

A designerly way of analyzing the customer experience

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Abstract

Purpose – The purpose of this paper is to evaluate the usability of different design methods in understanding the customer experience from a contextual and systemic standpoint.

Design/methodology/approach – Three design methods (i.e. personas, observations and collaborative service mapping) were applied to analyze customer experiences in two service settings. These methods' usability was compared across the two settings.

Findings – Personas, as informed by phenomenological interviews, provide insights into the customer's broader lifeworld context. These insights assist in connecting with and understanding the customer experience from a dyadic customer-firm perspective. The involvement of the customer in service mapping activities supports the validation of findings and gives access to experience dimensions beyond the immediate service setting.

Research limitations/implications – The analysis is limited to three design methods and is based on small samples. Future research should systematically review design methods to provide a basis for a more comprehensive evaluation.

Practical implications – To successfully capture the contextual and systemic nature of the customer experience, managers should apply interpretive approaches and actively involve selected customers as "experts of their experiences". The study provides guidelines on how design methods can be combined and applied to a more holistic customer experience analysis.

Originality/value – The paper shows that design methods, when applied in a combined form, can support an analysis that captures both in-depth insights into the customer's lifeworld and the complexity of value constellations.

Keywords Service design, Customer experience, Participatory design, Empathy design, Service mapping

Paper type Research paper

Introduction

Traditionally, the customer experience was defined as the perceived outcome of the customer interacting with the firm during the service process (Johnston and Kong, 2011; Lemon and Verhoef, 2016). However, recent conceptualizations have shifted toward a contextual and systemic perspective (Jaakkola *et al.*, 2015). Studies show that the design of seamless customer experiences is becoming increasingly complex because customers, enabled by technology, are co-creating their unique experiences with other actors beyond the boundaries of the underlying service provider (Sandström *et al.*, 2008; McColl-Kennedy *et al.*, 2015a; Teixeira *et al.*, 2017). This complexity is reflected in the ecosystems lens of S-D Logic asserting that value co-creation can include *any* configuration of system entities that link their resources for mutual benefit (Lusch and Vargo, 2014; Vargo and Lusch, 2016). Based on these developments, the customer experience can be defined as a

customer's "journey" which emerges from an iterative and dynamic process over time and involves multiple touchpoints, only some of which are under the firm's control (McColl-Kennedy *et al.*, 2015b; Lemon and Verhoef, 2016).

The systemic nature of the customer experience entails that its analysis must go beyond the immediate service delivery system and consider how customers co-create value in their own context. Service design offers a novel approach to holistically analyzing the customer experience by combining methods from different design fields (Teixeira *et al.*, 2017; Yu and Sangiorgi, 2018). Yet many firms still limit their analysis to dyadic firm-customer interactions and do not take into account the contextual and multi-actor nature of value co-creation (Voorhees *et al.*, 2017). This is problematic because costly new service failures are often a consequence of the firm not clearly understanding the specific circumstances surrounding its customers' value creation process (Gustafsson *et al.*, 2015). For example, the UK Design Commission (2013) reports that many service failures result from service design focusing on the

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Journal of Services Marketing
32/7 (2018) 805–819
© Emerald Publishing Limited [ISSN 0887-6045]
[DOI 10.1108/JSM-04-2017-0138]

Received 20 April 2017
Revised 4 February 2018
30 April 2018
16 August 2018
29 August 2018
Accepted 31 August 2018

organization-internal delivery system without considering the preferences, needs, behaviors and contexts of the public, customers and other service users. In a similar vein, [Trischler et al. \(2018\)](#) emphasize that an essential, but often lacking, aspect during the early stages of the service design process is successfully translating user needs into new service concepts.

One underlying problem is that, while design research offers a wide range of concepts and methods, their evaluation, through application in practice, is lacking ([Halvorsrud et al., 2016](#); [Rosenbaum et al., 2017](#); [Teixeira et al., 2017](#)). For example, methods commonly used in the fields of empathy design and participatory design can help to generate insights into the customer's lifeworld ([Visser et al., 2005](#); [Koupric and Visser, 2009](#)), or tap customers' collective creativity for innovation purposes ([Steen et al., 2011](#); [Trischler et al., 2018](#)). However, we still lack an in-depth evaluation of these methods' applicability to the complex reality of the customer experience ([Ostrom et al., 2015](#); [Teixeira et al., 2017](#)). This study goes some way toward addressing this knowledge gap by evaluating the usability of different design methods in understanding the customer experience from a systemic and contextual standpoint. The following research question guides this study:

RQ1. How can design methods assist in holistically analyzing customer experiences?

The methods evaluated in this study include personas, observations and collaborative service mapping. These have been applied to explore customer experiences during two service design projects. These three methods represent popular interdisciplinary methods for user research purposes ([Parker and Heapy, 2006](#); [Trischler and Zehrer, 2012](#); [Daae and Boks, 2015](#)) and have been suggested as a promising alternative to conventional experience analysis methods ([Zomerdijsk and Voss, 2010](#); [Trischler and Scott, 2016](#)). However, previous studies have mostly limited the application of these methods to the service delivery system, with insights regarding contextual and systemic customer experience aspects relying on the interpretations of either the designer or firm-internal staff ([Følstad and Kvale, 2018](#); [Vink and Oertzen, 2018](#)). In contrast, the present study goes beyond dyadic firm-customer interactions and considers customers as experts in understanding the contextual and systemic experience aspects. The study adopts a qualitative approach, which involves, similar to other studies, an iterative process of studying the customer experience and evaluating a method's usefulness ([Pinho et al., 2014](#); [Halvorsrud et al., 2016](#); [Teixeira et al., 2017](#)).

This study makes a number of important contributions to the service research literature. First, the findings suggest that holistic customer experience analysis requires a combined application that leverages the advantages of different design methods. In doing so, the combination of interpretive and collaborative methods seems particularly useful because this can help us to understand the contextual nature of customer experiences without being over-reliant on empathy ([Vink and Oertzen, 2018](#)). Generating this understanding during the early stages of the design process is important when it comes to innovating new service offerings that effectively address the customer's needs ([Patrício and Fisk, 2013](#)). Second, the study shows that actively involving customers is beneficial because they can provide unique insights into their own value creation

process and thus help to identify the key factors, beyond the underlying service setting, which affect their experience. This finding suggests that firms should refrain from using conventional market research techniques because these do not sufficiently capture customer knowledge of usage and needs ([Witell et al., 2011](#); [Gustafsson et al., 2012](#)). Third, the study contributes to the ongoing development of service design by evaluating the usability of different design methods in better understanding customers' unique experiences. The study also provides practical guidance on how design methods can be adopted and modified to suit the specific demands of the explorative service design stage.

The remainder of the paper is structured as follows. Next, the literature is examined, focusing in particular on reviewing design methods suitable for capturing the systemic and contextual nature of the customer experience. This examination of the literature is followed by a description of the methodology, the study setting and the design methods applied to the experience analysis. The findings are then presented, with theoretical and managerial implications being discussed. The article concludes with limitations and directions regarding future research.

Literature

Exploring the customer experience through service design

Service design is "a creative, human-centered and iterative approach to service innovation" ([Wetter-Edman et al., 2014](#), p. 109). It follows an iterative process of exploration, ideation, reflection and implementation ([Patrício and Fisk, 2013](#)), during which the early stages are best described as a "systems challenge driven by an understanding of human experience" ([Evenson, 2008](#), p. 26).

The present study focuses on the exploration stage. This stage traditionally concerns the analysis of customers' responses to the various design elements of the service offering. In doing so, the central unit of analysis is the service encounter – described more accurately as a sequence of encounters – referring to interactions between the customer and the firm ([Verhoef et al., 2004](#)). For example, the blueprinting technique is commonly used to map how the organization-internal structure (e.g. interrelationships between employee roles, operational processes and IT) supports the customer's flow of actions throughout the service process ([Kostopoulos et al., 2012](#)). This includes the identification of potential bottlenecks, critical encounters (e.g. events, incidents, processes, or issues), or new service elements that support the creation of superior customer experiences ([Bitner et al., 1990](#)). Other common methods are experience clue management, critical incident technique, servicescape design, service transaction analysis, customer experience analysis and service audits ([Johnston and Kong, 2011](#)). Insights generated by the application of these methods then guide service designers in the orchestration of clues, processes and interactions to create the desired experiences for the customers ([Berry et al., 2006](#); [Bitner et al., 2008](#)).

It must be noted, however, that these methods primarily focus on dyadic customer-firm exchanges (i.e. on interactions between frontline employees and customers or on the influence of the service setting) and do not sufficiently account for the

customer-led aspects of value co-creation (Jaakkola *et al.*, 2015). This includes customer activities occurring prior to or after the service encounter (Voorhees *et al.*, 2017). This narrow focus is particularly problematic when considering the fact that customers often co-create value beyond their interactions with the underlying service provider by integrating resources from many different sources (McCull-Kennedy *et al.*, 2012; Trischler and Charles, 2018). The systemic nature of the customer experience is further driven by technology advancements, which change the dyadic relationship between the firm and the customer into a dynamic, many-to-many landscape (Pinho *et al.*, 2014; Teixeira *et al.*, 2017). Consequently, the focus on firm-led, dyadic exchanges provides little guidance on how to facilitate the experiences that emerge from, or are influenced by, actors beyond the service setting. Instead, any methods applied to customer experience analysis must recognize service provision as dynamic and highly complex value constellations (Patrício *et al.*, 2011) and account for the possibility of customers independently creating their own unique experiences (Jaakkola *et al.*, 2015).

In addition, the customer experience is also context-specific and can encompass lived or imaginary dimensions in the past, present, or future (Helkkula *et al.*, 2012; Heinonen and Strandvik, 2015). This conceptualization is based on S-D Logic, which asserts that value cannot be predefined or delivered but is experientially determined by the customer on the basis of the specificity of his/her context (Vargo and Lusch, 2008), including the social context (Edvardsson *et al.*, 2011). Therefore, a key challenge facing service design is capturing the specific circumstances surrounding the customer's own value creation process (Gustafsson *et al.*, 2012; Trischler *et al.*, 2018). This includes in-depth insights into customers' needs, preferences and dreams (Wetter-Edman *et al.*, 2014), as well as their co-creation activities involving multiple actors, including the focal firm (Heinonen and Strandvik, 2015). It follows that holistic customer experience analysis should start with a clear understanding of the customer's *lifeworld* (context focus). This understanding then informs the customer journey, including "touchpoints" with multiple actors throughout the value creation process (systems focus). The next section examines methods taken from different design fields that might be suited to such an analysis.

Design methods suitable for capturing contexts and complex service systems

Central to design research is the development of new methods, tools and techniques that are applied (often in a combined form) to support a specific design activity or purpose (Sanders *et al.*, 2010). Therefore, the chosen combination depends on the underlying design objective, which, in this study, concerns analysis of the customer experience. Based on this focus and considering the importance of understanding the contextual and systemic nature of customer experiences, methods adopted from empathy design, participatory design and service representations are particularly relevant. These fields contribute methods – also referred to as "instruments of inquiry" – that help designers to understand the problem at hand and to experiment with potential solutions (Dalsgaard, 2017). Below, we briefly introduce each design field before narrowing the focus to the methods (i.e.

personas, observations and collaborative research mapping) selected for the current analysis.

Empathy design aims to gain comprehensive insights into what customers value in their lives (Koskinen *et al.*, 2003; Mattelmäki *et al.*, 2014). This exploratory inquiry begins with the designer entering and wandering around the user's world, creating an empathic understanding of his/her desired experiences, dreams and expectations (Battarbee and Koskinen, 2005). Methods and techniques that assist in connecting with the user's world include personas, diaries, or phenomenological interviews. Once the designer has stepped into the user's shoes, he or she can then "walk the user's walk" by means of using observational techniques (Suri, 2003; Kouprie and Visser, 2009). After detaching from the user's world again, the designer uses the generated insights to ideate new design concepts. An advantage of empathy design is its access to contextual and situational field data. In addition, this approach also enables the designer to immerse himself/herself in and make sense of the user's lifeworld, while keeping control of the design process. This is important when exploring new service ideas because making empathic connections with the future users of a service is the "starting point for speculation about new service concepts" (Segelström *et al.*, 2009, p. 3).

In contrast to empathy design, participatory design focuses on involving non-designers, e.g. users and other stakeholders, as co-designers (Sanders and Stappers, 2008; Holmlid, 2009). The active involvement of users in design activities is important because just listening to what people express in words will not provide access to tacit knowledge and latent user needs (Wittel *et al.*, 2011; Trischler *et al.*, 2018). A key area of participatory design research is, therefore, the development of methods that support non-designers in directly contributing their unique knowledge during the various stages of the design process (Mattelmäki, 2008; Sanders *et al.*, 2010). For example, design games (Brandt *et al.*, 2008), cards (Clatworthy, 2011), or make tools (Sanders *et al.*, 2010) enable users to complete design tasks individually or as part of a design team. In addition, sensitization toolkits encourage users' reflections on a specific design task (Visser *et al.*, 2005; Dietrich *et al.*, 2017). The data returned can then be an inspirational input for designers to draw on, or can prepare users ahead of their involvement in the participatory design activity. Recent studies provide evidence of the effectiveness of applying participatory design methods during the early service design stages: Everyday users, including those who did not perceive themselves to be suitable co-design participants, contribute highly relevant knowledge about their usage and needs (Durl *et al.*, 2017; Hurley *et al.*, 2018).

Fundamental to design practice are external representations in the form of maps, models, sketches and other visual representations of existing and potential future states (Stickdorn and Schneider, 2010; Blomkvist and Segelström, 2015). While representations are used in most design disciplines to transform user research data into visual dimensions, they are particularly relevant for service design projects dealing with complex value constellations (Patrício *et al.*, 2011; Pinho *et al.*, 2014; Trischler and Scott, 2016). For example, service representations (e.g. blueprints, customer journey maps) assist in visualizing complex systems and processes during the exploratory service design stage, without hampering ideation by being too detailed (Segelström, 2009;

Stickdom and Schneider, 2010). Representations can also be used to prototype, test and refine new design concepts before implementation during the later design stages (Blomkvist and Holmlid, 2010). During these stages, service representations are more realistically articulated in the form of photographic and cinematographic techniques (e.g. storyboards, moodboards) (Diana *et al.*, 2009).

Table I provides an overview of the popular methods developed within the respective design field and summarizes their distinct qualities. The present study applies methods across the three fields. Specifically, personas and observations are adopted from empathy design, while collaborative service mapping represents a combination of service representation (i.e. the customer journey map) and participatory design. The methods were chosen for the following reasons:

- Personas generate a broader understanding of the respective target market, including users' specific attitudes, preferences and interests (Blomkvist and Arvola, 2002; Holmlid and Evenson, 2008). In this study, persona development is supported by phenomenological interviews because this form of narrative data provides insights into the customer's lifeworld and experiences dimensions that encompass past, future and imaginary aspects (Helkkula *et al.*, 2012).
- Observations is a key method of empathy design because it helps designers to connect with and analyze, customer experiences within the actual setting (Battarbee and Koskinen, 2005; Visser *et al.*, 2005). Observations are also increasingly being used in marketing research and practice since recognition of the relevance and richness of non-verbal data (Gummesson, 2007) and technological advances, makes it easier for the researcher to record data (Lee and Broderick, 2007). In this study, non-participant observations – also referred to in design research as “walkthroughs” – were used because detachment from a specific user allows repeated field analysis at different points in time.
- Service representations transform complex value constellations into visible dimensions and provide clarity as regards how value is co-created among multiple actors (Patrício *et al.*, 2008; Patrício *et al.*, 2011). In this study, customer journey maps are applied because this tool captures “touchpoints” across the entire value constellation from the customer's point of view (Zomerdijk and Voss, 2010; Halvorsrud *et al.*, 2016; Rosenbaum *et al.*, 2017). However, to incorporate contextual aspects, i.e., situational factors and the social context in which an experience occurs (Edvardsson *et al.*, 2011), this study combines service representations with participatory design. The combined approach also avoids an over-reliance on empathy by engaging those who have experienced certain situations first-hand (Vink and Oertzen, 2018). Thus, representatives of the respective target market were actively involved in the development of the customer journey maps.

The research design and study setting underpinning the application and evaluation of the selected design methods is detailed next.

Methodology

Case selection

With the aim of evaluating the suitability of different design methods when it comes to understanding the customer experience, a case study method was chosen; two main reasons underpin this choice. First, the case study method provides access to real-world data in a holistic way, without assuming away complexity, chaos, ambiguity, fuzziness, uncertainty and dynamic forces to make things convenient for the researcher and the analysis (Voss *et al.*, 2002; Gummesson, 2005). This characteristic is essential for iteratively studying the customer experience and evaluating a method's usefulness (Teixeira *et al.*, 2017). Second, case studies allow the selection of specific conditions and cases, including a theme park and a university in the current study. The choice of using dissimilar settings allows the identification of patterns of difference and similarity across cases (Yin, 2009), something which concerns here the evaluating of selected design methods (i.e. personas, observations and collaborative service mapping). Also, as the research question is directed toward evaluating the suitability of design methods for a *holistic* customer experience analysis, the number of cases was limited as regards depth rather than breadth.

The two selected cases represent key industry sectors that operate along the Gold Coast of Australia. Theme parks are a core element of the Gold Coast's tourism product. To illustrate this, from November 2013 to March 2014, AUD15m was jointly invested, by the Queensland Government and the two theme park operators (Ardent Leisure Group and Village Roadshow Limited), in a large-scale campaign promoting the Gold Coast as the “Theme Park Capital of Australia” (Becken *et al.*, 2014). With six major theme parks and attractions and around 6 million visitors per year, the Gold Coast offers the largest concentration of themed attractions in Australia. Furthermore, the higher-education sector represents a socio-economic pillar of the Gold Coast (Study Gold Coast, 2016). The Gold Coast is home to numerous higher-education institutions, including the campuses of four major universities (Griffith University, Bond University, Southern Cross University and Central Queensland University). International students in particular have become a catalyst in the Gold Coast's economic growth, with 14,000 international students currently contributing about AUD1bn a year to the local economy. As universities compete for international students in a global marketplace, they are increasingly being pressured to adopt a service mindset (Finney and Finney, 2010; Ostrom *et al.*, 2011).

Participants

To facilitate an in-depth evaluation of the selected design methods, the application involved customers from two specific customer groups. As teenagers are typically opinion leaders in their families, particularly with regard to leisure activities (Baker, 2001), customers representing this segment were selected to analyze the theme park experience. The focal theme park predominantly relies on the domestic market and on the immediate catchment area, consisting of daytrip visitors. Accordingly, participants were recruited on the basis of the following criteria: aged between 13 and 18 living in either of the

Table I Overview of design methods across three fields

Key References	Design Method	Description	Quality and Application
<i>Empathy Design</i> Cooper (1999), Grudin and Pruitt (2002)	Personas	Fictional profiles based on rich user information, including socio-political and behavioral aspects (e.g., values, fears and aspirations)	Based on quantitative and qualitative data sourced from market-segmentation studies, field studies, and interviews. The fictional profiles typically include a picture and life story that is representative of the respective user group. Personas make the data lively and help designers to connect with the user
Sanders and Dandavate (1999), Jääskö and Mattemäki (2003)	Participant Observation/Shadowing	A form of observation in which the designer monitors a user or group of users throughout the service process. The observer tries to be unobtrusive and only poses questions when clarification is needed	The designer observes customers as they use the service. The aim is to gain real-time insights with a specific focus on body language, emotions, reactions, and interactions with staff and other customers. Designers need to be as unobtrusive as possible because their mere presence in the same service setting might influence the customer
Kaario et al. (2009), Arvola et al. (2012)	Nonparticipant Observation/Walkthroughs	A form of observation in which the designer steps into the shoes of the user and investigates how a service unfolds over time. No specific user is monitored throughout the service process	One or more designers go through the stages of the customer journey and record relevant observations. In doing so, these designers take on the dual role of doing research and being an active party in the situation under study. Personas can help designers to connect with the underlying users, to act like them, and to experience the service based on users' specific level of knowledge and needs
Segelström et al. (2009), Helkkula et al. (2012)	Diaries/Storytelling	Personal introspection based on frequent user logs, recorded in the form of writing, drawing, blogs, photos, or videos	User-generated data helps designers to make sense of lived and future customer experiences, and to identify possible patterns as regards why, when, and what customers value in their lives. This method can also help to prepare users as co-design participants because it helps them to continually think about the underlying problem being addressed
Stappers and Sanders (2003), Visser et al. (2005)	Contextmapping	A generative technique that allows users (by guiding them through a sequence of small steps) to construct and express deeper levels of knowledge about their experiences	Involves a sequence of steps, i.e. preparation, sensitizing participants, group sessions, analysis, and communication. In so doing, this technique provides access to a hidden world of user experiences and latent user needs, which can then be used for design purposes
Gaver et al. (1999), Mattemäki (2005)	Design Probes	A design-driven method focused on engaging in dialog with users and, in so doing, gathering subjective information from them	Design probes involve diverse materials and tasks, which users can complete in their own environment and time. The materials returned are then used as an inspirational input for designers to draw on
<i>Participatory/Co-Design</i> Holmlid and Evenson (2008), Durl et al. (2017)	Staging/Enacting	Applies dramaturgic/theater methods to act out specific scenarios, or future or hypothetical customer experiences. A premise here is the assumption that the service really exists	Designers/actors enact specific moments/scenarios by considering a variety of situations. To support immersion in the (hypothetical) customer experience, design props can be used to illustrate specific touch points or service moments in a realistic way. This allows designers to test new service concepts and build a potential journey before integrating the key functionalities provided by the firm

(continued)

Table 1

Key References	Design Method	Description	Quality and Application
Sanders and Dandavate (1999), Brandt (2006), Vaajakallio and Mattelmäki (2007)	Make Tools	Tools developed to amplify people's creativity and to support design thinking. The basic idea is to enable non-designers to ideate using visual elements	Make tools can vary from visual collages to three-dimensional artifacts. They support the creativity of non-designers (e.g., customers) and give voice to users during the co-design process. Make tools also support the conceptualization of potential future use situations, providing inspiration and fresh insights for designers to draw on
(Brandt et al., 2008), Clatworthy, 2011), Dietrich et al., 2017)	Cards	Often used to organize, categorize and prioritize ideas. They also help cross-functional teams to collaborate during the design process	Cards can contain video snippets, service moments, photos, templates, or what-if questions. This tool can be applied to many purposes, including ice-breaking activities in newly formed co-design teams, the evaluation of ideas, or the discovery of new design ideas
Brandt (2006), Mattelmäki et al. (2014)	Design games	This method supports the collaborative exploration of future opportunities in inspiring atmospheres. It helps to generate a common ground for collaboratively framing and solving problems within a team	Games can involve a broad spectrum of players, who are supported in playfully expressing their ideas and feelings. In this way, a supportive and open atmosphere can be provided within a cross-disciplinary design team. Games also help to create a common language and basis for co-design, important as regards supporting each individual in a co-design team in contributing actively and equally
Service Representations Shostack (1984), Bitner et al. (2008), Kostopoulos et al. (2012)	Blueprinting	Maps out the main activities involved in the delivery of a service. Depicts all the actions, interactions, and support functions that form part of the service delivery system	Blueprints are developed by first depicting customer actions, which are then connected with the firm's employee actions and support functions. This mapping technique provides a detailed explanation of how the service is meant to be delivered to the customer
Zomerdiijk and Voss (2010), Rosenbaum et al. (2017), Følstad and Kvale (2018)	Customer journeys	A depiction of a customer's journey, focusing on mapping the customer experience, rather than the firm's actions and resources, to ensure smooth service delivery	Customer journeys can have many forms and adaptations, depending on specific requirements and settings. The development is typically based on data derived from documenting customers in the service setting and on elements such as time aspects, interactions, and emotional triggers. Also, it often includes the stages before and after the actual customer experience
Cooper et al. (2014), Goodwin (2011)	Storyboards	A tool adopted from the cinematographic tradition, focused on representing a service exchange through a series of drawings or pictures	A storyboard highlights the most important moments of providing the service to the customer. These moments can either be sketched or made up of photographs. In so doing, this form of representation illustrates critical touch points during a narrative sequence
Ehn and Kyng (1992), Blomkvist and Holmlid (2009), Blomkvist and Holmlid (2010)	Mock-ups	A form of representation that uses foam or clay, or Lego or Velcro modeling, to depict tangibles and to display actors within the service system	Mock-ups can create hands-on-experiences that support designers during the various stages of the design process. During the early exploration stage, mock-ups depict existing use situations and products. During the later design stages, mock-ups help to develop service prototypes. They allow designers to show and test potential solutions via small-scale scenario illustrations

two Australian states of New South Wales or Queensland (accounting for the majority of park visitors) and owning an annual pass for the theme park.

For the university experience analysis, international students from China, who had started on their studies at a university on the Gold Coast, were chosen as the second customer group. As noted in previous studies (Radnor *et al.*, 2014; Trischler and Scott, 2016), a service focus during the early stage of the student lifecycle is critically important because it affects how students engage and perform during their subsequent studies. China is a main country of origin for international students in Australia, particularly the Gold Coast. For example, the Gold Coast is currently developing its profile in China as an education destination, specifically focusing on second-tier cities such as Wuhan, Qingdao, Tianjin, Shenyang, Hangzhou and Nanjing (Study Gold Coast, 2016). Accordingly, the student-recruitment process included students who had studied in Australia during their first semester, were exchange students from their home universities in China and who had enrolled for an undergraduate on-campus business degree. The research team recruited a total of seven participants (theme park) and nine participants (university) who were representatives of the respective target market (see Table II).

The application and evaluation of the three design methods

Personas

A persona is an archetype or fictitious user profile that includes a detailed description of interests and behaviors that are typical of and relevant to a specific target market (Cooper *et al.*, 2014). In this study, the data informing the personas had originated from phenomenological interviews conducted with a small number of participants representing each respective target market. In total, seven adolescents and nine international students were interviewed (see Table II). The interviews lasted between 35 and 55 min and focused on exploring the participants' lifeworld, including information about their day-to-day routines, favorite activities, motivations and frustrations. The data generated was transcribed and analyzed for common themes across the two groups (Miles and Huberman, 1994).

The interviews provided an in-depth understanding of the social context surrounding each respective customer group.

Table II Overview of participants

Theme park			University		
ID [#]	Age	Gender	ID ^b	Age	Gender
Anna ^a	17	Female	Harry	24	Male
Benjamin	17	Male	Ingrid ^a	22	Female
Chris ^a	15	Male	James ^a	23	Male
Daniel ^a	18	Male	Karen	20	Female
Evan ^a	16	Male	Lucy	23	Female
Flora ^a	17	Female	Martin ^a	25	Male
Greg ^a	18	Male	Nathan ^a	22	Male
			Olivia ^a	26	Female
			Peter	20	Male

Notes: ^aParticipated also in the service mapping exercise; ^bThe names are fictitious

This included insights into customers' everyday lives, hobbies, aspirations and family backgrounds. In addition, the interviews also uncovered future and imaginary experience dimensions. Therefore, some interviewees were very specific in terms of how customers perceive certain phenomena in their lifeworld context. For example, one participant described his fascination with social media in relation to the theme park experience:

Social media is very influential this day and age. Everyone has it, everyone uses it. So if you have a Facebook page where you're talking about cool stuff, it could go around and get viral. Lots of people would like it and share it. (Chris)

Participants representing the international student group provided insights into their cultural background, as well as related challenges during their relocation to Australia. These included the differences and challenges they perceived during their teaching and learning experiences. For example:

At my university in China we don't need to write a report or assignment with references [...]. We have to do many exams at the end of the semester. The hard thing for me is the professional structure of writing an essay, report, case study, and the reference list. The reason why it's hard is the lack of training. We don't usually need to write a report or assignment with references. (Lucy)

The phenomenological interviews allowed the research team to gain a detailed background understanding of the respective customer group and of the circumstances surrounding their value creation processes. Although some lifeworld stories were very specific, a number of commonalities could be identified across the interviews. These commonalities informed the development of two personas. The persona representing the theme park customer group is an active and social adolescent whose lifeworld is mainly structured around his family, friends, school and hobbies. Future aspirations focus on independence, education and career. In turn, the persona representing the university customer group is an international student who finds herself immersed in an entirely new lifeworld. She still has strong bonds with her family and is faced with the ongoing challenge of negotiating her way through an unfamiliar social environment. Her current focus is on attaining new skills that allow her to be successful in her studies. Figure 1 depicts the international student persona "Haley".

Observations

Observations involves any research that collects data, not by questioning respondents, but by observing their behavior and/or other forms of activity (Lee and Broderick, 2007). Observational methods are key to empathy design because they enable the investigator to take the user's point of reference (Kouprie and Visser, 2009). This study used non-participant observations for its customer experience analysis. Specifically, to analyze the theme park experience, walkthroughs were conducted on three different occasions: a public holiday, a weekend and a typical weekday. The data collected included field notes and photographs of the different shows, rides, cartoon characters, facilities (e.g. restaurants, shops, cafés, etc.), signage, gathering places and other particularities the observer deemed relevant. In turn, the university experience analysis focused on the orientation-week events and the various

Figure 1 Persona *Haley***Haley***Background:*

- Age: 22 years
- Single child
- Education: Undergraduate studies in business management in Dalian, China
- Personality: Social
- Influencers: Family, friends
- Leisure activities: Social media, meeting friends, cooking
- Favorite activities: Traveling, social media, food
- Frustrations: assignments, language barriers

Lifeworld:

Haley lives with two Chinese housemates in an apartment in Miami Beach, which is a resort city close to Gold Coast's beaches. Haley moved to Australia three months ago to conduct her exchange studies in business management. Haley was first enrolled in a 10-week program at an English-language school and is now enrolled in four undergraduate courses with a specialization in accounting. She travels to campus four times a week either by public transportation or sharing the car with her housemates. The commute to the university takes approximately 20 minutes.

Haley spends a lot of time chatting with her friends and family in China via Skype and social media. Occasionally, she spends the evening with her housemates. Her favorite activities include cooking or going out. Haley perceives her student life as very different in Australia. In China, she lived and studied in a large city, while Miami Beach feels like a deserted country town to her. While Haley values high levels of collectivism, she finds it difficult to engage with the local community. She particularly perceives that there are only limited opportunities to connect with other students at her university because most of her colleagues only come to campus for the lectures and do not engage in on-campus activities.

Haley's greatest challenge is self-managing her study time and developing academic assignments independently. In China, learning was monitored, directed, and managed by the lecturer and driven by memorizing the information that has been taught. However, Haley needs to develop critical analysis skills and apply theory into practice for her studies in Australia. Haley gets frustrated with language barriers which she often experiences during the lectures when the instructor speaks too fast or not clearly enough, as well as with the long hours she must spend on the assignments, owing to her limited prior experience in academic writing.

key services (e.g. library services, student services, online services and course information) typically used by newly-enrolled students. For this purpose, a situation analysis was conducted in which the investigator participated in the respective events and documented relevant observations using field notes and photographs. The data collected was then arranged on a large whiteboard and discussed by the research team, before being transferred onto A0-format customer journey templates.

The observations provided in-depth insights into interactions between the customer and the firm, as well as the customers' flow of actions throughout the service process. However, these insights were limited to the actual service setting. This is in spite of the preceding persona development, which supported the researchers in connecting with the underlying customers and making sense of their experience. Possible influences preceding the experience, or originating from social contexts and value co-creation activities with other actors, remained guesswork and relied heavily on the researchers' interpretations. This was particularly so for the university experience, in which factors extending beyond the actual university setting remained unaccounted for. These factors included preparation at as well as the transition from the students' home institutions. Therefore, observations alone might not be sufficient for a holistic customer experience analysis, instead requiring the application of additional methods that capture elements beyond the service setting.

Collaborative service mapping

Customer journey maps represent the service process as seen from the customer's viewpoint and are typically described as a series of steps or touchpoints (Følstad and Kvale, 2018). This

study used customer journey mapping in combination with participatory design. The aim here was to evaluate whether or not this combined approach can lead to a service representation that not only maps the multi-actor nature of value constellations, but also accounts for the context in which an experience occurs. Accordingly, representatives of the two target markets (see Table II) were invited to contribute directly to the development of the service maps. In line with participatory design, make tools (colored art paper and sticky notes) and cards (photographs taken during the walkthroughs) were used to assist the participants in making alterations directly to the customer journey templates.

Challenges relating to the systemic nature of the customer experience were evident in the university setting. The customer journey map was first drafted by the research team based on the insights generated from the observations. During a 90-min participatory design session, with five international students, the draft was extended to also incorporate their planning and arrangement efforts at home in China. The students highlighted that their current experience is determined by a long journey that involves a transition through a number of key steps (e.g. applying, preparing, attending the English-language school and studying at university). Gaps between these steps significantly disrupted the transition experience. For example, although the students attended an English-language program immediately prior to starting the semester, they were not provided with any services or information regarding their future studies at the respective university. Accordingly, the students experienced difficulties transitioning from the English-language school to the Australian university.

Similarly, the customer journey map underpinning the theme park experience was first drafted by the research team

based on the insights generated from the walkthroughs. The draft was then collaboratively developed, by six adolescents during a 50-min session, into its final version. The participants were asked to reflect on their previous theme park visits and evaluate how the different interaction points influenced their experience. This session led to fresh insights into the context in which the theme park experience occurred. Reflections by the participants indicated that the social context in particular substantially influenced the experience. This included reactions and comments made by peers and friends on social media. For example, overcoming the fear of trying a new white-knuckle ride, and subsequently sharing the experience on social media was perceived as positive, even when the waiting time was long. In fact, in such cases, a long waiting time was perceived as positive because it “built up” the excitement prior to the ride. Other participants pointed out that the “quality time” spent with family or friends was more important for them than the actual theme park facilities.

Figure 2 depicts the digitalized version of the theme park experience journey. To incorporate situational factors, the map was categorized into two separate journeys: one representing a visit off-peak during the week and one representing a visit during busier times at the weekend or on a public holiday. In addition, based on the insights derived from the participatory design session, the customer journey map was also extended to include the relevant contextual factors and co-creation activities of various actors. These are listed at the top of the map.

The collaborative service mapping activity led to insights into how customers co-create their unique experiences by integrating resources from multiple sources, including their

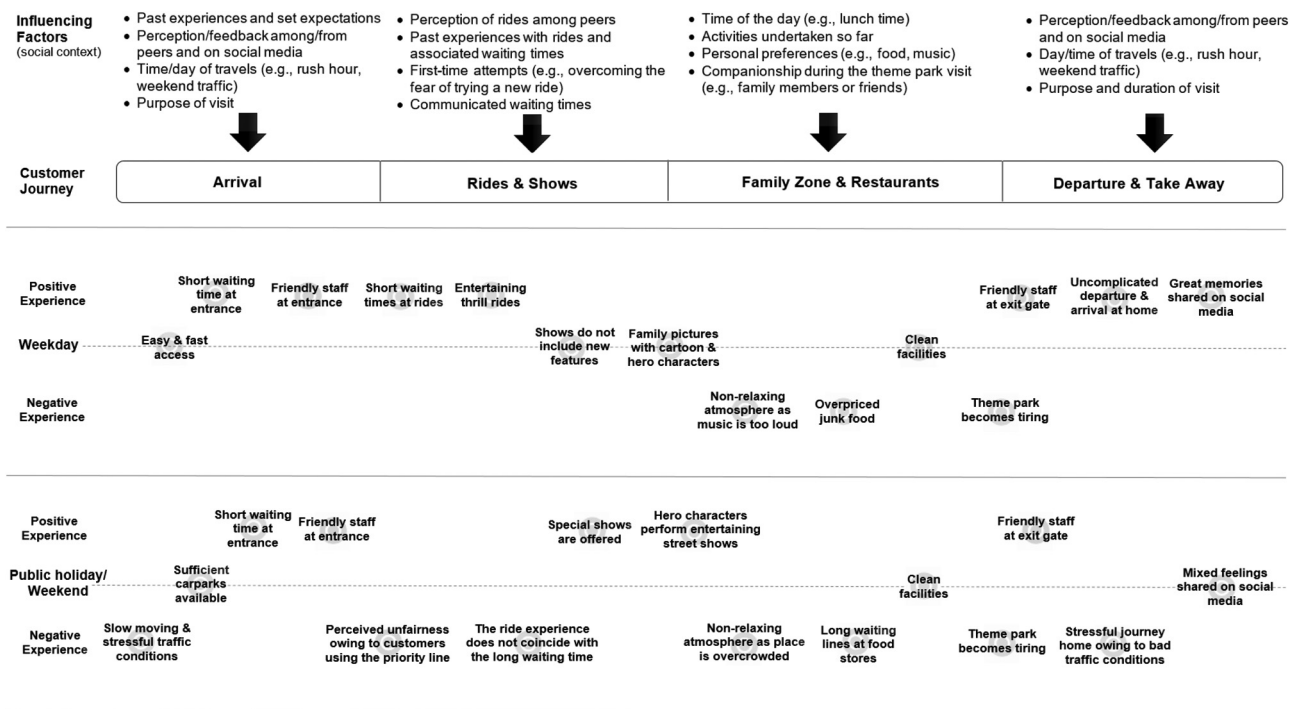
social context. Customers contributed knowledge relevant to the value constellation underpinning their experience, resulting in a more holistic service representation that considered both the systemic and contextual nature of the customer experience. Here it needs to be noted, however, that some collaboratively-designed journeys were completely different. These differences underline the significance of the context-related factors affecting the customer experience and suggest that customers can have very specific preferences and needs, even within a narrowly-defined target market. While the participatory design sessions effectively captured these peculiarities, not all the findings could be incorporated into an all-encompassing customer journey map. In addition, the customer experience is systemic in nature, driven by value co-creation activities that can involve multiple actors. Solely focusing on dyadic exchanges can result in a lack of coherency among the resource-integrating actors, subsequently disrupting the customer experience.

Discussion

Theoretical implications

Although the design literature offers numerous methods, an evaluation of their suitability for providing a holistic customer experience analysis is still nascent. Studies have only recently started investigating new methods of understanding and designing complex service systems (Pinho et al., 2014; Halvorsrud et al., 2016; Trischler and Scott, 2016; Teixeira et al., 2017). However, firms seem to struggle to succeed in this field, with the majority of customer experience initiatives failing (Karpen et al., 2017; Rosenbaum et al., 2017). To advance

Figure 2 Theme park experience journey



service design in this direction, this study has reviewed, applied and evaluated the usability of different design methods in understanding customer experience from its systemic and contextual standpoint. Table III provides an overview of the key findings and implications that follow from the application of the three selected methods (i.e. personas, observations and collaborative service mapping) to two service settings.

As summarized in Table III, the main strength of personas is the generation of insights into past and future, as well as lived and imaginary, customer experience dimensions. These insights are important for holistically understanding the customer’s value creation process (Helkkula *et al.*, 2012). Personas additionally capture the social context, which typically is not considered during traditional market segmentation processes (Edvardsson *et al.*, 2011). This, however, also means that personas represent customer groups on the basis of very specific attitudes, preferences and interests (Blomquist and Arvola, 2002; Holmlid and Evenson, 2008). Consequently, it might not be possible to convert conventional target market segmentation data into personas. However, accounting for these differences, particularly if they are context-related, is important because they can substantially influence the underlying customer experience. Thus, to increase the applicability and reliability of personas, future method

development should focus on combining conventional target market segmentation data with insights into contexts and specific user needs.

Additionally, personas also assisted in connecting with the underlying customer group during the observations. Yet, despite the use of this two-step approach, the customer experience analysis remained limited to the actual service setting and dyadic firm-customer interactions. This finding suggests that methods adopted from empathy design might not necessarily be suitable for analyzing the broader value constellation. In addition, the interpretation of contextual factors also proved to be challenging, which confirms the difficulty of simulating and understanding the experiences of others (Vink and Oertzen, 2018). Specifically, the customer knowledge that was not successfully captured through observations concerned, a) the social context in which the experience occurred and b) value co-creation activities outside the service provider’s sphere. Overlooking these aspects means painting an incomplete picture of the customer experience, which can lead to the wrong directions being issued for service design and possibly also costly new service failures (Jaakkola *et al.*, 2015; Voorhees *et al.*, 2017).

It was only possible to capture the complexity and multi-actor nature of the co-created customer experience by involving

Table III the Usability of design methods in analyzing the customer experience

		Key Findings		
Applied Method		Strengths	Limitations	Recommendations
Personas		Generate an in-depth understanding of the social context, including hobbies, aspirations, family, and cultural background	Personas represent very specific customer groups due to the incorporation of context-related variables	Categorize personas in terms of specific user needs rather than generic demographics
		Provide insights into the customer’s lifeworld in connection with the underlying experience	Personas informing data collection can be labor-intensive and subjective	Use different data points to increase the reliability of personas
		Provide insights into future and imaginary experience dimensions	Intense researcher-subject contact can cause participating customers to become more secretive and uncommunicative	Develop methods that assist in bridging target market segmentation using the definition of personas
Observations		Provide in-depth insights into the customer experience within the actual service setting at different points of time	Observations do not capture either the social context in which the experience occurred or value co-creation activities beyond the service provider’s sphere	Support observations using other methods to avoid over-reliance on empathy and capture insights beyond the service setting
		The generated data can assist in mapping the service and/or developing tools for co-design activities	Data collection is time-consuming and subjective and can be affected by the specific time/situation when the observation is conducted	Actively involve selected customers in cross-validating findings and gain insights into the unique circumstances surrounding their value creation processes
Service Representations		Capture the dynamic, highly complex nature of the customer experience	Service maps, if too specific, can lead to customer experience analysis that is too narrow	Collaboratively develop service maps with customers representing the underlying task and market
		Support collaborative reflection and development with customers and other stakeholders	A large quantity of data can lead to challenges in translating the relevant insights into a comprehensive service map	Extend service maps to incorporate the situational and contextual factors affecting the customer experience
		Allow the identification of critical touch points beyond the dyadic service exchange and throughout the customer journey		Base the development of service maps on a quantitative evaluation of the contextual and social factors

customers in the service mapping activities. Customers are “experts of their experience” (Sanders and Stappers, 2008); through their active involvement, they can provide unique knowledge of the specific circumstances surrounding their value creation process (Dietrich *et al.*, 2017; Trischler *et al.*, 2018). The direct input from customers had two main benefits: Firstly, it helped to cross-validate the data gathered via the personas and observations and, secondly, it generated important new insights which led to an extension of the service maps to include considering the multi-actor nature (e.g. integration of resources from different sources) and the social context (e.g. friends and family members). This finding underlines that customers create, elaborate and evaluate their experiences with other actors, while social processes explain what makes these experiences meaningful for the customer at a specific point in time or location. This requires adopting a “living-systems” (Čaić *et al.*, 2016) or “lived experience” lens (Vink and Oertzen, 2018) which takes meaningful contextual differences into account. Neglecting these aspects can lead to customer experience analysis which is too narrow and which subsequently limits the possibilities of the subsequent service design stages.

However, one potential limitation of customer-generated insights is that they predominantly focus on individual moments that the customer has perceived to be memorable or problematic (Halvorsrud *et al.*, 2016). Therefore, similar to personas, collaboratively-developed customer journey maps reflect the experience of a narrowly-defined customer group. Even among the small number of participants, representing a well-defined target market, the experiences were in part completely different and would thus require a customer journey of their own. Here, the designer faces the common dilemma of either mapping the “typical” customer experience, by aggregating data from multiple customers, or delving deeply into a single customer’s experiences (Følstad and Kvale, 2018). For future research, this finding points to the challenge of developing service representations that are detailed enough to highlight the relevance of contextual factors while also being abstract enough to ensure applicability to a sufficiently large target market.

Overall, this study makes a contribution to customer experience analysis, which forms a key element of the early stages of the service design process (Patrício and Fisk, 2013). To ensure a more holistic customer experience analysis, interpretive and collaborative design methods are required as part of an exploratory inquiry during which problems and solutions co-evolve (Steen, 2013). However, design methods often lack a commonly agreed-upon terminology, a robust framework and an evaluation through application in practice (Halvorsrud *et al.*, 2016; Rosenbaum *et al.*, 2017; Teixeira *et al.*, 2017). We argue that a multi-step approach, as applied during this study, can help to overcome some of these limitations. For example, the use of multiple methods that tap into different data sources (e.g. field notes by the research team and direct customer input) supports the cross-validation and triangulation of insights. A multi-step approach can also leverage the advantages of different design methods for a more comprehensive analysis. However, additional research is required in the development of design methods that account for customer experiences’ increasing enablement by complex

service systems and their potential co-creation completely independently of interactions with the underlying firm.

Practical implications

Managers should be encouraged to move beyond traditional market research techniques and to apply design-based methods to customer experience analysis. In particular, the active involvement of customers through participatory design approaches can generate valuable insights into the unique circumstances surrounding customers’ value creation processes. To leverage customer insights, the focus should be on the user-selection process and design-tool application (e.g. cards, role-plays and make tools). In so doing, suitable customers can contribute their unique knowledge of usage and latent needs, which is key to service innovation and new service success (Mahr *et al.*, 2014; Trischler *et al.*, 2018).

The present study provides a practical guide on how different design methods can be applied, either separately or jointly, to more holistic customer experience analysis. This includes in-depth insights into the customer’s lifeworld and social context, something which can be facilitated through narrative inquiry and personas. In turn, service representations can assist in capturing the dynamic and highly-complex value constellations that lead to the systemic nature of customer experiences. Generating in-depth knowledge of customers’ value creation processes is important for successful service design, branding and marketing (Rosenbaum *et al.*, 2017). However, managers must be aware that even the customers in a well-defined target market might have very unique experiences, owing to the context-specificity of value creation. One possible way of increasing the generalizability of analysis could be determining which social attributes of the customer experience are the most critical ones in their efforts. This can help to reduce the fuzziness of the early service design stages, as well as the resources and iterations required for developing new service offerings that meet the needs of a broader customer base.

Limitations and future research directions

This study is not without limitations. First, application and evaluation are limited to three design methods. The design literature offers numerous methods, methods which have often been developed further to support a specific design activity or purpose. Table I should therefore be seen as a summary of popular methods from empathy design, participatory design and service representations, rather than an extensive list of methods. While evaluation of the current methods offers an important extension to the predominant focus on firm-led and dyadic experience analysis, more work is needed in this domain. For example, a systematic literature review on design methods, across fields, would provide a valuable basis for a more comprehensive evaluation. In addition, future research might also survey service design practitioners regarding their use of methods and the common challenges they face during customer experience analysis. These insights can provide an important starting point for further developing current methods – or developing new methods – which help designers to explore customer experience from a systemic and contextual standpoint.

Overall, qualitative studies face challenges when it comes to demonstrating validity and reliability. This study's findings are limited to two specific service settings and narrowly-defined samples. For example, a service map representing domestic or international tourists visiting the theme park while on vacation might be completely different; similar to the university experience, it might also encompass various key actors throughout the journey. In fact, as Voss *et al.* (2016) have highlighted, there is considerable contextual diversity in service research. Thus, further research which applies and evaluates design methods *vis-à-vis* other service sectors is required. This includes validating current methods in terms of their usability for holistic customer experience analysis, e.g. in highly complex settings such as healthcare services. This might also include a study that investigates the adoption of various design methods across service sectors for the purposes of analyzing the customer experience.

While the current multi-step approach allows in-depth analysis of the customer experience, the insights generated are limited to a narrow customer group and market. This highlights the dilemma between presenting a common or typical customer experience, based on aggregated data and highlighting variation, based on very unique experiences (Folstad and Kvale, 2018). One important avenue for future research is the development and evaluation of methods that consider and combine both objective data (e.g. a measurement frame that quantitatively determines the influence of contextual and social factors) and subjective data (e.g. unique experience moments and journeys). We hope that this study encourages further research into the development and evaluation of such methods.

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Further reading

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