeiro Marie Curie Research Program, Service Design for Innovation
PP	Paola Pierri	Italy (works in UK)	PhD Researcher and practitioner Supervised by Alison Prendiville (uca) Service Design and Innovation Manager at Mind UK
JV	Josina Vink	Canada	PhD Researcher Supervised by Bo Edvardsson (Karland) Josina Vink is a strategist and systems designer who works on disruptive innovations in the field of health and community development
ED	Emile Devereaux	USA (works in UK)	Lecturer, University of Brighton (interaction and participatory design) Research expertise: Critical Gender Studies, Digital Art and Design, Digital Cartography, Digital Culture, Interaction design, media history and theory, Tactical Media, Visual Studies
LS	Linus Schaaf	Finland (works in Germany)	Ph.D-Candidate at Volkswagen AG, Wolfsburg, Germany Automotive
AS	Antonio Starnino	Canada (works in UK and Italy)	Service Designer at Take (Service Design Agency, Milan) Note: Participated in my PAR in Greece
SC	Prof. Simon Clatworthy	Norway	Professor of Interaction Design Bridges multiple disciplines from marketing, organisational design, change management and service design
CC	Prof. Carla Cipolla	Brazil	Professor of Design and Innovation, Federal University de Rio de Janeiro

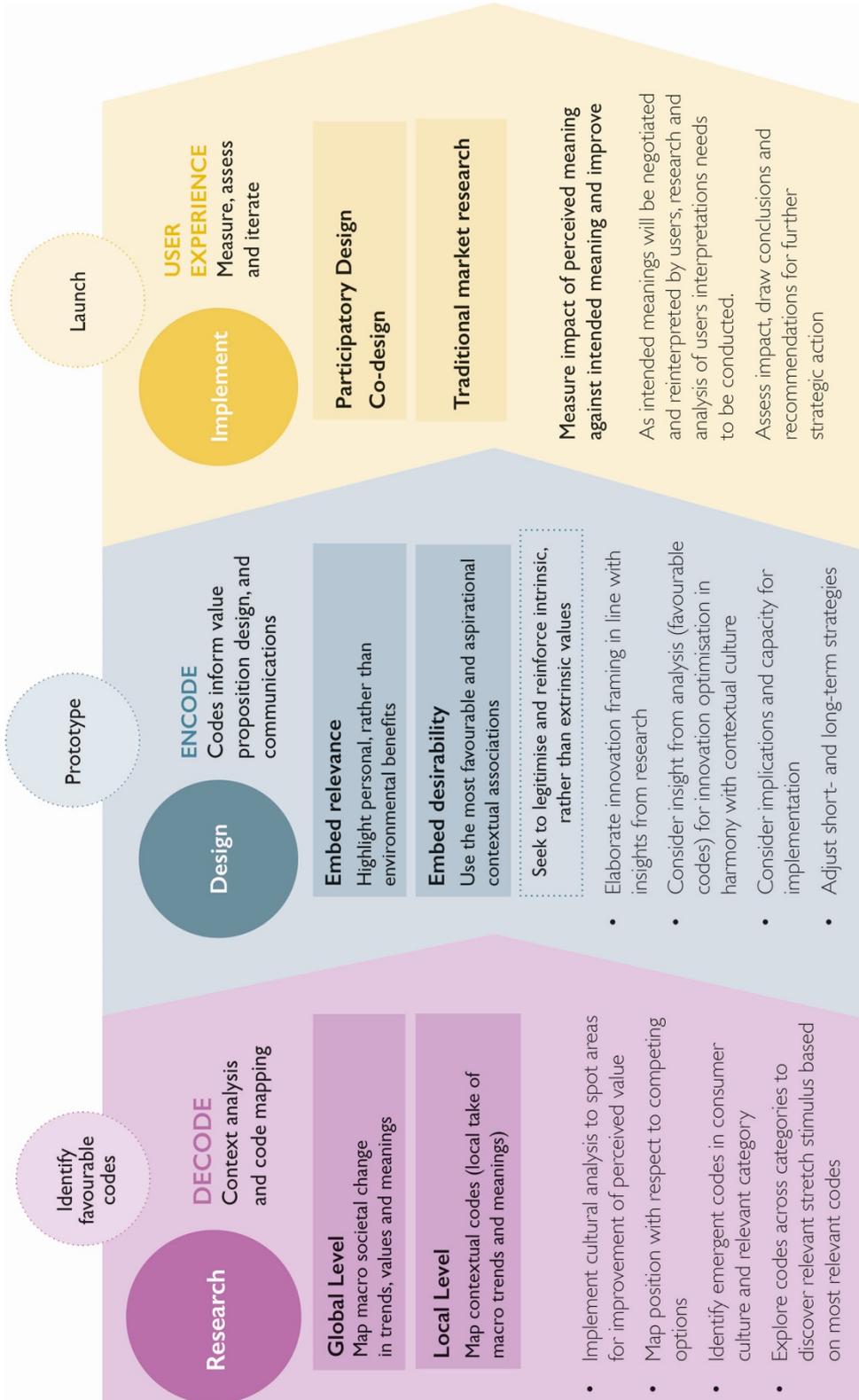
Appendix G – Service Design Tools

Design methods for developing services, (Technology Strategy Board/Design Council)

Process stage	Purpose/objective	Tool	Description
Discover	Identify the problem, opportunity or needs to be addressed through design <ul style="list-style-type: none"> • Define the solution space • Build a rich knowledge resource with inspiration and insights. 	User Journey Mapping	A visual representation of a user's journey through a service, showing all the different interactions they have. This allows us to see what parts of the service work for the user (magic moments) and what parts might need improving (pain points). A User Journey Map takes the user's point of view and explains their actual experience of the service.
		User Diaries and Cultural Probes	A method for gathering in-depth qualitative information from users by giving them a way of recording away from researchers. It allows people to tell about their own lives in their own time, and explain what they do over a number of days or weeks. This basic information can be supplemented with additional questions or tasks. Sometimes cameras or other documentation equipment is provided to gather visual feedback for researchers.
		Service Safari	A research method for understanding services. Researchers go 'on location' and experience a service first hand to find out what service experiences are like. A Service Safari might be focused on a particular service (like going to Tesco), or type of services (like going to a supermarket). Alternatively it might look at a wider range of services to get an idea about what makes a positive service experience (like services where I can buy food).
		User Shadowing	A research method for understanding how people interact with the world around them (including services). It involves observing a user directly to identify and understand their needs. Researchers follow a particular person as they go about their lives or use a service and document what happens in an unobtrusive way.
Define	<ul style="list-style-type: none"> • Analyse the outputs of the Discover phase • Synthesise the findings into a reduced number of opportunities • Define a clear brief for sign off by all stakeholders 	User Personas	A character that embodies user research in an easily identifiable and understandable form. It brings together lots of information about similar people to create a single character that represents the group. Personas are normally created as a set, showing different types of users with different needs. User personas can be communicated in a wide variety of formats but are normally a combination of images and text. A Persona can cover information such as name, age, occupation, where they live, family, hobbies & interests, likes & dislikes, and most importantly needs.
		Brainstorming	Ideation techniques are used to generate alternative solutions and opportunities quickly. They identify the most interesting or important ideas to take forward as part of the design process. Brainstorming is particularly useful to break out of established patterns of thinking, and develop new ways of looking at things. It also helps overcome many of the issues that can make group problem solving a difficult or unsatisfactory process.
		Design Brief	A clear definition of the fundamental challenge or problem to be addressed through a design-led product or service. It is a structured statement that outlines goals, constraints, budgets and timelines. It communicates project outcomes, identifies potential risks and highlights how these will be mitigated
Develop	Develop the initial brief into a product or service for implementation <ul style="list-style-type: none"> • Design service components in detail and as part of a holistic experience • Iteratively test concepts with end users. 	Service Blueprinting	A detailed visual representation of the total service over time - showing the user's journey, all the different touchpoints and channels, as well as the behind the scenes parts of a service that make it work. A Service Blueprint helps everyone involved in delivering the service understand their role and ensure the user has a coherent experience.
		Experience Prototyping	Experience Prototyping is a way of testing new service ideas or designs for specific touchpoints. Experience Prototypes are about communicating what the experience will be like and allow the design team to test and refine their solutions with potential users. They also help build buying from partners and other stakeholders. Making prototypes 'early, ugly & often' is important in the design process. Experience Prototypes don't need to be refined or take a long time to make, it is more important to create something quickly, test it, and then iterate the design. They can vary from paper sketches, to a physical model, to a fully acted out service.
		Business Model Canvas	The Business Model Canvas is a visual tool for describing and developing business models. Created by Alex Osterwalder and popularised in his book Business Model Generation, it can be applied to both new and existing services.
Deliver	<ul style="list-style-type: none"> • Taking product or service to launch • Ensure customer feedback mechanisms are in place • Share lessons from development process back into the organisation 	Scenarios	Design scenarios are stories of a future situation or service. By creating a concrete story about a potential future, or set of futures, Design Scenarios help create shared understanding and enable meaningful discussion. While Scenarios are used as a tool across strategy and management disciplines, within service design they are mostly used as communications tools and emphasise storytelling and narrative.

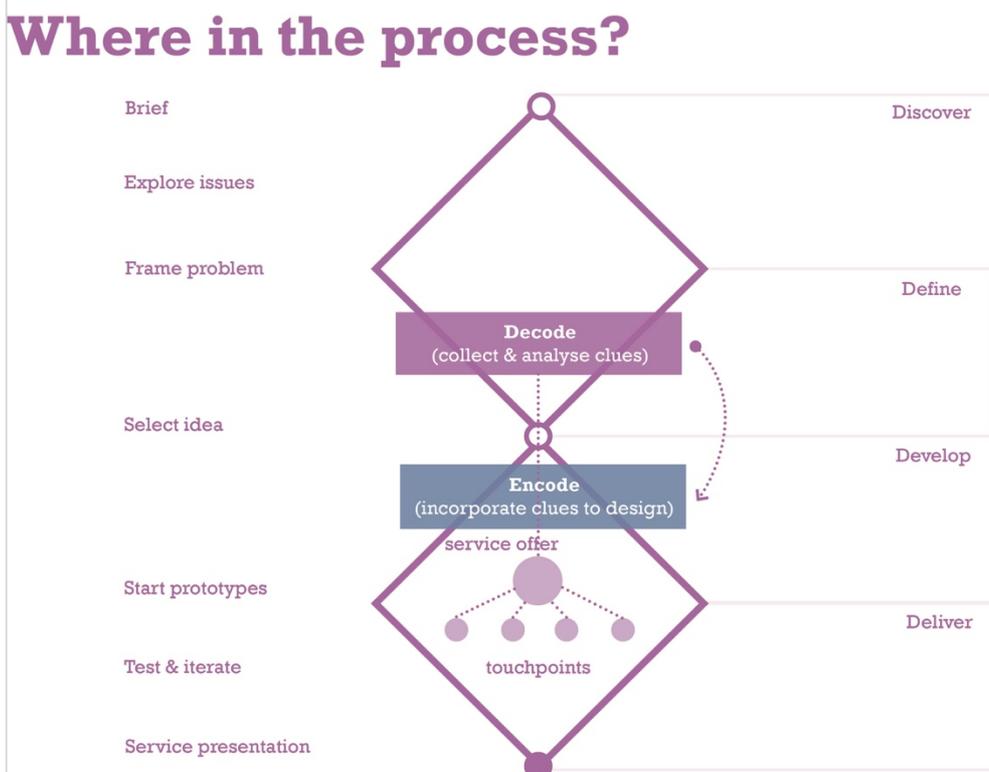
Appendix H – Research Contribution

HI – Con[*text*] Framework

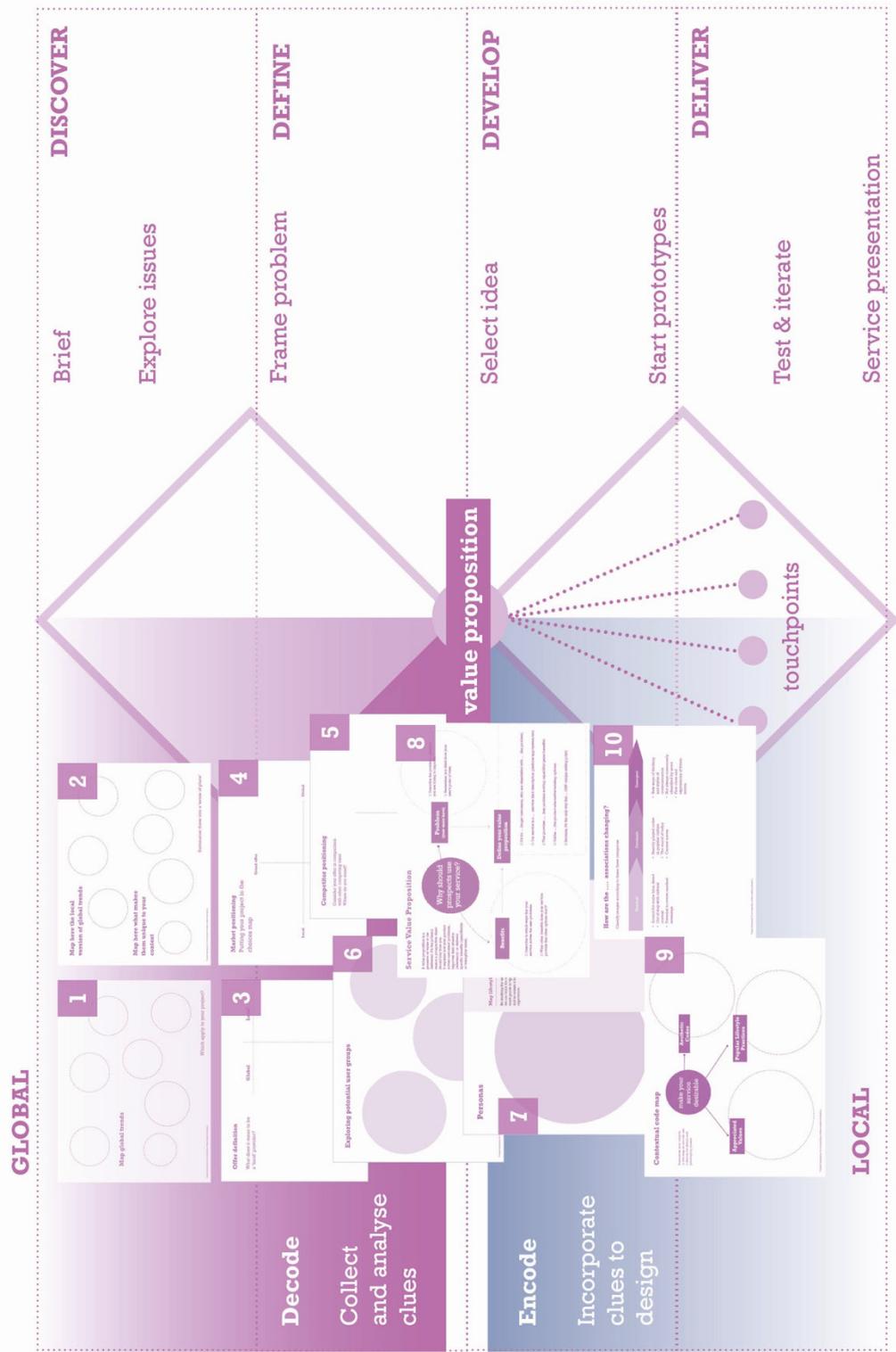


H2 – Templates to support the application of methods and activities

Tools for exploring context and summarising insights



Using the activity templates



1

Example

Mapping global trends

Local foods

Experiences over stuff

Pre-industrial era

Make-do and mend

Craft & artisan

Vintage

digital networked savvy

Healthy lifestyles

authenticity

Global Trends

Local

Healthy

- Small + often (energy) Snacks
- Home-made
- Special
- Fresh
- Natural
- Free from
- Craft
- personalised

10 Key Trends 2015

Who is the craft drinker? 42.6%

Micro Trends in Local Drinks

Craft Beer
Organic
Flavoured
Tea
Vintner

2

Map the strongest global trends

Example

Mobile & smart tech use

Gaming

Sharing

Map here how these relate to your brief

Example

Digitally-enabled engagement

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Offer definition

Map on the right column key characteristics of your solution.
On the left column, list the opposite concept

Example

Global	Local
mass-produced	crafted
generic	personal

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3

Offer definition

What does it mean to be a 'local' provider?

Defining the Local as an opposite to the Global

Global	Local
Artificial	Natural
Present	Future
Individual	Collective
Ordinary	Luxurious
Common	Special
Affordable	Expensive
High-tech	Low-tech
Immediacy	Nostalgia
Familiar	Rare
Habitual	Infrequent
Mass-produced	Artisan
Prepared	Raw
Smooth	Rough
Unoriginal	Authentic
Quantity	Quality



Retro Revival



Urban modern



Adventure



Map category themes

What are the key concepts currently being used in your sector?

Example
The 'small car' category

Young couple



First car



Singles



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4

Sub-Category Analysis

Wholesome foods

Global
Mass-produced

Who offers wholesome foods?

Local
Craft & Artisan

convenience



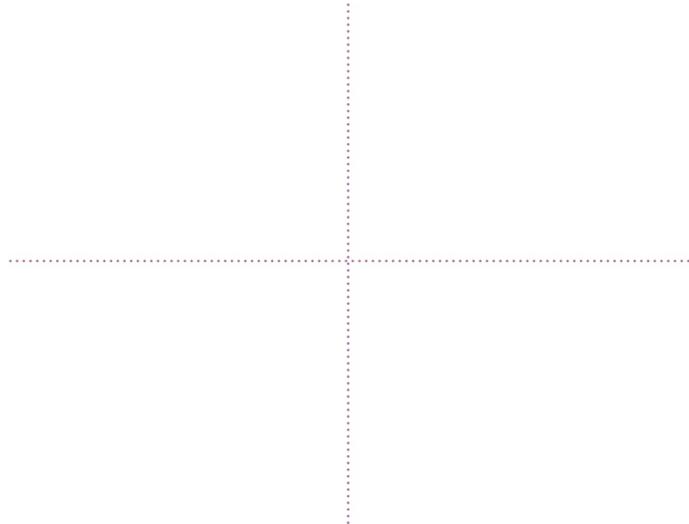
speciality



4

Broad category analysis

How is this market shared?



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Example

Broad Category Analysis

What food consumption is about (UK context)

feels ...

wholesome

take control
wholesome
authentic
natural
energising
restorative
preventive
a healthy life



alone

a guilty pleasure



let go
treat
occasional
me time
naughty

nutrition

CROP DROP

pleasure

convenient
habitual
frequent
unavoidable
errand
a routine



quality
special
luxurious
infrequent
smooth
prepared
a treat

necessity

together

a special occasion

Market positioning

Map your solution and your competitors

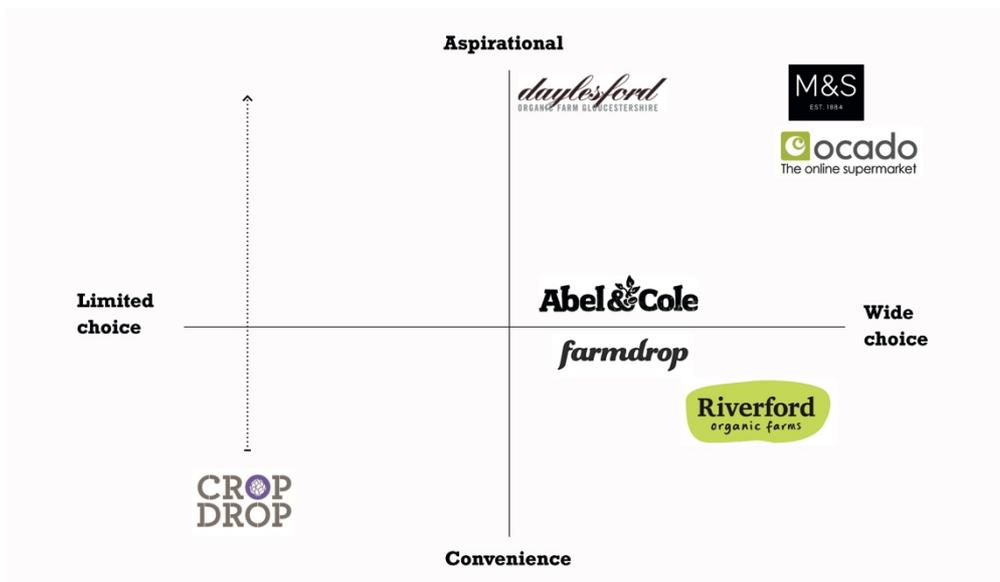
Example



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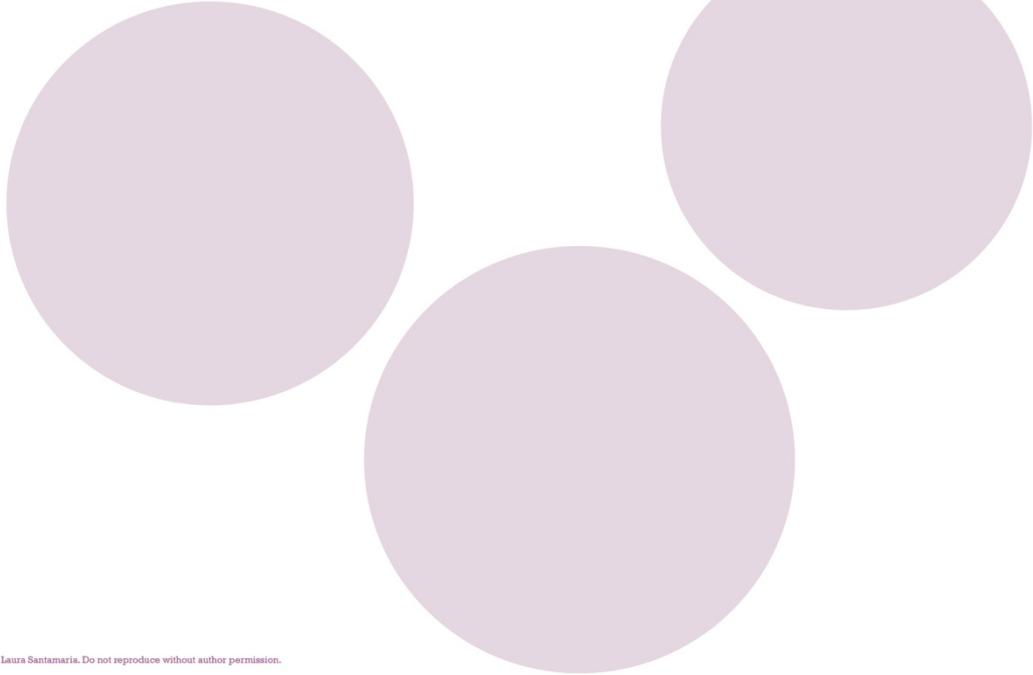
Market positioning

Wholesome foods



6

Exploring potential user groups



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Exploring potential user groups

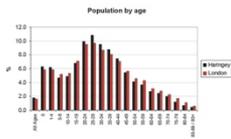
The Haringey People



Singles and young couples

20-25 6.8%

All Ages	Haringey	London	%	Haringey	London	%
0-4	1000	1000	1.0	1000	1000	1.0
5-9	1000	1000	1.0	1000	1000	1.0
10-14	1000	1000	1.0	1000	1000	1.0
15-19	1000	1000	1.0	1000	1000	1.0
20-24	1000	1000	1.0	1000	1000	1.0
25-29	1000	1000	1.0	1000	1000	1.0
30-34	1000	1000	1.0	1000	1000	1.0
35-39	1000	1000	1.0	1000	1000	1.0
40-44	1000	1000	1.0	1000	1000	1.0
45-49	1000	1000	1.0	1000	1000	1.0
50-54	1000	1000	1.0	1000	1000	1.0
55-59	1000	1000	1.0	1000	1000	1.0
60-64	1000	1000	1.0	1000	1000	1.0
65-69	1000	1000	1.0	1000	1000	1.0
70-74	1000	1000	1.0	1000	1000	1.0
75-79	1000	1000	1.0	1000	1000	1.0
80-84	1000	1000	1.0	1000	1000	1.0
85-89	1000	1000	1.0	1000	1000	1.0
90-94	1000	1000	1.0	1000	1000	1.0
95-99	1000	1000	1.0	1000	1000	1.0
100+	1000	1000	1.0	1000	1000	1.0



Settled families

35-49 25.8%

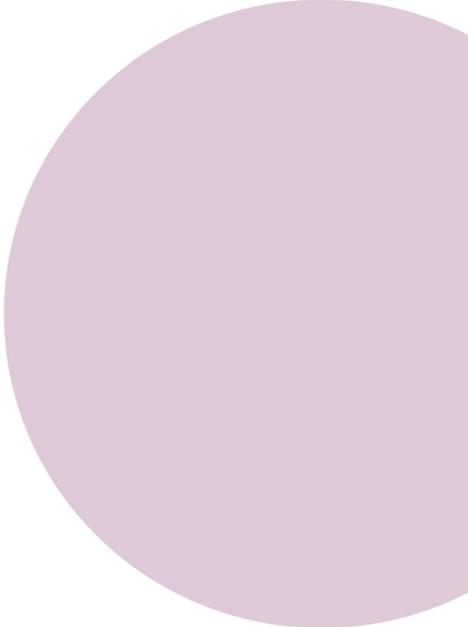
Young & progressive families

Crop Drop wants to sell a larger volume of veg (or larger bags). We need to look into which households are more likely and willing to eat veg on a more regular basis, but also open to the concept of eating seasonal, unconventional veg, which means they are resourceful and creative with their cooking.

25-34 20.7%



User Persona



7

Map lifestyle in visual references

By studying the user lifestyle choices, we can tailor the service offer and touch points to 'speak their language', and so ensure a better customer experience.

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Personas



The progressive young family of north London

This type of family is our preferred customer, because their values align closest with Crop Drop's proposition. Many Crop Drop current customers fit this type. By studying their lifestyle choices, we can tailor Crop Drop's products, service and communications to 'speak their language', and so ensure a better customer experience.

Job: Creative, flexible, part-time, freelance.

Kids: 1 or 2, aged under 7.

Household Income: £30–40K

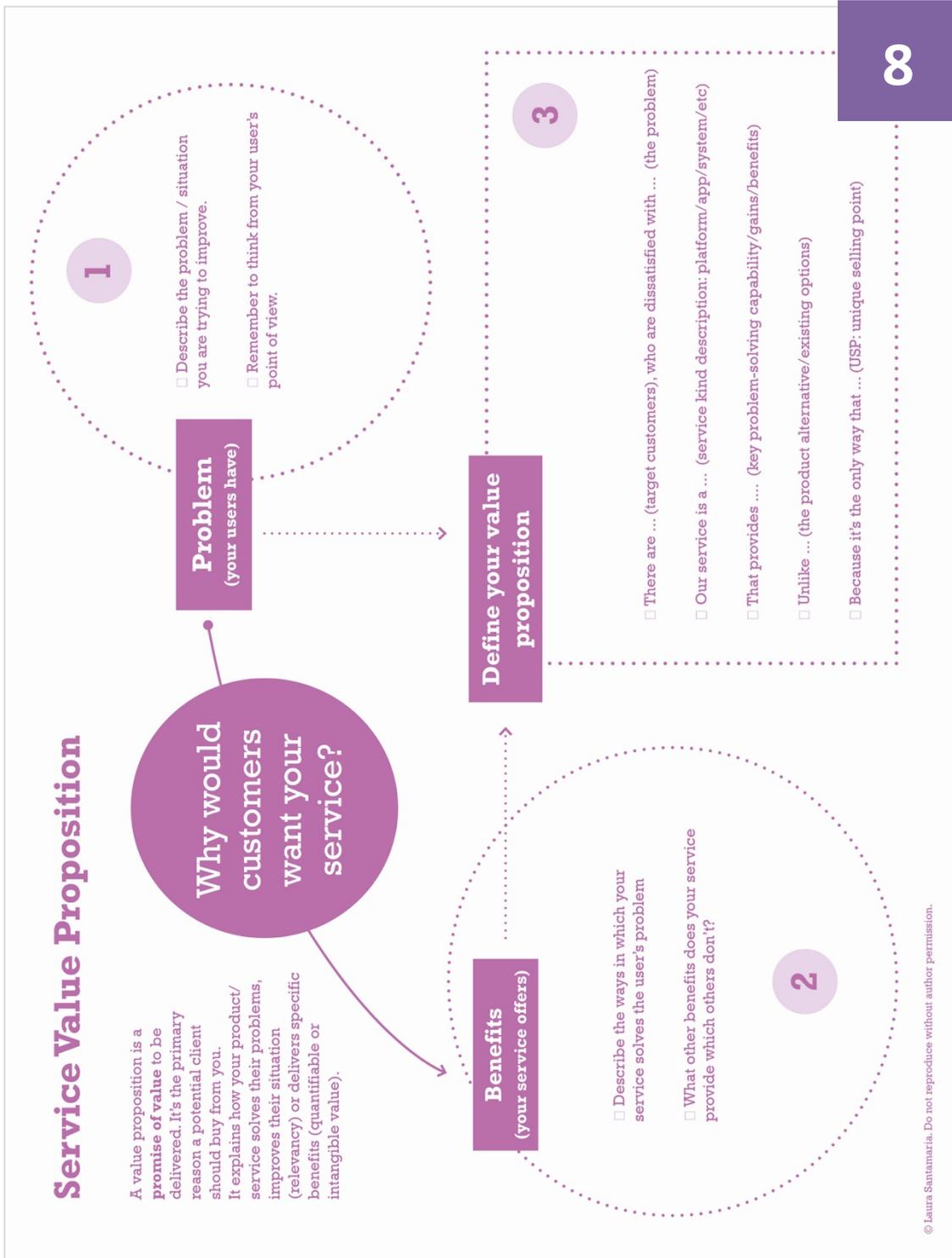
Mobility: Car, but don't use it much; cycles to work. Kids in local school. Shop locally and online.

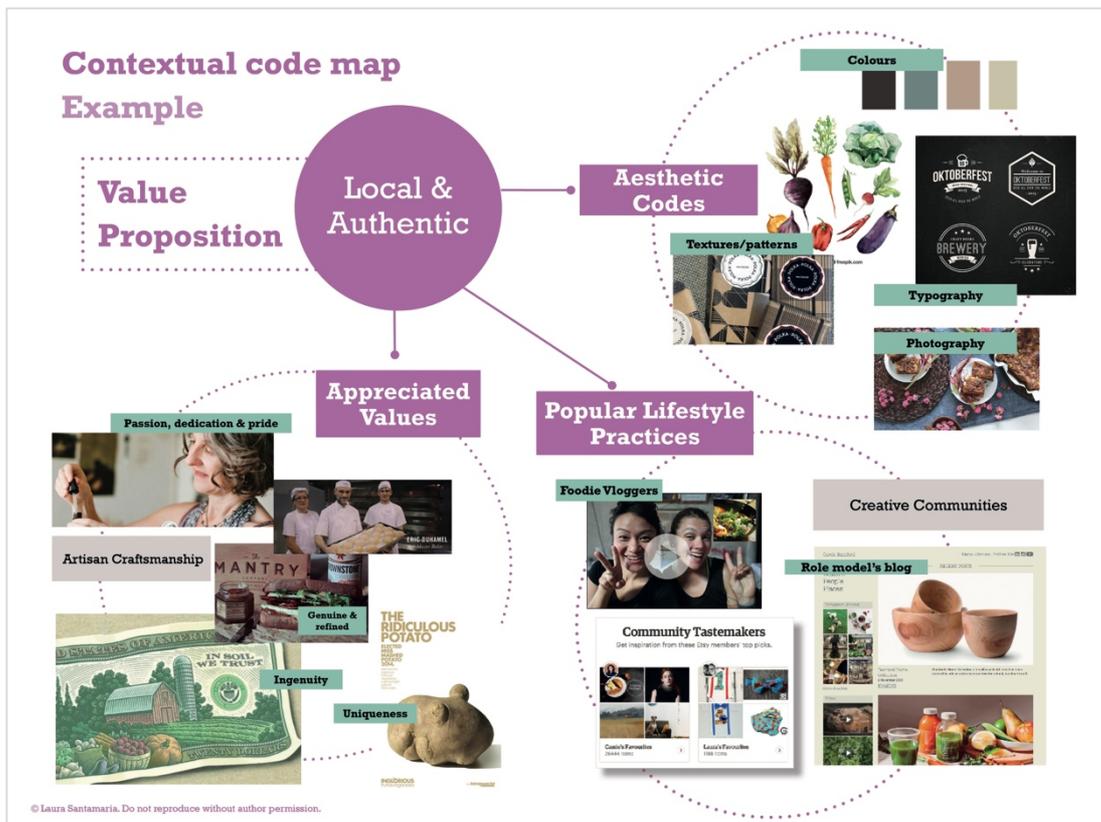
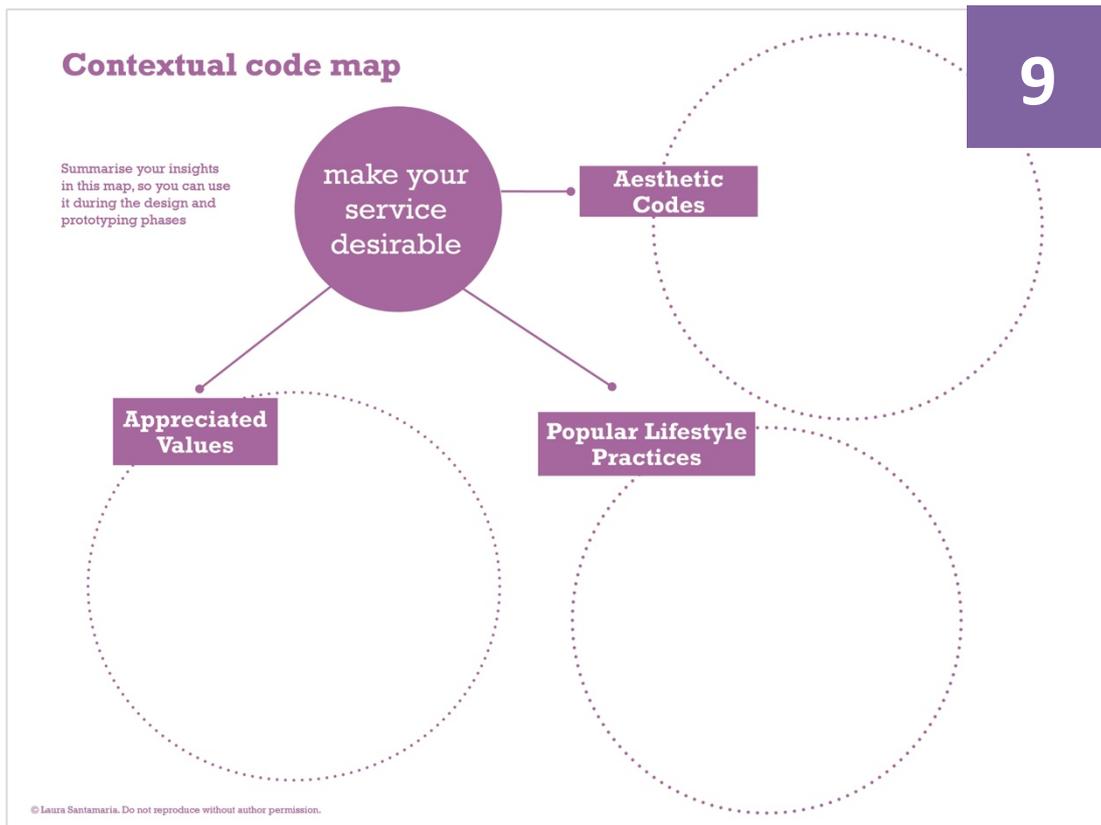
Eats organic, likes the outdoors, craft beer, artisan bread, artisan coffee, design, home interiors and small, quirky brands and charity shops.

Life is all about experiences. Feels young and energetic, but acts laid back and casual.

Lifestyle references







Keeping it fresh

How are the meanings associated to the value proposition changing?
Classify images according to these three categories



- Around for some time, dated
 - Out of step with cultural context
 - Potential to revive residual meanings
- Heavily played codes in popular culture
 - The mood of today
 - Current norms
- New ways of thinking and styles of communication
 - Not always consciously identified by users
 - First clues and expressions of future norms

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