

Co-creation and co-design in pop-up stores: the intersection of marketing and design research?

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INTRODUCTION

In recent years, many industries have witnessed an ‘experiential turn’, whereby ‘value’ is defined in terms of the process(es) by which the user partakes of an organisation’s market offering, as much as its inherent materiality and characteristics (Pine and Gilmore 1999; Leighton 2007; Grewal et al. 2009; Verhoef et al. 2009; Brakus et al. 2009; Gentile et al. 2007; Schmitt 2010; Lemon and Verhoef 2016). An integral aspect of this ‘experiential turn’ is the active participation of consumers/users. This is conceptualised in terms of co-creation (i.e. the variety of means by which collaboration between a firm and its stakeholders can occur – see Prahalad and Ramaswamy 2004) and co-production (i.e. practices whereby consumers actively become involved in the production chain of services - see Etgar 2008). This collaboration/involvement is facilitated by advances in technology, enabling a more ‘connected’ customer with the ability and motivation to share her input into value creation processes. Such issues underpin theoretical developments in both design and marketing. This is manifest in the development of a co-design ‘school’ (Sanders and Dandavate 1999; Sanders 2000; Sanders and Stappers 2008, 2014; Rizzo 2010; Mattelmäki and Visser 2011) within the broader field of user-centred design. From a marketing perspective, such developments resonate with a concept of co-creation drawing on the principles of the service-dominant (S-D) logic, a seminal development in recent marketing theory that has been influential since its promulgation in 2004 (Vargo and Lusch 2004).

An interesting artefact at the intersection of these two fields is the pop-up store (see Warnaby and Shi 2018, for a fuller discussion from an academic perspective, and Thompson 2012, for a more practitioner-oriented standpoint). Pop-up stores are strategically designed *temporary* environments aimed, among other things, at engaging consumers to co-create with brands (De Lassus and Anido Freire 2014; Kim et al. 2010). In this paper, we analyse the extent to which pop-up stores are used to: (1) provide marketers with unique insights into what is meaningful to consumers/users; and linked to this, (2) facilitate co-design through the participation and engagement of consumers/users in the ‘pop-up’ experience.

To do this, we draw upon the literatures on co-design and the S-D logic of marketing to discuss the potential of the ‘pop-up’ concept (specifically pop-up *retailing*) as a means of achieving marketing and design research objectives. Consequently, the constructs of co-design (from the design literature) and co-creation (from the S-D logic and the wider service marketing literature) need to be brought together to then determine their influence on the management of creativity and innovation processes by means of pop-up store research. The contribution of this article lies in an exploration of the principles of such an endeavour, so that pop-up store research could enrich marketing through adopting a user-centric and experiential research practice, and enrich design research with pertinent knowledge about the design and use of temporary spaces for co-designer engagement.

LITERATURE REVIEW

We now discuss the main theoretical antecedents of co-design research and the S-D logic, before moving on to describe the characteristics of pop-up retailing. Hereby we contextualise the two case studies presented later, which unpack the potential role of pop-up activities in informing marketing and design research.

Theoretical antecedents: Introducing co-design and the service-dominant logic

Co-design originated as the theorization of the work of some Northern European design researchers (e.g. Koskinen et al. 2003; Mattelmäki et al. 2010), who increasingly opened up the design process - earlier confined to the professional designer - to the general public, whether stakeholders or users. Since then, a user-centred design (UCD) community has developed, with a normative and 'design-led' (Sanders and Stappers 2008) approach that puts the involvement of the end user of a product, service, experience or system at the centre of research practice. Thus, UCD uses questionnaires, test labs and focus groups to empathize with the user, but does not involve her actively in the design process. In a movement inspired by the empowerment attitude of participatory design (Ehn 2008), co-design emerged as a practice within UCD using artefacts and environments for staging encounters with users, because "it is possible to get access to the experienter's world only through his or her participation in expressing that experience" (Sanders and Dandavate 1999: 90). Sanders and Stappers (2014: 5) thus define co-design as "designers and non-designers working together using making as a way to make sense of the future".

Key ingredients of co-design are the artefacts through which designers facilitate and trigger collaboration. These artefacts can be 'probes' (Mattelmäki 2006) to elicit reactions from users, or generative toolkits such as games (Brandt 2006) and context maps (Sleeswijk Visser et al. 2005) that can be used by co-designers to make artefacts of their own for later discussion and analysis. In addition, prototypes of products or environments can be employed to provoke focussed discussions, confront theories and allow people to experience a situation that previously only existed in theory (Keller 2009). Through this process, non-designers can co-develop services and environments that are meaningful to them, and the use of prototypes is an important vehicle for experience, observation, reflection, interpretation, discussion and expression (Simons 2012). Thus, whereas co-creation is regarded as any act of collective creativity, co-design is a form of co-creation that is conceptually tied to the whole span of a design development process: "Co-design is a practice in which co-creation is concretized" (Mattelmäki and Visser 2011: 11). According to Sanders and Stappers (2012) co-creation can occur at any point along the design development process which is often symbolized in the so called design squiggle (see figure one).

Insert figure 0

With co-creation in mind, Sanders and Stappers (2012) extend the design process beyond the phase of design and associate the following activities with it (from left to right in figure 1): *pre-design* (research & synthesis in figure 1), *discover* (concept & prototype in figure 1), *design, make, market & sell*, and *after-sales*. Here, the earlier stages of pre-design and discover will be characterised by

greater fluidity and circularity consistent with a more iterative approach as ideas are tested and refined, whereas the latter stages (from design onwards) are characterised by a more explicit and overt linearity as design choices are increasingly circumscribed as the process unfolds.

The co-creation discussion in design has resonance with aspects of the (service) marketing literature. Here, co-creation is defined in terms of companies attempting to collaborate with their customers, who they view as an important resource when developing new market offerings (Gustafsson et al. 2012). Co-creation has been a significant avenue of research in this particular marketing sub-field, and especially so in relation to the theoretical context of the S-D logic (see Vargo and Lusch 2004; Lusch and Vargo 2006). The S-D logic conceptualises a move from what its originators term a 'goods-dominant' logic, characterised by the centrality of tangible outputs and discrete firm-customer transactions, to a logic that focuses on intangibility, exchange processes and relationships. Linking back to the above discussion, Lusch et al. (2007: 5) note that the S-D logic "is philosophically grounded in a commitment to collaborative processes".

Eight defining characteristics of the S-D logic - termed 'foundational premises' (FPs) - were originally articulated (Vargo and Lusch 2004), and subsequently amended and expanded (Vargo and Lusch 2008). Moreover, acknowledging the centrality of some of the FPs, five 'axioms' of the S-D logic were identified (see Vargo and Lusch 2016). These axioms (with their associated FPs) are outlined below:

1. *Service is the fundamental basis of exchange* (FP1) – acknowledging that people partake in exchange to acquire the benefits (e.g. knowledge and skills) accruing from specialised competences or services.
2. *Value is co-created by multiple actors, always including the beneficiary* (FP6) – acknowledging that value is created not just by a firm, but also by the customer. Thus, firm-customer interaction is critical in value co-creation, defined by Prahalad and Ramaswamy (2004: 8) as, "the joint creation of value by the company and the customer; allowing the customer to co-construct the service experience to suit their context".
3. *All social and economic actors are resource integrators* (FP9) – thus, all the actors in value co-creation (including customers/users – see Arnould et al. 2006) can deploy resources, which can, in combination, contribute to this process.
4. *Value is always uniquely and phenomenologically determined by the beneficiary* (FP10) – highlighting the role of the user and/or customer as the ultimate arbiter of value.
5. *Value co-creation is coordinated through actor-generated institutions and institutional arrangements* (FP11) – which takes account of the many interactions among and between multiple actors, as well as resource implications and the impact of wider contextual factors, on the process of co-creation. In this context, 'institutions' are defined as "rules, norms, meanings, symbols, practices and similar aids to collaboration", and 'institutional arrangements' as "interdependent assemblages of institutions" (Vargo and Lusch 2016: 6), discussed further in the recent literature on service ecosystems (see Akaka and Vargo 2015; Chandler and Vargo 2011; Vargo and Akaka 2012).

The central position the S-D logic grants to co-creation between firms and users, and the specific resources of users and actor-generated institutions to facilitate co-creation, resonates with recent research in the co-design field. However, the S-D logic arguably approaches reality from a macro or systems level, making it quite abstract and difficult to dissect co-creation practices (and research into these practices). In contrast, co-design research starts, in an inductive way, from design

practices and theorizes mostly on the meso-, or relational level. Thus, a juxtaposition of S-D logic and co-design research can potentially enrich both fields.

Synthesising Co-design and the Service-Dominant logic?

There is, arguably, much resonance between co-design and the S-D logic. Co-design would not necessarily be subsumed in axiom 1 of the S-D logic, as design researchers associate users more as members of a 'convivial' culture than of a commercial/consumer one (Sanders and Stappers 2012). However, all other S-D logic axioms are clearly echoed in co-design research. Design value is also co-created among people with different resources, and the beneficiary of the product/service ultimately determines its value. The most striking, and interesting, potential overlap of S-D logic and co-design thinking and practice however relates to axiom 5 (i.e. co-creation happens in 'assemblages of institutions'). From a co-design perspective, institutional arrangements, or ecosystems, are not the only sites of co-creation. Designed spatio-temporal interventions, such as pop-up stores, are particularly suited to facilitate co-creation and the pop-up environment can be viewed as an assemblage, which stages and enables co-creation, and even engages users in co-design (Teal and French 2016; French et al. 2016; Overdiek 2017).

A further issue is that users who are currently motivated to co-design are mostly highly involved and knowledgeable, and consequently, may differ significantly from the majority of consumers (Hoyer et al. 2010: 289). This problem might, however, be addressed by pop-up store research. Diverse consumer groups who do not have the motivation or mind-set (as yet) to engage in more focussed co-design activities, could nevertheless be engaged through pop-up activities. In order to attract broader and more diverse groups of users and stakeholders into co-designing products, services or experiences at different stages of the design development process, entire pop-up store concepts - or at the least, certain 'pop-up' principles - could be utilized.

We argue, therefore, that retail pop-up stores be regarded as examples of assemblages or spaces for co-design. Pop-up stores are temporary - and often highly experiential - spaces that have been used predominantly by brands for marketing goals. The willingness of consumers to collaborate is increasing as they seek "consumptive/creative balance" (Sanders and Stappers 2012: 16), and opportunities to mix passive consumption with the ability to engage in creative experiences. Consequently, pop-up environments can be conceptualized as assemblages/spaces that facilitate consumers' engagement with a (possibly future) product or service offering in order to co-create value. This integrates the role of the designer more firmly into the marketing perspective, as implied by Sanders and Stappers (2012: 25) in the following quote: "Designers in the future will make the tools for non-designers to use to express themselves creatively."

Before discussing this in the context of two case studies, we briefly define and characterise pop-up retailing with particular reference to co-design.

Pop-up Retailing

In recent years, the 'pop-up' epithet has virtually become a synonym for any temporary event in a wide range of commercial and non-commercial contexts. Most notable of these commercial contexts is pop-up *retailing* - defined by Warnaby and Shi (2018: 1) in terms of "an ephemeral retail-oriented setting which can facilitate direct, experientially-oriented customer-brand interaction for a limited period". Pop-up has become an ever more popular promotional and sales-generating activity

for retailers, who performance have to be more agile and flexible in their operations (Warnaby and Shi 2019). In a non-commercial context, the pop-up concept has been regarded as a manifestation of temporary urbanism (see for example, Bishop and Williams 2012; Ferreri 2015, 2016; Harris 2015), incorporating such activities as the temporary creative re-use of vacant urban space (see for example, Colomb 2012; Ziehl and Oßwald 2015), in ways that are frequently regarded as pioneering and experiential (Ferreri 2015).

According to Warnaby et al. (2015), pop-up retailing could contribute to achieving a range of business objectives. These objectives include: (1) *Communicational* (i.e. to increase positive brand values perception); (2) *Experiential* (i.e. to facilitate the development of consumer-brand engagement); (3) *Transactional* (i.e. to increase sales in markets characterised by an intrinsic periodicity); and (4) *Testing* goals (i.e. to gain market, marketing and design intelligence). It is this last objective that we primarily focus on here. Warnaby et al. (2015) refer to a 'market tester' pop-up 'activity stereotype' where in-store pop-up environments facilitate the collection of customer feedback through interaction, and experiential elements of store design. From a co-design perspective, pop-up retailing with testing goals - representing an integrated experience around a new concept, product or service (see also Overdiek 2018/1 for an example) - could be categorized as an experience prototype, defined as "any kind of representation, in any medium, that is designed to understand, explore or communicate what it might be like to engage with a product, space or system we are designing" (Buchenau and Suti, 2000: 425).

In a pop-up store, users and stakeholders shape this prototype using their bodies and senses. They can actively participate and give feedback in this process which we term 'pop-up store research', thereby considering pop-up stores as research environments where firms can actively seek to investigate needs of consumers. "Enacting" (Sanders Stappers 2012: 50) products or services in the designed environment of a physical pop-up store could help people experience the complexities of future products and services. This in turn would enable them to co-design. This approach has a number of advantages over the purely digital interaction of, for example, virtual reality (VR) simulation (Martinez et al. 2016). By this latter virtual user experience approach, digital tools, logical thought and verbal expression are activated, but what is supported much less effectively is people's skills in spatial reasoning, associative thought, overview, empathic thinking, informal discussions and serendipity (Stappers, 2006). The physical pop-up store conceptualized as experience prototype could successfully support these additional skills.

Pop-up store research could address the above by allowing the immersion of users in an integrated experience, which is connected to a temporary physical space, but can also contain digital interaction, VR and augmented reality (AR). According to Martinez et al. (2016), immersion - an absorption of the user's senses that calls for her holistic attention - is a technique to blur the role between designer and user. In pop-up store research, immersion and opportunities to co-design are linked. The strength of the pop-up store lies in *engagement*. Pop-up stores can engage (i.e. attract, immerse and motivate to co-design) ordinary users and otherwise difficult to reach communities. They do this by 'popping up' as spatiotemporal, 'in-between' (or interstitial) spaces in shopping/urban environments. Moreover, the near-future orientation of pop-up stores, combined with the effect of scarcity to impel action, engages curious user groups such as "emergent consumers" and "market mavens", who bring valuable feedback to design (Hoyer et al. 2010: 288).

Hoyer et al. (2010) discuss the motivations of users for co-design. Financial or social status benefits play an important role, but so does pure enjoyment. Hedonic motivation and a pleasure to explore and learn are further reasons to visit and co-design in temporary spaces. The rest of the paper will consider two case studies that exemplify the efficacy of the use of pop-up stores for allowing

marketing insight and for facilitating co-design with otherwise difficult to reach user groups. Important design aspects of such spaces will be unpacked by the two case studies, which epitomise the notion of ‘pop-up store research’, described below:

“Pop-up environments are by definition limited in time, and therefore require close monitoring and responsive facilitation to ensure the most effective use of resources, however these intensive, condensed environments or specific events within larger pop-ups can be directly instigated by researchers, providing the opportunity to embed data gathering and a focus on thematic topics of interest into the space from the outset” (Maxwell et al. 2013: 201).

METHODOLOGICAL CONSIDERATIONS

This study champions a performative social sciences methodology, where collaborative practices are created and recreated daily within distinctive spatial contexts. In the cases below, designer(s), students and other network partners are human actors interacting with the pop-up itself as a “nonhuman actor” (Latour 1994) to unfold a presence. From this grounded-in-action perspective, reality is the outcome of a joint mediation between the “built-in properties” (Fairhurst and Putnam 2004: 18) of objects and the objectives of human subjects. This methodology matches well with ‘constructive design research’, which refers to design research in which construction - be it product, system, space or media - takes center-stage and becomes the key means in constructing knowledge (Koskinen et al. 2011: 5).

We now outline two case studies of pop-up research from the Netherlands. Responding to the significant disruption of the retail sector caused by the move to online purchasing and changing consumer values and purchasing behaviour, The Hague University started a ‘Retail Innovation Lab’ in 2016. In order to co-create with retailers and consumers, the lab initiated design-led research interventions consisting of an iteration of different pop-up stores. They were conceived as experiential engagement platforms around different themes to explore firms’ new product and service concepts and their relation to user needs. Working together with Industrial Design Engineering and Communications students in a cross-disciplinary learning module of ten weeks, it embedded this project across different curricula. The following case study examples – namely, In Bloom, and To-Kiss-Or-not-To-Kiss - illustrate learnings from this pop-up shop research. Figure 2 provides a summary of the applied research method for each case.

Insert figure 1

IN BLOOM

Co-design is a form of co-creation that can be applied across the whole span of the design development process. It thus needed to be determined in which phase of the design development process to position the case studies, and why. Co-design authors find that the approach is most effective in the so-called “fuzzy” front-end phase (Sanders and Stappers 2012: 25-31). That is, when a designer/marketer does not yet know which product, service or experience could satisfy a user’s needs. IN BLOOM was chosen as first case study, because it situates the co-design activity at the front end of the design development process.

In early 2016, the marketing department of a Dutch grower’s cooperative approached the ‘Retail innovation Lab’ with the goal of discovering the flower preferences of millennials. Their wish was to

find out why young people were reluctant to buy flowers and when they did, and what their product preferences were. The lab suggested the use of a pop-up approach to address the following research questions:

1. How can a themed pop-up store facilitate insights into completely new flower products and services for millennials?
2. How can a themed pop-up store engage users in co-design?

A mixed method research design was developed to answer these questions. This consisted of a questionnaire at the pop-up store entrance and again at the exit, with 173 valid questionnaires completed at the entrance and 135 completed at the exit. In addition, 36 valid questionnaires were received via e-mail, three weeks after the pop-up experience. The closed and open questions of the questionnaire focused on the visitors' perception, imagination and chosen interactive activities. To foster creativity (Sanders and Stappers 2012), one open-ended sentence completion question was also included in the questionnaire. Additionally, the lead author of this paper spent at least an hour every day at the pop-up, observing, experiencing, talking to visitors and keeping a logbook.

For the experience prototype - the pop-up store themed around flowers - Industrial Design Engineering students conceived a stand-alone pop-up store to be placed in the central hall of the University. This location was chosen for its high footfall of millennials. International Communication Management students came up with a name 'In Bloom' and a communication strategy, and a Small Business student coordinated the process. The growers provided flowers and plants, but were confined to the role of sponsor, thereby minimising their influence on the conception of the pop-up store. This design decision was taken based on co-design literature: The marketing partners from the grower firms wanted to extract information for purely monetary goals. (i.e. "Which colours of flowers do we need to sell to millennials?"), whereas the pop-up research embarked in co-design around more experiential (e.g. "Can a pop-up facilitate co-design?") and societal (e.g. "What are the needs of millennials when it comes to the presence of flowers and plants in their lives?") goals. The grower partners were curious enough to grant this experiment. They were also persuaded to refrain from introducing visual branding in the pop-up store. The argument for this – again deduced from co-design literature – was that overly visual branding would distract users from the co-design activity. So visitors entered the space without knowing exactly what it was, to keep the experience ambivalent, which, in theory, should also foster their creativity (see Sanders and Stappers 2012: 44 on the positive influence of ambiguity).

The Communication students created a story around the 'In Bloom' pop-up store, which was communicated through the logo (figure 3), released two weeks before the opening. This communication strategy "primed" future visitors for the experience. The design students came up with a construction of two domes connected by a tunnel, crafted using plastic tubes and a foil cover. They also designed an interactive tree (which emitted sound when touched) as the centrepiece of the pop-up store. Furthermore, there were visual, auditory and olfactory presentations of flowers, including a lounge space. Finally, they created work-stations where users could paint, eat or name flowers (figure 4/1)

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Insert figure 2

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The pop-up was scheduled to be open for five days, from 4-8 April 2016. One day after the opening, the University's internal magazine published the following description:

"When you walk into the aluminium igloos on a green carpet, you enter another world. Fresh flowers colour the walls, the smell does take you to a beautiful spring day in nature and the music moves you further: to a distant place with trickling water and chirping birds. And that's all while you're just in the main atrium".

During the five days of 'In Bloom', more than 2,000 students, staff and neighbourhood residents visited. Judging from the questionnaires, it was the perceived oddness of the pop-up in this place, as much as the flower theme, that drew their attention. The in-between-ness of the pop-up store not only attracted them visually, it also triggered their curiosity, which made them take the time to visit the space. Their question "What is this?" was not answered conclusively by the facilitators on site, to allow for ambiguity. They were just told that it was a research project and that they were free to touch and explore.

Fifty percent of questionnaire respondents directly after the pop-up experience revealed that it had made them aware of the added-value flowers and plants could have for their working environment and/or homes. Even three weeks after the pop-up experience, 30% of users still looked differently at flowers and plants. In personal conversations, many stated that they would want to have more flowers and plants in their lives, if only they had the space and time to care for them. Interestingly, 75% of the co-designing users were female. As the male student rate is about 50% and male students had to pass the pop-up store as often as female students, this finding is significant. It might suggest that the flower theme engages women more than men.

On the day following the opening of 'In Bloom', some people came back to have lunch, meet or work in the pop-up store. They all stressed the opportunity the space provided to "decompress". Many pointed out that it was the full sensory experience that drew them to the space, particularly the scent. Photos and stories were shared by users on Facebook and Instagram. During the third and fourth days of the pop-up store, user comments aligned on the space as a "restorative flower oasis". For the sponsors these results were revealing. They realized that millennials strongly connected to their plants, but could not interact with the kind of products presently on offer in stores. It encouraged them to start thinking in a completely different way about offering the experience of flowers and plants to this user group in the future. As for the questionnaire, users remarked that it was too long and disturbed their experience of the pop-up. Many also did not want to fill it in. In particular, the sentence to be completed in the questionnaire generated significant insights for the growers. Two typical expressions were:

"Plants make me think of happiness, beauty and bring a connection with nature indoors."

"I forget to water them all the time and they die."

In terms of co-design, users developed and shared ideas in different ways. They participated in a 'name the flower' contest and in flower tastings and communicated experiences and ideas with the two facilitators in the store. Users were thus actively co-designing a future product/experience that was meaningful to them together with the flower and plant industry. It can be concluded that this pop-up store facilitated a high level of co-design.

In summary, some indicative principles of pop-up research derived from this case are:

- Create a multi-sensual experience for the user
- Allow a certain degree of ambiguity in the pop-up space

- Keep the visual presence of a brand minimal
- Provide activities to support people's need for creative expression on the making level
- Provide a lounge space inside the pop-up where users can reflect, relax and meet each other
- Use a questionnaire including fill-in sentences, but keep it short and simple

TO-KISS-OR-NOT-TO-KISS (TKONTK)

With the second case, we wanted to explore the working of the pop-up shop as research space to inform another phase in the design development process; the 'market & sell' phase, more typically associated with marketing research. Again, mixed methods were used, and questions based on the experience model of Varshneya et al. (2017) incorporated. This model shows a positive correlation between word-of-mouth and experiential value. This allowed researchers to make the perceived experiential value of the pop-up store measurable with just one question, and allowed the questionnaire to comprise only three questions, along with respondent demographics. Responses from 130 visitors were obtained, and around 500 users left visual and oral feedback using make tools. Furthermore, the lead author spent three entire days at the pop-up store to conduct participatory observation.

In July 2017, the 'Retail Innovation Lab' was represented at the prestigious Dutch Design Week (DDW) in Eindhoven with a research pop-up store. For this, it collaborated with a lecturer from the Industrial Design Engineering programme who was doing a Master's degree about the concept of a Dutch multicultural souvenir. Together with a group of students, she had redesigned two typical Dutch souvenirs: the kissing couple and the stroopwafel cookie (Dutch waffle cookie). Ten prototypes of the new kissing couple were made from clay (figure 5), and the cookie had been enhanced with three flavours based on spices from cultures which had most influenced the country. In a pop-up store themed around this product, co-design in a later phase of the design development process (Sanders and Stappers 2012) more typically associated with a marketing oriented perspective could be researched. From a design perspective, the product focus was also interesting.

Insert figure 4

The research questions geared to unpack more of this 'market & sale' phase were:

1. How can a themed pop-up store around a product facilitate insights into what is meaningful about this product and its experience for users?
2. How can a themed pop-up store engage users in co-design?

Again, Design Engineering and Communications students participated in the project, designing and building a pop-up market booth, accessible from three sides (figure 6/2). One side had a display showing the different kissing couple figurines, which could also be held and touched. Another side was where the cookie product could be scented and tasted, and the third side was a 'step in' selfie booth in Delft Blue style (figure 6/1). The selfie booth had wall tile designs from six different cultures and played Arabic music inside. The pop-up store was provocatively called 'To-Kiss-Or-Not-To-Kiss', as kissing in public itself is an expression which is not supported by all cultures in the Netherlands. The pop-up store remained open for ten days during Dutch Design Week in October 2017.

Insert figure 5(1), 5(2) next to each other

95% of questionnaire respondents confirmed that they would recommend visiting the TKONTK pop-up store to colleagues and friends. This vouches for the high experiential value of the pop-up store. Like the 'In Bloom' pop-up, TKONTK also attracted more women than men: 67% of the co-designing users were female. Interestingly, TKONTK also engaged more older people: 55% of visitors were over 40 years old. This was surprising as there was no significant relationship between DDW visitors, gender and age. The fact that TKONTK competed as an experience with many technology designs and itself did not include a mixed or virtual reality element, might be one reason for not attracting younger, more tech-savvy consumers. The designer took another insight from this: The typical consumer of this multicultural souvenir product might be older than 40 years.

In terms of co-design, there were several probes, such as maps where visitors could mark their family's travel to the Netherlands as shown in figure 7 (right side). They could also write on postcards how they would like to adapt the figurines to their taste and need. However, visitors perceived the actual souvenir design as finished. Their input on the development of the further design of the products was minimal. The limited time people spent in a pop-up store (as opposed to a workshop, for example) might be a reason for this. In this limited timeframe (five minutes was the average time of visitation, according to researcher's notes) prompted activities would need to be very targeted to the product co-design and include a scaffolding. Also, 'seed participants' (facilitators that demonstrate activities) could have a more prominent role, as suggested for user experience research by Findeiss et al. (2015).

Insert figure 6(1), 6(2) next to each other

Co-design was also hindered because the available space in the fair was smaller than promised and visitors could not lounge or linger, as had been the case with the 'In Bloom' pop-up store. Relating to the actual design concept, in terms of giving meaning to the overall experience, users and stakeholders (i.e. embassies, producers, retailers) left much feedback that provided insight into the meaningful experience connected to this multicultural souvenir product. Some examples included:

"The experience is playful, like the souvenir";

"I like the fusion of cultures in what I see and hear in the pop-up";

"It surprised me: At first sight it looks traditional, but it is innovative and beautiful design";

"I love that it is about love";

"Tasting and touching made it a very valuable experience."

Principles of pop-up research derived from this case are:

- Many of the principles developed from the 'In Bloom' case were confirmed
- Provide scaffolding (and possibly 'seed participants') in the design tools to allow making/feedback by users in the limited timeframe of the pop-up store engagement

- Connect experiential value conceptually to word-of-mouth to shorten the questionnaire

RESULTS AND DISCUSSION

These case studies demonstrate the potential of 'pop-up store research' from both co-design and co-creation perspectives. In terms of co-design, using a pop-up modus operandi facilitated the generation of new product and service ideas based on perceived and expressed user needs, as well as ways in which the design prototypes presented could be improved. From a marketing perspective, both pop-ups were developed in response to commercial needs of client organisations, and their experientially-oriented, co-creative aspects enabled a greater degree of engagement, which led to an improved understanding of how value was perceived by users.

The 'In Bloom' pop-up store exemplifies how a highly experiential pop-up environment can be successfully used as a platform for co-design in the early, so called 'fuzzy front-end', phase of the design process. The 'To-kiss-or-not-to-kiss' case shows that co-design might be more difficult to achieve in later phases of the design process, when a product is perceived as 'finished' by the user. While strongly engaged by the theme of a pop-up, a certain freedom to experientially engage and make new interpretations might be important to trigger consumers' creativity further, particularly in later stages of the design process (see Overdiek 2018/2). Furthermore, a scaffolding of the make tools adapted to the relatively short visiting time of consumers in pop-up stores is necessary.

From both cases, we were also able to extract some generic principles of pop-up store research. A themed pop-up store that facilitates co-design should have the following principles:

1. Create a multi-sensual experience for the user
2. Allow for a certain degree of ambiguity in the pop-up space
3. Keep the visual presence of a brand minimal
4. Provide activities to support people's need for creative expression on the making level
5. Provide scaffolding (and possibly "seed participants") with design tools to allow making/feedback by users in a limited timeframe
6. Provide a lounge space inside the pop-up where users can reflect, relax and meet each other
7. Use a questionnaire with open questions and fill-in sentences, but keep it short and simple
8. Connect the measurement of experiential value conceptually to word-of-mouth to shorten the questionnaire

Of course, these generic principles will need to be explored and elaborated further, across different research contexts with regard to products and services. Moreover, there are - inevitably - some limitations arising from the exploratory nature of this study. For example, the essentially convenience sampling approach adopted meant that in both cases more women than men engaged with co-design opportunities in the pop-up store, and this needs to be investigated further to ascertain whether such gender bias is a more general issue. Future investigations will need to take into account the extent to which the particular phase in the design development process in which the research occurs has an effect on user/customer behaviour. Other questions arising relate to the applicability of this approach to more intangible service offerings, and perhaps linked to this the potential of immersive technologies such as AR or VR in the pop-up to increase co-design opportunities. Finally, from a broader perspective, because pop-up research requires significant resources compared to other kinds of user research, in which cases and/or for which kind of offerings is this approach particularly suitable and/or cost-effective?

CONCLUSION AND FUTURE RESEARCH AGENDA

Using a pop-up store for concept or market 'testing' purposes has been highlighted as a potentially important motive for the pop-up activity (Warnaby et al. 2015). In this paper, we develop this further in suggesting pop-up activities could be regarded as both a marketing tool and an experience prototype. This, in turn, could enable both the marketing (especially when adopting an S-D logic perspective) and the co-design fields to profit from the blending of these different perspectives. Pop-up store research can enrich marketing through adopting a user-centric and experiential research practice, and can enrich design research with relevant knowledge about the design and use of temporary spaces for co-designer engagement.

However, some ethical questions arise from the juxtaposition of the two academic fields of design and marketing. There are normative differences between co-designing for societal value on the one hand and experience co-creating (i.e. marketing) for 'mere' monetary value, on the other. Some questions arising include: Can we define all users as consumers? How equal is the exchange of creative resources between brands and consumers? Do visitors of a testing pop-up store (need to) know that they are participating in a co-design activity? In creating together with firms, should the co-creation goal be openly communicated to users, and, if so, how? Some tentative conclusions relating to these issues have already been gleaned in this research. Branding as visual presence of the firm was minimized to give parity to every actor in this co-creation on the presumption that if branding is allowed to take centre stage in a research pop-up store, firms could be perceived as exploitative and creativity of users could be stifled.

An open discussion about these issues could pave the way to a variety of additional issues and questions, which could provide the basis of a future research agenda. Such issues include, for example: From an S-D logic perspective, identifying the nature of the operant resources that consumers bring to bear (see Arnould et al. 2006) in the co-creation of value in this context; and indeed, more fundamentally how is 'value' defined in this context, and which consumer types are more receptive to this approach? Another avenue for further research is identifying business issues for which this 'pop-up research' approach is particularly appropriate as a methodology for informing solutions. Particularly the field of experiential value for circular products and services for sustainable and circular societies seems to offer a rich area for application of pop-up store research.

From a co-design perspective, to what extent can the role of resource integration (by both consumer and marketer) in creating these flexible spatiotemporal contexts be conceptualised in terms of assemblage theory? More specifically, are there any particular 'generative toolkits' (Sanders and Stappers 2012) that are especially effective in this context for engaging users in co-design in pop-up shops? Here, it would also be interesting to look more deeply into the literature of embodied interaction and the opportunities pop-up stores as physical experience prototypes have to offer. More extensive pop-up store research, in collaboration with marketers and designers across different phases of the design development process, is necessary to answer these questions.

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