

Consuming use orientated product service systems: a Consumer Culture Theory perspective

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Abstract

Research suggests that product service systems (PSS) may usefully form part of the mix of innovations necessary to move society toward more sustainable futures. However, PSS implementation rates are disappointingly low and an implementation gap has emerged. Drawing on consumer culture theory (CCT), this paper provides insights to help resolve this issue in business to consumer markets. Since consumption of use orientated PSS is analogous to access based consumption, six dimensions of access are set out to analyse a case study of infant car seat provision. Five outcomes are derived from the analysis and these include partial identification with accessed product and interplay of use and symbolic value. This analysis questions the view that PSS do not create sufficient value to overcome a preference for ownership in western societies. Rather, PSS consumption is likely to arise when both functional and symbolic value are extracted by consumers and when PSS are promoted to appropriate consumer groups such as 'nomads'. Further research is needed to explore these phenomena and address the issues they raise in PSS design processes.

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1 Introduction

While products form the focus of sustainable innovation discourses, a growing body of research suggests that service innovations also hold potential to significantly improve resource productivity. Offered in both final and intermediate markets, such innovations are often defined as product service systems (PSS) and include examples such as power by the hour, document handling services, car sharing and pooling (*cf.* Stahel, 2006). As PSS are both commercially interesting and can give rise to significant environmental benefits (Tukker, 2015), these so called 'win-win' innovations are the subject of a growing literature. PSS have been variously defined. For example, among the most widely cited, is the definition provided by Mont (2002):

"A system of products, services, networks of actors and supporting infrastructure that is developed to be competitive, satisfy customers and be more environmentally sound than traditional business models" (Mont, 2002:139)

Various PSS types have also been elaborated, which in theory at least, may achieve significant improvements in resource productivity (e.g. through reductions in materials and energy) and help mitigate the environmental, social and economic impacts associated with resource extraction, synthesis, use and disposal. A frequently used categorisation of PSS types includes (Hockerts, 1999; Roy, 2000; Cook et al., 2006):

Product orientated PSS: ownership of the product (material artefact) is transferred to customers and services are provided to help ensure product performance over a given period of time. Examples include maintenance contracts and warranties.

Use orientated PSS: ownership rights related to the product are retained by the service provider (who may or may not have manufactured it) and the customer purchases use of the product over a specified period of time. Examples include, sharing/ pooling, renting and leasing.

Result orientated PSS: similar to use orientated PSS, the product required for service delivery is owned by the service provider (who may or may not have manufactured it). However, in contrast to use orientated PSS the customer purchases an outcome/ result of service provision, which is specified in terms of *performance* not in terms of product use over a period of time. For example, instead of renting a washing machine, households access a laundry service to clean clothes and linen.

Much of the PSS literature is founded upon case study research (Cook, 2014). Both deliberately designed PSS and PSS-like examples offered in various contexts form the focus of this work. While the resultant cases are somewhat diverse, various literature reviews have been conducted to provide an overview of the field (*cf.* Tukker, 2015). In summary, these reviews suggest that while gains in resource productivity from PSS may be somewhat lower than initial predictions suggested, PSS may usefully form part of the mix of innovations which help move society toward more sustainable futures (*cf.* Mont and Tukker, 2006; Cook, 2014). However, despite their potential, the contribution of PSS to the construction of more sustainable futures has not been fully realised as an implementation gap has emerged (Vezzoli et al., 2015).

PSS are available in business to consumer environments (e.g. car and bicycle rental schemes, energy management services) but in this sector they are far from a widespread phenomenon (Tukker, 2015). Research has tended to problematize the PSS implementation

challenge as one of poor PSS diffusion among consumers (Mylan, 2015). Drawing on consumer science (economic rationalism and well established behavioural models such as attitudes, behaviour, choice), studies suggest that poor PSS diffusion arises from their inability to create sufficient value to overcome a predominately western cultural preference for ownership (Schrader, 1999; Tukker, 2015). Other factors found to adversely affect PSS diffusion include lack of control and flexibility; an overemphasis on functionality at the expense of symbolic value and meanings, and a stigma associated with non-ownership (Catulli, 2012). Clearly, further research is needed to better understand PSS consumption and identify ways to resolve these issues.

Recently, Mylan (2015) drew attention to an alternative approach to understanding PSS adoption and diffusion: Practice Theory (PT). In contrast to conceptual apparatus founded in consumer science drawn upon to date in the PSS literature, PT is founded in the sociology of consumption. From a PT perspective, successful PSS are appropriated in social practices which occur when the bonds between the elements of practice (materials, meanings and competences) loosen (Mylan, 2015). PT represents a step change in how PSS consumption is understood in the PSS literature. The approaches from consumer science that have been drawn upon in the PSS literature to date tend to focus on cognition, individual choices and the role of information in influencing these, while PT draws attention to what people do, the practices they perform in a routine manner which underpin society (Warde, 2005). Here, the emphasis is not on consumer choice but on the (re)making of social practices and the subsequent effects of these on resource use (van Vliet et al. 2005). Thus, PT problematizes PSS diffusion in a different way to those from consumer science and is incommensurate with economic rationalism and behavioural approaches to understanding consumption (Shove, 2011).

As with most theories, PT has limitations. PT neglects individual decisional processes (Swidler, 2001) and the approach advocated by Mylan (2005) downplays the role of consumers' agency and responsibility (Whitmarsh et al., 2011). However, at a higher level of abstraction such as PSS diffusion, a variety of approaches including PT can generate different but useful insights that together may help resolve the PSS implementation challenge. In this paper, we therefore present another approach from the sociology of consumption to provide further insights on PSS adoption: consumer culture theory (CCT).

CCT is a multidisciplinary approach which "refers to a family of theoretical perspectives that address the dynamic relationships between consumer actions, the marketplace and cultural meanings" (Arnould and Thompson, 2005:868). It encompasses the contextual, symbolic and experiential aspects of consumption, ranging from acquisition to consumption and disposal (Annamma and Li, 2012). CCT is founded in anthropological research cf. (Douglas and Isherwood, 1996; Miller, 2010) and as such it emphasises the role of consumption in the construction of individual identities. Here consumer identity construction is conceptualised as the co-productive ways in which consumers forge a sense of self with market generated material (Belk, 1988).

CCT is not a behavioural or economic perspective on consumption (Annamma and Li, 2012). Rather, CCT is a constructivist nuanced, qualitative lens to explore consumer behaviour which crucially, in contrast to PT, retains a view on individual actions, i.e. the agency of consumers. Methods typically used in CCT research include in depth interviewing with consumers in everyday consumption contexts (Bengtsson and Ostberg, 2006), ethnographies and historical approaches based on secondary research (Bengtsson and Ostberg, 2006).

In using CCT to understand PSS, an important aspect is the value that PSS delivers. There are multiple ways of defining value. This paper focuses on the value extracted by consumers through consumption. CCT argues that consumption is influenced by *functional value* which is an important attribute of PSS. Functional value is defined here as “the perceived utility acquired from an alternative’s capacity for functional, utilitarian or physical performance” (Payne and Holt, 2001: :168). However, since CCT emphasises the role of consumption in the construction of consumer identities (Ibid.), it also recognises the importance of *symbolic value* and thus provides conceptual apparatus to explore cultural preferences for ownership and PSS consumption. Symbolic value is defined here as “positive consumption meanings that are attached to self and/or communicated to others” (Rintamäki et al., 2007:629).

Also and importantly, CCT offers perspectives on sharing (Belk, 2007) and Access Based Consumption (cf. Bardhi and Eckhardt, 2012) which may be used to explore use orientated PSS consumption in particular. This paper therefore draws on this conceptual apparatus from CCT to explore and ultimately better understand Use Orientated PSS consumption. In the next section an approach to studying consumption from a CCT perspective is set out. This is used in the subsequent section to analyse primary data drawn from a UK Government funded case study in which infant car seats are provided via a use orientated PSS. Finally, the findings generated are discussed, conclusions drawn and avenues for further research are set out in the final section of the paper.

2 Conceptual Approach

CCT includes streams of research pertinent to PSS consumption. These are focused on:

- 1) sharing (cf. Belk, 2007; Belk and Llamas, 2012);
- 2) access based consumption (cf. Bardhi and Eckhardt, 2012).

Belk (2007) defines sharing as “the act and process of distributing what is ours to others for their use, and/ or the act or process of receiving or taking something from others for our own use”. For Belk (2010) intra-familial sharing, possession or ownership of artefacts is joint, with no separate terms to distinguish partners. Access based consumption is defined as “transactions that can be market mediated but where no transfer of ownership takes place” (Bardhi and Eckhardt, 2012:1). Notable examples include Zipcar, uber and AirBnB. Clearly, access based consumption and sharing are similar since both modes of consumption do not involve the transfer of ownership. However, in contrast to sharing, access based consumption offerings are based on artefacts that are not jointly owned by family or community members: consumers simply gain access to products, e.g. a car. Since this paper focuses on Use Orientated PSS which are not based on a shared or pooled product but one that is accessed, it draws on CCT research concerned with access based consumption.

Ownership rights enable a special relationship to be formed between a person and a possession, which is often the norm in contemporary western societies. Such rights confer freedom, responsibility and control, which enables clear boundaries between self and others to be delineated (Snare, 1972). For example, the owner has the right to regulate or deny access to others; to use, sell, and retain any profits yielded from the object’s use; and to transform its structure *ibid*. In contrast to the long term interaction with a product which characterises ownership, access based and PSS consumption is temporary and circumstantial to the consumption context (Chen, 2009). Chen (2009) and Rifkin (2000) propose that access produces a different object-self relationship to ownership. Bardhi and Eckhardt (2012) argue that such differences can be explored by considering:

- 1) the nature of the object-self relationship;
- 2) the rules that govern and regulate this relationship.

Relationships and rules that govern such relationships are structured by the unique features of contextually situated consumptionscapes through which access based consumption proceeds. Bardhi and Eckhardt (2012) have developed six dimensions of access based consumption to analyse these:

- 1) **Temporality.** Access based consumption is more temporary than product consumption (Chen, 2009). Here temporality is conceptualised as duration of access and usage. Access may be either short term (e.g. a single rental) or longitudinal, e.g. membership of a car club. Object usage can be long term (e.g. leasing) or short term, e.g. hourly bicycle usage.
- 2) **Anonymity.** Anonymity shapes the relationship and behaviour toward other consumers. Anonymity manifests in access based consumption in two ways. The first is that access in consumptionscapes can vary in the extent to which the context of use is private or public and thus in levels of interpersonal anonymity. On one hand, there are private consumptionscapes in which clear self to others boundaries are possible. On the other, public contexts such as access to public gardens inevitably lead to encounters with others and such boundary marking is not possible. Secondly, anonymity is also influenced by the extent to which the consumer comes into contact with those who accessed previously. For example, when renting a hotel room consumers do not come into contact with previous occupants.
- 3) **Market Mediation.** Access consumptionscapes can also be differentiated by levels of market mediation, from profit to not for profit. Some rely more on market mediation than others.
- 4) **Consumer Involvement.** This refers to the level of consumer involvement in the consumption experience. For example, consumers can have limited involvement in traditional rentals such as hotel rooms or extensive involvement in less traditional offers such as car sharing. In the latter, consumer involvement is extensive and often the consumer picks up and delivers the car.
- 5) **Type of accessed product.** Type of accessed product influences the nature of access-based consumption in two ways. First, the nature of access varies according to whether the object is experiential or functional (Chen, 2009), e.g. going to museum to view art or sharing a car. Second, the nature of access varies according to whether the product is material or digital. Access to the latter has more in common with sharing.
- 6) **Political consumerism.** The nature of access according to levels of political consumerism, defined as "the use of market action as an area for politics, and consumer choice as a political tool" (Micheletti et al., 2004: vii). Some consumers choose to either own a product or access one as a strategy to articulate and promote their ideological interests and thereby to re-appropriate their ideological interests to society, business and government (Bardhi and Eckhardt 2012). Here for example, forgoing ownership is a signal to others.

3 Case study: Infant car seat Use Orientated PSS

Bardhi and Eckhardt (2012) argue that the six dimensions detailed above can be used to map evolving fields of access based consumption. The six dimensions are used in this paper to analyse data collected via case study research undertaken as part of a UK Government funded research project (REBUS) in which infant car seats are provided via a use orientated PSS.

Via the PSS, consumers gain six months access to an infant car seat which they do not own. The PSS is provided by the car seat manufacturer and promoted to parents and carers by the National Childbirth Trust (NCT). In environmental terms, infant car seats formed the focus of the study as they:

- are typically discarded before they become unserviceable (because children grow out of them and fashions change) (Mont et al., 2006);
- are difficult to resell due to safety fears, e.g. structural damage resulting from car crashes (Catulli et al., 2013).

However, by pooling car seats through a use orientated PSS there may be considerable sustainability benefits as through a more favourable Need Fulfilment to Resource Use Ratio (Byers et al., 2015), i.e. a reduction in the resources necessary to fulfil consumer needs. This PSS was deliberately designed to reduce resource use and satisfy demand. For example, the PSS enables car seats to be used sequentially by different users before end of life. To this end a refurbishing operation has been set up by the equipment supplier. After six months, the car seats are collected by courier from users and refurbished prior to delivery to subsequent users. A Quality Assurance process has been established and certified by the manufacturer by means of a label. Car seats are identified and tracked by serial number. In order to access car seats, users book them through the NCT web site. The six months rental price of £26.25, includes delivery and collection of the car seat. This PSS rental compares with a purchase cost of £135. Some 690 car seats have been provided via the PSS.

Data were collected via 26 semi-structured interviews with a self-selected group of new parents who chose to adopt the use orientated PSS. Participants were recruited through the NCT web site and interviewed in the UK. Most of the participants were professionals, with ages ranging from 21 to over 40 years and income from less than £20K to over £60K. 35% of the participants lived in rural areas, with the rest based in urban areas. 73% of the participants were first time parents. Most participants were NCT members. Data were collected from participants between May 2014 and October 2015.

An interview guide was used to facilitate data collection. Commensurate with the semi-structured interview approach, the guide was based on a number of open questions about the PSS, which enabled further questions to be posed to pursue lines of inquiry as they emerged during each interview. Data were analysed using a flexible template approach. An initial start list of codes was generated in NVIVO 10 from primary data collected and literature reviewed. Several themes emerged from this process and were subsequently clustered around the six dimensions of access.

Following Bardhi and Eckhardt (2012) the analysis identified five outcomes of infant care PSS that are the result of the placement of this PSS across the six dimensions of access based consumption. As such the outcomes relate to multiple dimensions of access based consumption and emerged from analysis accordingly using the template approach. The outcomes reflect consumer responses to the PSS offering and are as follows:

- 1) Partial identification with accessed product
- 2) Interplay of use and symbolic value
- 3) Brand assurance and product quality
- 4) Hybrid supplier brand community membership
- 5) Addressing risk and trust

3.1 Partial identification

The notion that PSS provides consumption without ownership is central to the PSS discourse (Tukker, 2015). However, consumption without ownership is viewed as problematic in western cultures as the benefits of ownership such as product control and the perceived welfare which flows from ownership in and of itself are highly prized (cf. Schrader, 1999; Tukker and Tischner, 2006; Tukker, 2015). Although this presents a significant challenge to PSS implementation, ownership is a complex phenomenon and a perceived sense of ownership can arise even when formal ownership rights are not transferred to consumers (Mylan, 2015). CCT research suggests that when sharing, consumers can develop a sense of ownership (cf. Belk and Llamas, 2012); by touching shared products, consumers can incorporate them into their extended self (Peck and Shu, 2009); by acquiring knowledge of shared products, consumers can gain a degree of control over them (Belk, 1988). Thus while formal ownership rights may not be transferred to consumers when they access products via PSS, research on sharing suggests access may induce perceived ownership. In other words, consumers can appropriate and identify with products without actually owning them. However, this phenomenon is far from straightforward. Exploring access based consumption through a case study of Zipcar, Bardhi and Eckhardt (2012) argue that a sense of ownership does not always arise in access based consumption.

Participants typically accessed the car seat for 6 to 9 months and tended to view the car seat as an asset, which they were reluctantly disposed to invest in.

"I knew I'd only be using it for six months so I didn't really even know if I wanted to invest in that money"

While another participant explains,

"..I really didn't want to put a lot of money in this car seat, so I was thinking hard, I mean, there must be a solution to this, I don't want to buy one".

Through customization and personalization, consumers appropriate products. These processes can be defined as *"processes that define or change the appearance or functionality of a product to increase its personal relevance to an individual"* (Mugge et al, 2009:468). However, participants were reluctant to customise or personalise the car seat, as they did not want to damage it for fear of liability to the supplier.

"I have to [...] keep it in [a pristine] state [...], though I know that you can recondition it, it'd just be something that'd bother me, [...] that I have to look after it more than I would if it was my own [...]I'm not as free as I would be if it was mine"

Here a sense of product responsibility was observed. Participants even worried about conserving the product's packaging

"I'm so paranoid about the box, I've got it in a cupboard on its own..."

Product stewardship is partly sought to avoid penalty when returning the product

"I'd be worried if, [...] I really damaged it or got it scuffed [...] it's all very well saying, "Oh I'll clean it," but cleaning it won't get rid of all the scratches"

Whilst another participant wondered

"[what] would [the consequences] be if I damage it?"

So participants were concerned about the liabilities that may arise if they damage the car seat. However, penalties are not emphasized in marketing communications for the PSS. These perceptions came from the users and seem to prevent appropriation practices such as addition of stickers to products. However, participants did identify with the PSS as they were happy to be known as car seat renters in various online forums and to share information and details of their practices

"one of the mothers in [a] chat room, I think it was a Netmums chat room, said that she just rented one [a car seat] from the NCT, so that's how I found the NCT"

Another participant shared information on the car seat PSS with her NCT course colleagues,

"...the people at the NCT antenatal class, I sent them all [a message] saying, "you know, "This is what it is, we've gone for this..."

Thus, while it is unlikely that consumers have fully appropriated the car seats into their extended selves, partial identification with the PSS was observed. This contrasts the findings of Bardhi and Eckhardt (2012), which shows that USA Zipcar users wanted to be anonymous, i.e. they wanted to avoid identification with the PSS. In this study, we observe a lack of product appropriation but identification with the PSS through which it is provided.

3.2 Interplay of functional and symbolic value

Consumers extract various kinds of value from products and services. For example, functional value can be extracted and expresses consumers' evaluation of consumption on the basis of what it achieves (Babin and James, 2010). Consistent with the emphasis on functional value in PSS literature, Bardhi and Eckhardt (2012) suggest that Zip Car's access based provision of cars mainly delivers functional value to consumers. Similarly the case study reported here shows that the short term use of car seats led participants to have a somewhat instrumental relationship with them, being interested in the specific function of driving their child around in safety for the time needed. Most participants seem to rationalize their decision of renting rather than purchasing the car seat in terms of cost in respect to time,

"I wouldn't (want to) have to pay £150 for something I'd only use for a few months and then get rid of [it]".

Since the car seats provided via the PSS are only suitable for infants of ages between 0 and 9 months, participants viewed this as an important reason to access them via the PSS. While the functional value of accessing the car seats via the PSS was valued by participants, some participants also attributed symbolic value to the PSS. For example, by accessing the car seat via the PSS, participants were able to afford higher specification products, which helped construct their image.

Thriftiness emerged as a key theme in participant responses. One participant expressed thriftiness in terms of opportunity cost. By accessing the car seat via the PSS she would

have more money available to educate her child. Another participant was averse to spending money on a product (the car seat) which would not be needed for long. For this participant, accessing the car seat via the PSS was a smart solution. Other participants thought car seats would depreciate quickly, which motivated them to access a car seat through the PSS

"The car seat was a particular stress for me because (it) is un-saleable, well, it depreciates very heavily..."

Also and in contrast to Bardhi and Eckhardt (2012), participants exhibited altruistic behaviour and thus sought to extract social value from the PSS. A number of participants held socially responsible attitudes including care for the environment.

"...if you could rent something for the term that he needed it and then pass it onto someone else, it seemed to be more ecologically sound, it seemed to be just a better practice that instead of (being) the only one who needs the thing and you only think in isolation of what you need, (...), what do you do with it when you're done with it, after six months?"

This aspect was expressed by a third of the participants. These participants associated the PSS with environmental benefits. For example, one participant was attentive to recycling and avoiding waste and argued that renting the car seat would help achieve these goals as it could be subsequently rented by other parents. The environmental benefits of the PSS were important to other participants who enjoyed hiking in the natural environment.

"...to some extent, environmental friendliness. (...)I think it's efficiency more than sort of environmentalism itself. It's sort of the feeling that efficiency is better."

Two Canadian participants stated that the environmental appeal of the PSS was clear to them. They claim that the Canadian education system insists on teaching environmental principles and together with their upbringing makes them particularly sensitive to environmental issues. One participant wanted to use the PSS as car seats cannot be easily resold and thus may be destined for landfill. One thought that purchasing new car seats is wasteful and therefore she opted for the PSS. Another was against product proliferation and waste.

"I don't want to have, in the environment, loads and loads of products that are actually still usable and they haven't come to the end of their life, so that's the main reason. (...) there must be a mountain of car seats in this world..."

Some participants simply did not like owning stuff. In such instances, participants viewed the rental as a good way to avoid accumulating "clutter" in the home and waste. For example, one participant stated that she does not

"like clutter. So hiring things, for me, makes a lot of sense 'cause you just have something for as long as you need it... I'm not keen on owning lots of things".

The idea of spending money on and allocating space to products which are only used for a short time and maybe sent to landfill makes purchasing the car seat appear unsustainable to many participants.

Participants also suggested that sharing products among more than one family allows people to access good quality products which they may not be able to do via product based

consumption. In some instances, participants' view of sustainability included social as well as environmental concerns. Here, the adoption of PSS was viewed as a way to contribute to the National Childbirth Trust (NCT), which they favoured as a useful non-profit way of helping people. The meaning of health and safety is often associated with infant products, we also noted. In this way, participants were very interested in the PSS' quality assurance process.

In summary, this outcome reveals a complex interplay of functional and symbolic value in PSS consumption. Consistent with PSS literature, functional value is sought and cannot be ignored. However, symbolic value – with PSS imbued with meanings of thriftiness, health and safety, parental pride and competence was also observed. Thus in contrast to Bardhi and Eckhardt (2012) and the PSS literature, the case study shows that symbolic value, meanings (altruism) are extracted from PSS consumption. The next section examines how participants deal with mistrust of previous users of their car seat.

3.3 Brand assurance and product quality

Accessing an infant car seat through a PSS implies that the product may be pre-used. Research suggests that in general, consumers are unsure about the quality of pre-used products and may associate them with deprivation (Williams and Widebank, 2006). Consistent with these notions, the case study showed that participants do not trust previous users of the car seats as they may have damaged them. Participants were concerned that the car seats may have been involved in car accidents and feared contagion as a result of poor hygiene. In general, these findings contrast with research on the sharing of baby products among relatives and friends, which suggests not only that sharing is acceptable but an important ritual (Belk, 2010; Thomsen and Sorensen, 2006).

In the case study, issues associated with prior use of the car seat are addressed by quality assurance of the PSS supplier's brand. Assurance is the "knowledge and courtesy of employees and their ability to inspire trust and confidence" (Parasuraman et al., 1988:23). Documentation (including person that checked it and so on) was provided to participants as evidence of cleaning and other checks that the supplier has performed as part of quality control. The importance of this was articulated by a participant:

"The fact that it's been factory refurbished" is key, "...so we know that it's been safety tested. (...)I read all the terms and conditions carefully to ensure that it was taken back to the manufacturers and it was refitted to new standard"

while another participant also stated

"Well, we were wondering how we would know that it was safe, it came with a manufacturer approved label, so I was pleased with the safety testing"

In addition to evidence of quality control from the PSS supplier, assurance from NCT's involvement in the PSS seem to be sufficient to address participants' concerns.

"I would never buy a second-hand car seat but I would rent one from NCT".

"I thought it would be in good condition because it's coming from NCT".

"We didn't think that they (NCT) would endorse something that was (not safe), (they) are not going to be involved in anything where they don't carefully look over before they give it out, make sure that when it comes back everything's fine and that was it..."

Other participants stated that they trusted the NCT but were less sure whether they would trust a PSS provided by a firm

"I would never rent a car seat from just any company, with not knowing if it had been in a car accident, and the safety and all the reasons why second-hand car seats shouldn't be used, it was only because it was NCT that I would even consider it"

Thus while the PSS is market mediated and provided by a profit seeking firm, the role of NCT in promoting (via the web and in classes) the PSS cannot be overlooked. However, participants perceived that the car seat was of high quality: it had a strong brand and received excellent reviews in the consumer magazine *Which?*. For example, two participants associated the brand with quality and sturdiness and specifically sought this brand of car seat. Interestingly, when selecting the PSS, participants seemed to draw upon the experience of their peers

"My sister had a Maxi Cosi car seat as well, so it was just, it's personal experience, I'd seen other kids in my family have it and it's a reliable brand"

So the case study suggests that participants sought quality assurance from both the PSS supplier (expressed as a product brand) and the NCT. The status of the NCT as a non-profit charitable organization played a significant role in establishing credibility of the PSS. Participants also noted that quality assurance arose from the service element of the PSS, including customer service, accessories and adaptors, information and guidance on products' use and age suitability and insurance.

3.4 Hybrid supplier brand community membership

A brand community is a "specialised, non-geographically bound community, based on a structured set of social relationships among admirers of a brand" (Muniz and O'Guinn, 2001:412). In their study, Bardhi and Eckhardt (2012) found that drivers of Zipcars did not want to join or be associated with the Zipcar brand community. However, the study reported here reveals more of a mixed picture.

The NCT is not only trusted for quality. Participants also viewed it as a place where parents share information about parenting practices (e.g. through antenatal classes provided by NCT to would-be parents) and seek other parents views on, for example, the performance of various baby care products. With respect to the car seat PSS, one participant stated:

"I just saw (that) other women were going to be using a car seat for a short period of time and then one of the mothers in that (Netmums) chat room said that she just rented one from the NCT (...), and I'm already impressed with the NCT because of the courses that I'm taking, so I trusted the organisation and rented".

The NCT antenatal classes were not specifically established as part of the PSS. However, since they were delivered by the NCT (which promoted the PSS) they helped generate a sense of brand community which legitimised the PSS to some extent. In general, participants expressed a strong sense of belonging to the NCT brand community and the PSS was perceived as within that wider brand community rather than being one on its own. Participants viewed others in their antenatal class as peers with whom they share tips and ideas about parenting practices. Debates about the rental of baby care products such as the car seat formed part of these dialogues. Since the NCT is a not-for-profit organization and

projects a "commercially disinterested" image, this seems to make it more trustworthy. One participant stated

"There are a lot of forums online, you know, websites like BabyCentre and things like that. (...) and maybe our NCT class, we took the actual antenatal class. We meet up with them quite regularly"

while another stated that they sought other parents' opinions when engaging with the rental scheme, but by and large she investigated rental on her own initiative,

"I just Googled using car seat for short period of time, even 'can I rent a car seat', I may have done that, but I think I first got tipped off to that chat room with other mums..."

Participants tended to distinguish the NCT from commercial suppliers. They viewed the PSS promoted through the NCT as an initiative to benefit young parents, society and the environment. Participants felt they were members of the NCT community and they wanted to support its further development to achieve social and environmental goals.

"...you know that you're supporting a charitable organisation that has volunteers working for it, like you're just part of this, you're part of a great movement".

Many of the participants stated that their decision to adopt the PSS was influenced by their involvement in NCT antenatal classes. Some participants consulted *Which?* to identify car seats that were highly rated by reviewers. Thus in contrast to Bardhi and Eckhardt (2012), this study shows that users of baby care products see themselves as members of a brand community. But an important distinction is that, in this instance, it was a hybrid brand community involving a charity and a firm rather than an individual firm. Indeed, the "three defining core elements of brand community" (Bardhi and Eckhardt, 2012) are in evidence as 1) shared consciousness of parenthood, 2) shared rituals linked to baby rearing and 3) a sense of moral responsibility towards their own children and the environment. This research suggests that there is solidarity and empathy between participants, who are going through a critical passage in their life, i.e. having a baby. Participants who were first time parents wanted to share their experiences. Thus participants did not want to be anonymous.

3.5 Addressing risk and trust

Consumers of baby care equipment find product selection stressful (Catulli, 2012). Parents often feel coerced by marketing companies to buy products which they fear may be unsuitable and are concerned about appearing incompetent (Thomsen and Sørensen, 2006). Participants stated that the PSS helped them manage the risk of buying inappropriate products. One reason stated that PSS offer the opportunity to try out products which can then be returned if unsuitable.

"...so you could use [renting] to see if you were happy with a big purchase before spending a lot of money on it"

Indeed, a PSS that integrates different items (products and services) at various stages of child growth could be helpful for participants by minimizing both the risk of overspend when buying on markets and buying incomplete or damaged second hand products. A number of participants in the study also stated that they did not trust marketers as they coerce new parents into buying products they do not necessarily need. Thus the case study revealed a lack of trust in market mediated access to baby care products. In some cases, this has given rise to political consumerism: participants selected the PSS as an alternative to buying baby care products that they feel they may be coerced into purchasing. As the car seat

PSS is partly delivered by what is perceived as a not-for-profit supplier (NCT) this represents a real alternative to PSS mediated in for profit markets.

4 Summary and Conclusions

The results of the case study research reported above reveal a rich picture of PSS consumption using the six dimensions of access proposed by Bardhi and Eckhardt, 2012. In summary we outlined five outcomes of infant care PSS consumption:

- 1) partial identification,
- 2) the interplay of use and symbolic value,
- 3) brand assurance and product quality,
- 4) Hybrid supplier brand community membership and
- 5) addressing risk and trust.

What insights do these results provide which may help resolve the PSS implementation challenge in consumer markets?

In aggregate, PSS literature suggests that poor PSS diffusion arises from their inability to create sufficient value to overcome a culture of ownership and the benefits of this, such as control (*cf.* Tukker, 2015). However, the research reported in this paper suggests that these challenges may be overcome in consumer markets when among other things, consumers extract both use and symbolic value from PSS offerings. The symbolic value of PSS has been somewhat overlooked in the PSS literature. Clearly, directions for future research should therefore include work to conceptualise the symbolic value of PSS and inform subsequent PSS design.

Functional value is important and rightly emphasised in PSS literature. This is not confined to business to consumer markets. Evidence suggests that some consumer groups highly prize functional value. For example, consumers who serially relocate – often referred to as nomadic consumers (Catulli et al., 2015), may be particularly amenable to PSS offerings. Here, frequent relocation tends to give rise to an interest in functional value as symbolic value varies between locations. It should also be noted that the relationship between functional and symbolic value is not straightforward as functional value can also even turn into symbolic value for these consumers (Baudrillard, 1981). Further research is needed however to identify consumer groups (Rexfelt and Hiort af Ornas, 2009) for which PSS offerings that offer high levels of functional value could be relevant.

This paper also points to the role of cultural meanings such as pro-environmental meanings in PSS consumption, and how these can be important for some consumers' identity construction. Here such meanings were found to be conditioned through a nation's education system. Thus the proposition that PSS simply do not create enough value to overcome a culture of ownership and associated benefits may not apply to all PSS, contexts for their consumption and/ or consumers. Indeed, this paper suggests that the challenges of consumption without ownership may be overcome in consumer markets when among other things, consumers extract a combination of functional, symbolic and social value from PSS offerings. Clearly given the PSS implementation challenge, such opportunities need to be identified and further explored. Drawing on Access Based Consumption approaches from CCT, this paper provides conceptual apparatus to develop a more nuanced view of PSS consumption and address this issue.

Mylan (2015) has usefully highlighted the utility of practice theory to study PSS consumption and identify and overcome implementation challenges. While the term "practice" is often used colloquially, from a theoretical point of view, the study of practices provides a way of understanding what consumers do in their everyday lives and how this leads to the consumption of natural resources, waste management challenges and emissions to air such as carbon dioxide. Drawing on Shove (2010), Mylan (2015) proposes an approach to analysing practices which is based on their constituent elements – materials, meanings, competences. Human subjects are carriers of practices and may be recruited to, or defect from practice(s) over time. For example, Watson (2012) explores the dynamics of mobility practices and shows how subjects defect from automobility to velomobility and vice versa. Such accounts therefore tend to allocate agency to the practice itself not to human actors. Indeed, the latter are somewhat shaded off in this interpretation of practice theory. In contrast, CCT places consumers and their identity projects at the core of analysis. However, CCT does not suggest that consumers are unconstrained agents. Rather PSS consumption is structured in contextually defined consumptionscapes, which deny or facilitate access to offerings. Directions for future research may therefore usefully include work to explore the consumptionscapes in which PSS offerings are available.

The six dimensions of access proposed by Bardhi and Eckhardt (2012) provide a consistent approach which may be used to investigate and compare a variety of these. Crucially, this would show how PSS consumption varies in by PSS offering, context and consumer group. For example, the relationship of consumers with PSS in which products are accessed for longer than the infant car seats could be explored. Whether consumers appropriate products over time, via for example, personalisation, without having formal ownership rights could be investigated. Further research is also required to identify groups of consumers which may be amenable to PSS consumption. Consumptionscapes in which nomadic consumers with a preference for functional value which then turns into symbolic value are an example of one such group which may be explored using the six dimensions framework.

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