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## Switch the channel: using cultural codes for designing and positioning sustainable products and services for mainstream audiences



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### ABSTRACT

An important step towards achieving sustainability is to encourage a wide uptake of more resource-efficient consumption practices by the mainstream of society. However, consumption practices are complexly interlinked with cultural values, social status, identity and other symbolic aspects of socio-economic paradigms. Historically, design has played an important role in changing well-established cultural practices by leveraging the introduction of new technologies, or legitimising values, beliefs and social practices through its representations. In this paper, it is argued that focussing on the elaboration of meanings – or symbolic features – during the design process of sustainable innovations can enhance their wider appeal, especially by positioning them as aspirational choices that contribute to the well-being and happiness of potential users. But, in order to strategically elaborate such meanings, it becomes necessary to identify the favourable social conventions at play in a given context – i.e. the best cultural codes upon which to successfully build an innovation's relevance and desirability. Semiotic and cultural analysis methods pose great potential for supporting design in this task. In this paper, an initial methodological framework for the incorporation of these methods in the design process is proposed. The theoretical proposition is explored in the context of sustainable Product Service Systems (sustainable PSS), given the opportunities they pose for systemic disruption as radical innovations and the cultural barriers for their mainstream adoption. This contribution, thus, not only offers a new theoretical perspective for considering the symbolic aspects of sustainable consumption as social signifier; but also provides a practical framework that incorporates a socio-cultural lens to user research in design practice. It also highlights the strategic opportunities that this field of enquiry opens for sustainable design to have a wider influence in societal transformation.

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### 1. Introduction

It is now widely acknowledged that a transition to more sustainable lifestyles is required to secure the subsistence but also the well-being and human development of future generations (Brown and Vergragt, 2015; Jackson and Victor, 2013; Layard, 2011). Although awareness of environmental challenges is widespread, actual reduction in consumption levels is well under the required targets (Mont et al., 2014). Despite the ever-increasing proliferation of sustainable innovations, the adoption of more sustainable lifestyles by mainstream society is disappointingly low (Nelson, 2008) and needs to be accelerated.

Design has long acknowledged the need to address social and environmental concerns (Manzini, 1999; Melles et al., 2011; Papanek, 1985). But while technological improvements in resource efficiency have helped alleviate environmental impact (i.e. eco design, cradle to cradle), strategies for disrupting the dominant, unsustainable consumption patterns lie within the next challenges (Manzini and Vezzoli, 2003; Manzini, 2014; Mylan, 2014; Vergragt et al., 2014) as the diffusion and adoption of sustainable design innovations at a mainstream level is still niche (Mont and Plepys, 2008).

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 and Agyeman, 2002; McKenzie-Mohr, 2013; Mont and Plepys, 2008) and a fragmented, silos approach to institutional and organisational change which prevents the implementation and adoption of sustainable products

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and services at wider society scale (Sterman, 2012). 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 and 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 by *leveraging* the introduction of new technologies; *legitimising* values, social practices and beliefs; and *reconciling* cultural dilemmas through representation (Du Gay et al., 2013; Maguire and Matthews, 2012).

Consumption practices, cultural reproduction, values and identity are complexly interlinked aspects of socio-economic paradigms. 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 of value is redefined. Increasing demand for sustainable innovations is key to push the legislative and regulatory agendas. As public interest in the redefinition of 'the good life' rises and great social changes gain momentum (Brown and Vergragt, 2015), 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).

In this, sustainable Product Service Systems (PSS), a combination of products and services, have been highlighted as a strategy with great potential for systemic change (Manzini and Vezzoli, 2003). Sustainable PSS are defined 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 and socio-ethically beneficial new solutions' (Vezzoli et al., 2014).

These innovations 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. Beyond the advantages of lowering resource consumption by decoupling the creation of value and satisfaction from product ownership to the consumption of services, sustainable PSS 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 (Vezzoli et al., 2014). Sustainable PSS represent a fertile ground for socio-cultural disruption in that:

- Their emphasis in 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

However, as radical innovations, they also face considerable barriers for introduction and acceptance. In this, sustainable PSS are no different from other product or service innovations, as Norman

and Verganti (2014) argue, the most common reason radical innovations fail is that society is not ready for them.

Thus, there is still a great need for research regarding the relation between consumers and sustainable innovations (Mont and Plepys, 2008; Rexfelt and Ornäs, 2009; Vezzoli et al., 2015). Although the urgency to understand users' expectations, especially users within their social contexts and communities has been recognised (Vezzoli et al., 2015), the elaboration of new theories to support PSS designers in better understanding the social rules at play in the context of the innovation, and the symbolic aspects of consumption has been lacking. Equally, development of new knowledge to support sustainable PSS designers is needed (Vezzoli et al., 2015).

Interdisciplinary research and collaboration are necessary to elaborate new strategies, as highlighted in the call for papers for this special issue. This article explores the potential that semiotics and cultural analysis methods (widely used in consumerist propositions) offer as a strategy to improve the value proposition of sustainable innovations. The intention is to contribute to the diffusion and uptake of sustainable design, and particularly to PSS design field of research by offering a new perspective for understanding consumption as a social signifier, and highlighting the opportunities this opens for designers to influence societal transformation. The central argument is 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. In that, it is proposed that strategically framing innovations using contextually appropriate and aspirational cultural associations or 'codes' during the design process can result in sustainable innovations that are more in tune with their socio-cultural context. Semiotic and cultural analysis methods can aid in identifying favourable codes and inform the design and innovation's value proposition.

The following sections explore these concepts in the context of sustainable PSS specifically; analysing the opportunities they pose for systemic disruption as radical innovations, and propose an initial theory for tackling the cultural barriers for their wider adoption, in order to understand how these methods can empower design in shifting dominant associations of value.

## 2. Semiotics and cultural codes

Cultural codes are socially agreed conventions and practices familiar to the members of a culture. They 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 (Nöth, 1990). An understanding of codes enables us to deal with the symbolic aspects of consumption and what these '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').

Codes are a fundamental object of study in semiotics. 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 (Nöth, 1990).

Ceschin et al. (2014) and Vezzoli et al. (2015) have highlighted the role that semiotics and aesthetics 'could and should' play in enhancing specific inner qualities of sustainable PSS, so that 'they are perceived as better than the existing and unsustainable panorama of artefacts' (Ceschin et al., 2014, p. 216). Markussen (2013) has also acknowledged the value of design aesthetics for opening up possibilities with users. He progresses the notion of 'disruptive aesthetics' as a sphere for design activism, recognising that design

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