Exploring internal mechanisms forming customer servicescape experiences

Jörg Pareigis

PhD Student Jörg Pareigis, CTF-Service Research Center/SAMOT, Karlstad University, Sweden, Phone +46 54 700 23 39, Fax +46 54 83 65 52, E-mail: jorg.pareigis@kau.se

Per Echeverri

Assist Professor Per Echeverri, CTF-Service Research Center/SAMOT, Karlstad University, Sweden, Phone +46 54 700 15 05, Fax. +46 54 83 65 52, E-mail: per.echeverri@kau.se

Bo Edvardsson

Professor Bo Edvardsson, CTF-Service Research Center, Karlstad University, Sweden,

Phone +46 54 700 15 55, Fax +46 54 83 65 52, E-mail: bo.edvardsson@kau.se

Abstract:

Purpose - The aim of this paper is to explore customer interactions with servicescapes and to explain in more depth the internal mechanisms that form the customer service experience. **Design/methodology/approach** - The paper draws on an empirical study of customers using Swedish public transport systems. Data collection is based on a micro-ethnographic approach, using think-aloud protocols and video documentation. **Findings** - The results from the empirical study contribute with a framework of three constellations of activities and interactions: namely, identifying, sense-making, and using, which, depending on the empirical context, form two main customer process practices – navigating and ticketing. These constructs are theoretical and have implications for service research in the sense that they explain how customer experiences are formed. **Practical implications** - Managers should focus on making the servicescape design intuitive, meaningful and easy to use for their customers and, depending on the empirical context, support the customer processes of finding one's way and ticketing. **Limitations/Future research** - While the conceptual framework is arguably applicable also to other servicescape processes and thus has the capacity to explain how a wide range of customer experiences are formed, the study is based on one industry. Consequently, it would be worthwhile to verify our framework in different service settings. **Originality/value** - The study is novel by applying a micro-ethnological research approach in order to provide a systematic empirical analysis of how constellations of activities and interactions in servicescape processes create customer responses and thus form the customer's service experience.

Keywords:

Service experience, servicescape, value co-creation, public transport, micro-ethnography

Introduction

Back in the early 1990s, Bitner (1992) introduced the concept of "servicescape"; a combination of service and landscape that denotes the physical environment in which customer experiences are created (Normann, 2001; Rafaeli and Vilnai-Yavetz, 2004). Over the years, different literature reviews have been conducted in order to characterize the field of servicescape research (Ezeh and Harris, 2007; Kearney *et al*., 2007; Turley and Milliman, 2000). The dominant view treats servicescapes from an atmospheric perspective (Turley and Fugate, 1992) and focuses on the effect of the servicescape on the customer's service experience. Most of these studies view servicescapes as a stimulus-organism-response phenomenon; a managerial tool for marketing purposes. Customers are conceived as passive respondents to environmental cues in service contexts. The response is mainly conceived as psychological – cognitions and emotions – or regarding physiological inner states that results in approach or avoidance behaviour.This traditional view on servicescapes has been challenged by a view that conceives services, including servicescapes, as an issue for interaction and value co-creation (Edvardsson *et al*., 2010; Grönroos and Ravald, 2011; Prahalad and Ramaswamy, 2004; Ramírez, 1999; Vargo and Lusch, 2004; Vargo and Lusch, 2008b). In contrast to the traditional conception, this view conceives value as realized in collaboration between customer and provider, and that customers see services and servicescapes as a whole – a constellation of resources – used by the customer in order to fulfil different tasks. In this paper, our aim is to explore customer interactions with servicescapes and to explain in more depth the internal mechanisms that form the customer service experience. We start out by examining some of the limitations that we indentified in the review of previous servicescape research. A critical limitation concerns the lack of knowledge of how customers actively use resources in servicescapes and the extent to which the servicescape supports the processes of the customer (Turley and Fugate, 1992). A key reason for this limitation is that previous research has been relatively uninformed by frameworks and methodologies that are capable of explaining and capturing customer experiences of servicescapes in process terms. In order to address this limitation, we draw on an empirical study of customers using Swedish public transport systems, applying a microethnographic approach that focuses on contextually specific activities, using think-aloud protocols; that is, customers verbalizing inner experiences and conceptions, and video documentation of actual procedures and movements in the situation. We identify two main practices and label them "navigating" and "ticketing". These two practices are in turn constellations of activities and interactions at the individual customer level. We identify three fundamental constellations – identifying, sense-making and using – which will help us theorize how customer experiences in servicescape processes are formed.

Literature review and theoretical framing

In this section we review mainstream research on servicescape, customer experiences and value co-creation, arguing that the literature is largely conceptually driven and lacks accounts

of how customers actively interact with, use and integrate resources. Furthermore, we argue that recent discourse on value co-creation and customer service experience may be drawn on in order to address the limitations of previous servicescape research. We articulate how this can be done.

Research on servicescape

In previous marketing literature, the relationship between customer and environment has been described in different ways. In an early conceptualization, Kotler (1974) depicted atmospherics as the deliberate design of space that will positively influence buyers' emotions, in order to increase the likelihood of a purchase. He highlighted this as an important tool in marketing and pointed out four sensory design dimensions: sight, sound, scent and touch. Bitner's (1992) servicescape framework describes how the *physical environment* affects both employees and customers, and is built on three *environmental dimensions* – (1) ambient condition, (2) spatial layout and functionality, and (3) signs, symbols and artefacts. Together they create a holistically perceived servicescape that activates internal cognitive, emotional and physiological responses in customers and employees. These responses are moderated by personality traits and situational factors. Subsequently, the internal responses affect the behaviour of the actors in terms of either approach or avoidance, and the social interactions between the actors.

Based on the servicescape model, numerous empirical studies have been conducted that focus on one or several variables of the service environment such as the following: music, scent or signage and their effects on customer expenditures (Morrin and Chébat, 2005; Chébat and Michon, 2003); perceived waiting time (Bailey and Areni, 2006); loyalty intentions (Harris and Ezeh, 2008); or perceived quality (Reimer and Kuehn, 2005). Turley and Fugate (1992) present five perspectives for facility-driven services. These are namely the atmospheric/image, the locational, the operational, the contact personnel and the customer's use perspective – all of which are important to a greater or minor extent in different contexts.Edvardsson *et al.* (2005; 2010) provide a somewhat broader framework for the service environment/customer interplay. The authors introduce the term "experience room" – a place allowing representations of simulated service experiences. Six dimensions are suggested. These are namely physical artefacts, intangible artefacts, technology, customer placement, customer involvement, and interaction with employees. By including interactions with technology and its role in the service process, as well as the roles of the customer in the value co-creation process, the experience room model incorporates operational, customer use and atmospheric perspectives to a greater extent than the servicescape model. Recently, it has been shown that the experience room model is also applicable to ordinary customer service experiences (Pareigis *et al.*, 2011).

Nevertheless, previous research and conceptualizations have not paid explicit attention to customers' servicescape processes and how customers' experiences are formed in these processes. Two notable exemptions are the studies of Echeverri (2005) and Dziekan (2008) in the public transport context. However, the earlier mentioned study focuses mainly on

methodological aspects, while the latter mentioned study focuses on information and orientation aspects in the servicescape.

Discourse on customer experience and value co-creation

The reviewed research on servicescapes does not put the notion of service processes and value co-creation at the centre in the discussion of customer experiences. There is research that conceptually addresses the issue of experience, where it is argued that much of the customer value is in the outcome of service experiences (Carbone, 2004; Meyer and Schwager, 2007), and that a company should therefore orchestrate customer experiences that render value whenever customers interact with resources that the company provides, such as the servicescape. The term "service experience" refers to the customer's personal experience of the service process as a result of interactions with the service organization – including servicescapes and frontline employees (Meyer and Schwager, 2007; Johnston and Clark, 2008). A customer's service experience is here defined as the customer's cognitive, emotional and behavioural responses that result in a mental conception in line with Johnston and Clark (2008). We do not refer to a stimulus-organism-response view, but rather that customers actively construct reality and that responses in servicescape processes are individual social realities. The customer's service experience results in a set of outcomes: benefits, emotions, judgments (including perceived value) and intentions (Johnston and Clark, 2008; Meyer and Schwager, 2007; Shaw 2005; 2007). Berry *et al.* (2002, p 88), stated "customers always have an experience – good, bad or indifferent – whenever they purchase a product or service from a company." Because emotions play an important role in service experiences (Mattila and Enz, 2002), servicescapes must be designed to ensure that both the functional and the affective aspects of the service experience are carefully considered (Pullman and Gross, 2004).

The concept of service experience resonates with Holbrook's (2006) definition of value, which informs this paper. Holbrook takes the stance that value resides in activities and interactions, and is subjectively experienced. More precisely, Holbrook (2006, p. 212) refers to value as an "interactive relativistic preference experience". This definition implies that value is a function of the interaction between subjects, or a subject and an object; is contextual and personal; is a function of attitudes, affections, satisfaction, or behaviourally based judgments; and resides in a consumption experience. In this paper, we refer to this as value co-creation.

The major part of research on value co-creation is abstract and conceptual (Berthon and John, 2006; Grönroos, 2011; Sandström *et al.*, 2008; Vargo and Lusch, 2004; 2008). Payne *et al.* (2008) provide a conceptual framework for value co-creation, which is illustrated with empirical material from process mapping. The authors define customer processes, supplier processes and encounter processes, where the latter describes the interactions that occur between the customer and the company. However, the authors strictly focus on the supplier perspective and highlight that process mapping bears the risk of losing emotional and experiential elements.

The co-creation view of value has influenced theory building in service marketing and management. However, it has remained largely unchallenged and unproblematized in relation to servicescape research (Arnould *et al.*, 2006; Aubert-Gamet, 1997). In this paper we frame the analysis by viewing customers' activities and interactions in servicescape processes, which results in customer experiences. This emphasizes the perspective of an individual customer, co-creating value and experiences in servicescape processes.

Method

Due to the dynamic and complex character of the phenomenon that we are studying, the research design must enable the capture of the process character of the servicescape, the interaction processes between customer and service environment, and must be of an exploratory nature. Drawing on a study of customers using public transport from door-to-door, we have material that is suitable for elaboration on servicescape processes.

Data collection

In the study, a microethnographic research approach has been used (Carroll *et al.*, 2008; Echeverri, 2005; Lehn, 2006; Streeck and Mehus, 2005). This approach constitutes a blend of different data collection methods – namely observations, interviews, and think-aloud protocols that are captured on high-definition digital video, which was filmed by the first author. A sample of twenty informants were recruited and asked to travel to two public places in their home town. The recruitment process started with an invitation that was sent out together with a survey in a different research project [1]. Informants that returned the survey and indicated that they were interested in participating received further explanations of the planned study and a reply-paid envelope, which resulted in 42 potential informants. From these, purposeful sampling was conducted in order to achieve maximum variation regarding age, gender, and public transport usage of the informants. After having established contact with volunteering informants via phone, a time was scheduled at which the informants were asked to travel to two public places. The meeting point was either the workplace or the home of the informants. There were a few exceptions where a third public place was chosen. The informants were then informed for a third time about the nature of the study. In order to reduce the procedural consequentiality of the camera and the researcher (Speer, 2002) it was stressed repeatedly that the aim of study is to capture the informants' experiences with and perceptions about travelling using public transport and that there is no right or wrong behaviour. The informants were followed and filmed by the first author when doing their travels. The informants were wearing a small microphone and were encouraged to "think aloud" in order to capture their thoughts, experiences and responses according to common think-aloud practices (Van den Haak *et al*., 2004). The choice of public transport mode (bus, boat or tram) and the line and route to be taken was decided by the informant. On average, conducting the two trips took about one-and-a-half hours. Of the informants, 11 were women and nine were men, who were aged between 20 and 76 years, which reflected the gender distribution and age groups of Swedish public transport users. Eight informants primarily use

their car as a mode of transport and five informants primarily use public transport. The remaining seven informants have no dominant modes of transport.

By using this methodology, we were able to capture naturally occurring data (Silverman, 2006), which seems particularly useful for studying the service experience of customers (Berry *et al.*, 2006) as well as value co-creation processes. Moreover, the video-based method seems appropriate in order to investigate interactive processes of services (Echeverri, 2005; Heath *et al.*, 2010) and enables marketing research to be "more attuned to the lived realities of everyday consumption" (Belk and Kozinets, 2005, p. 128).

In order to mitigate the influence of the camera on informants and to improve the quality of the video data we followed the strategies outlined by Haidet *et al.* (2009), the filming started around five to ten minutes before the actual trip, in order to move beyond an initial period of self-consciousness of the informants; this enabled us to capture more "natural" behaviour (Rosenstein, 2002). During this time period a short interview was held to obtain more background information about the informants. In order to reduce the obtrusiveness of the recording device, the camera that was used was small. Moreover, before the fieldwork with informants was carried out, a few practice sessions were conducted where the first author followed the second author using public transport. During the fieldwork, the filming first author kept a distance of a couple of metres away from the informants as suggested by Belk and Kozinets (2005). Nevertheless, the presence of the camera and the researcher influenced behaviour of the informants to some extent. In particular, verbalizing their own actions and experiences made some informants uncomfortable initially. However, these effects were reduced substantially after the first few minutes and the informants seemed to behave in a relaxed manner for the remaining part of the trip; an observation made by several researchers in other video based studies (Echeverri, 2005; Haidet *et al.*, 2009; Heath *et al.*, 2010; Latvala *et al.*, 2000).

We interpret this perception of being relaxed as that the informants were displaying behaviour normal to them when using public transport services, when it comes to specific procedures, pattern of movements, information search, etc. Due to the measures that were taken for collecting accurate customer data, we argue that the informants were not biased because of the presence of the researcher, the camera, or the fear of looking foolish to other customers.

The rationale for choosing public transport as an empirical context is twofold. On the one hand, using public transport services relies heavily on elements in the service environment, infrastructure and technology (Fellesson and Friman, 2009) and can therefore be regarded as an example of an elaborate servicescape (Bitner, 1992). Moreover, customers spend an extended period of time in this setting, enabling us to capture processual dimensions of customer interactions with servicescapes. As such, the context offers a rich source of empirical data. The environment is complex – and is dependent upon, for example, the weather and the functioning of infrastructure – and demand varies greatly over time, which places significant pressure on the service environment. Within public transport, not only the

actual carrier can be regarded as the servicescape. Train and bus stations with their many signs and layouts, homepages of the transport companies, as well as information points or paper-based time-tables, are also part of the designed service environment. On the other hand, a well-functioning and generally accepted public transport system is often regarded as absolutely necessary in order to reduce the negative effects of private car use and to achieve sustainable development in today's society (Gärling and Steg, 2007). Surprisingly, little research is generally conducted to investigate customers' perceptions of the provided public transport service (Friman *et al*., 2001). The few exceptions that exist focus mainly on attributes that influence customer satisfaction, such as reliability, frequency, comfort, information, driver behaviour, and cleanliness (Andreassen, 1995; Bates *et al.*, 2001; Edvardsson, 1998; Fellesson and Friman, 2009; Friman *et al*., 2001). These studies contribute significantly towards our understanding of which factors influence customer satisfaction with public transport. However, the studies do not explore customer interactions with servicescapes and do not explain, in more depth, the internal mechanisms that form the customer service experience. Clearly this calls for further research – a deeper understanding of public transport services is much needed in order for such services to achieve a higher market share, and is in line with recent calls for improving well-being through transformative service (Ostrom *et al*., 2010).

Data analysis

The qualitative analysis, including memo writing, was conducted in NVivo 8 by applying the constant comparative method according to the Grounded Theory data analysis approach (Glaser and Strauss, 1967; Starrin, 1997); a procedure for developing categories of information and their interconnections, resulting in a theoretical proposition (Creswell, 1998). The constant comparative method fits the microethnographic research approach well, as both emphasize naturally occurring data in order to make theoretical contributions. Using the constant comparative method allows for a systematic grounding and creating substantive and formal concepts that explain the phenomenon in question. NVivo 8 is a data analysis software programme that enables direct coding of multimedia data, such as video recordings. As a first step, a specific journey was chosen that was regarded as representative for the entire material. The complex process of this journey – including interactions with servicescape elements, typical and context specific activities, striking think-aloud quotes on subjective cognitive and emotional experiences and regarding more or less critical incidents – was outlined. This could be regarded as a reduced, yet concrete, description of the experienced interactive process. Based on this description we conducted an open coding procedure, as part of the constant comparative method (grounded theory approach). How this was made is described in the following. Descriptive codes (Miles and Huberman, 1994) or indicators (Glaser, 1978) were created, such as "ticketing", or "searching", which were based on the think-aloud information and what was observable in the video recordings. At this stage, relatively descriptive memos were also written, which accounted for the properties of the indicators. Also, the first refinements were made concerning the labels of the indicators, before the continued coding of other video recordings. These were directly coded in the software, by marking short

sequences of one to several seconds of film with the label of the code, and compared with other sequences. The marked sequences of the various codes were then watched repeatedly and within that process, and selective coding was initiated by constantly comparing the different indicators to others. Memo writing continued during the analytical process. Together with the selective coding of constantly comparing indicators – that is grouping of various indicators that had similar meaning – and relating them to each other hierarchically, this led to the main theoretical concepts in this study. For example the indicator "reference point" and the indicator "searching for right bus" were grouped to the code "identifying", as both referred to the customer processes of searching for resources. As the qualitative analysis continued, theoretical codes were developed that were sensitive to the substantive codes developed initially. Here, it was elaborated on how the codes of identifying, sense-making, using, ticketing, and navigating relate to each other (Starrin, 1997).

Findings

This section reports on the findings of the empirical study. From the analysis, three value co-creating constellations of activities and interactions emerged in our data – namely *identifying*, *sense-making* and *using*. These three theoretical constructs are found to be fundamental for two main customer practices: *navigating* and *ticketing*, which are relevant for a wide range of services. In the context of public transport, navigating relates to finding one's way to the bus stop or final destination, while ticketing relates to paying for the bus ticket and checking that the ticket is still valid. When combined, navigating and ticketing are central practices that customers are engaged in during processing different servicescapes, as shown in the case of public transport experience. For a graphical description of this framework, see Figure 1.

Identifying	Sense-making	Using	
Searching for bus stops, time-tables, maps, or buses; approaching staff or other customers to ask for the way.	Giving meaning to and comprehending maps, time-tables, or information received from staff or other customers.	Integrating and using resources for the task of finding one's way.	Navigating
Searching for information about payment options or ticket machines.	Giving meaning to and comprehending ticket machines, instructions for payment or payment plans.	Integrating and using resources for the task of ticket payment.	Ticketing

Figure 1 Internal mechanisms forming customer servicescape experiences

Constellations of activities and interactions

The following section is illustrated by the use of quotations from informants, images and narratives that were created by the researchers, and describes each of the three value co-creating constellations of activities and interactions. Following each description, we highlight

the role of *identifying*, *sense-making*, and *using* in the formation of customer experiences. Finally, we illustrate the customer processes of *navigating* and *ticketing* as different contextualizations of the value co-creating activities and interactions.

Identifying

Identifying is the first constellation of value co-creation activities and interactions revealed from our data. Identifying consists of searching for resources as well as understanding persons or objects in the service environment as resources.

The following narrative is an illustration of the value co-creation activity and interaction identifying:

> A customer just asked at an information point (*identifying*) at a major public transport note for directions. From the employee she receives a small customized printout providing the bus number and its direction as well as its departure time. The traveller has 7 minutes before the bus departs. At the traffic node there are 6 bus and tram stops at which a couple of dozen bus and tram lines arrive and depart. Each stop is labelled with a capital from A to F. Outside the information point the customer realizes that the customized printout does not include information about at which bus stop the bus departs from. The customer has to find the bus stop from the six possible options (*identifying*) and starts walking around. During her walk she approaches a couple of persons (*identifying*) and asks them for directions, the first being a PT customer sitting and waiting for his tram, the other being a sales assistant on a smoking brake, smoking a cigarette outside her shop. The customer does not see a map (*identifying*) with all buses and trams departing from that station. After walking around for more than 5 minutes, she finally sees the bus approaching (*identifying*) and follows it to its bus stop.

The narrative above describes several identifying activities and interactions. Firstly, the customer identifies the information point as a resource. She also identifies the different bus stops, from which she has to choose the right one, as well as the two persons she approaches. The customer does not identify a map, which would inform one of all buses and trams and their respective stops. Finally, the customer identifies the bus she wants to take and follows it to its bus stop.

Identifying can require varying degrees of cognitive effort of the customer and is above all a cognitive task. In the example above, the cognitive effort was rather high, which shall be illustrated with the following quotes. Looking at her customized printout the customer reads out loud:

> "Now we shall take (.) bus 16 to Eketrädgården (.) departing from (.) and where is bus 16? (2.0) That is not provided in the information. (.) I need to search, then."
>
> After having found the bus, sitting down, she states:
>
> "Well (.) that was not easy!"

Identifying also requires varying degrees of behavioural effort. Although the starting point of the female customer (when stating that she has to search) is literally across the street from the bus stop, the customer walks around the square as illustrated in Figure 2. She covers, in total, roughly 400 metres, which takes her six minutes. While walking around, she shows behavioural responses such as continuously looking around and every now and then standing still and orienting herself into different directions.

Figure 2 A sketch of area covered when identifying bus stop

(c) GeoEye, Lantmäteriet/Metria, Cnes/Spot Image, DigitalGlobe, Map data (c) 2011 Google – Maps

Identifying also creates emotional responses. While walking around, the customer sighs in stress several times. At one point she sighs while checking her watch and says "*Now (.) Now we will miss it."* Here she is verbalizing her emotional response of being stressed.

The cognitive, emotional and behavioural responses depend on how intuitively the resources can be identified. This demonstrates that the more intuitively accessible the resources and systems are, the less are the cognitive, emotional, and behavioural efforts demonstrated by customers.

Sense-making

Sense-making is the process of giving meaning to and comprehending the resources previously identified.

The following narrative is an illustration of the value co-creation activity and interaction sense-making:

Figure 3 Making sense of a bus map

The customer just identified which bus she can take to reach the destination - bus stop Pumpgatan - with bus 16 or 33. Bus 16 is a bus familiar to her, as she takes it sometimes to travel between two different offices. However, she does not see bus 16 on the map and tries to understand the map pointing at it [see Figure 3] stating:

> "My friend told me that I can take bus 16 or 33, but I don't see bus 16 on here which (3.0) I know that bus 16 goes this way [pointing up and down on map] (.) but it does not show on this one (2.5) eh, but, eh (1.0) I think I take bus 16 as I normally take it when I go to Lindholmen and work, so this one (.) I know leaves from Vasaplatsen so I will walk there."

Walking to the bus station Vasaplatsen she continues referring back to the map:

> "I thought that it was strange that I didn't see bus 16 on (3.0) on the map (2.0) since the alternatives my friend got up were 16 or 33 (2.0) but maybe that was just here from Valand but eh none of the buses were visible clearly or anyway directly on the map that I looked at."

In the narrative above, the customer has difficulties making sense of the map as bus 16 is not displayed. The customer knows that the bus is travelling past the desired bus stop as she has used it before so she expected to find bus 16 on the bus map. Her prior knowledge and the information displayed on the map are incongruent. This results in a cognitive effort, inferred by the long pauses in her descriptions (numbers in parentheses indicate elapsed time in tenths of seconds), and a negative service experience.

The behavioural responses to sense-making can be avoidance or approach behaviours such as turning away from a resource or getting closer to it. It also encompasses other behavioural responses such as pointing at resources as displayed in Figure 4.

Figure 4 Pointing at different parts of a map while sense-making

Emotionally, sense-making can lead to negative feelings like confusion or stress as illustrated in the narrative.

Sense-making is a continuous activity and interaction but is especially triggered when trying to understand line-maps, time-tables, homepages, and signs about payment options or information received from staff or other customers. The cognitive, emotional and behavioural responses depend on how meaningful the resources are to customers. This demonstrates that the more meaningful the resources and systems are, the less are the cognitive, emotional, and behavioural efforts demonstrated by customers.

Using

Using is a constellation of activities and interactions that integrate resources previously identified and made sense of, for various activities such as navigating or ticket payment by the customer.

The following narrative is an illustration of the value co-creation activity and interaction using:

> At the bus stop, the customer walks straight to the timetable and leans forward to be able to read it (*using*). The sign is frozen and she has to scratch ice off it. She reaches for her mobile phone and wants to buy her ticket (*using*). When the bus is coming, she continues trying to buy the ticket but has problems reading from the screen as the sun reflects on the screen (*using*). Although, the customer stands in front of the bus, the bus driver does not open the door and the customer turns back to the time table. She is looking for information about the SMS ticket and though she

had saved the number for the ticket in the phone, she types it in manually (*using*). After a couple of seconds she wonders how she is supposed to buy the ticket and reassures herself that she has to send a SMS. While she was trying, the bus driver opened the door and she turns around and enters the bus. She asks the bus driver for help (*using*) while handling the mobile phone. The bus driver does not respond but looks how the respondent tries to send a SMS. Standing in the bus, she looks back quickly to the timetable outside and then back to her mobile. Wondering to which number to send the message to she looks to the bus driver who just looks back without saying anything. The respondent walks out of the bus again to check at the timetable. There, she scratches more ice off and realizes that she made a mistake. She is looking for signs informing about the SMS ticket within the bus, finds one and turns back into the bus. She walks passed the bus driver and reads the instructions on the sign. She sends the SMS in order to get the ticket (*using*) and after a few seconds receives the reply with the ticket. She has problems opening the SMS, but after a few more moments succeeds and shows it to the bus driver. Buying the ticket via SMS took the informants three minutes. Walking into the bus, she says "This was not easy!" and while sitting down elaborates "This is not the world's easiest… in order for this to work you have to be young and SMS several times per day."

In the narrative above, the customer is trying to integrate different resources in several instances of the payment process, starting with her mobile phone, then the timetable, and then another different sign within the bus. She also tries to integrate the bus driver, but gets no response from her. As she is not very familiar with sending text messages with her phone, integrating this resource in her payment process, causes complications. In our empirical context using can be the integration of mobile phones for ticket purchasing, the usage of the internet, paper-based or digital time-tables for planning the trip, as well as asking staff and other travellers during the trip. As revealed in the narrative above, using can lead to stress. The easier the resources are to integrate with each other, the less are cognitive, emotional, and behavioural efforts of customers.

An overview of the value co-creating constellations of activities and interactions with empirical illustrations can be found in the table below.

Constellations of activities and interactions	Definitions	Empirical illustrations
Identifying	Searching for resources as well as understanding persons or objects in the service environment as resources.	*Searching for bus stops, time-tables, maps, or buses; approaching staff or other customers; looking and walking around.*
Sense-making	The process of giving meaning to and comprehending the resources previously identified.	*Pointing at maps or time-tables; cognitive efforts in order to understand the resources*
Using	The process of using and integrating resources previously identified and made sense of for various activities such as navigating or ticket payment.	*Usage of mobile phones, the internet, ringing the call-centre, asking staff or other customers, using time-tables, live displays, or maps.*

Table 1 Overview of value co-creating constellation of activities and interactions

Contextualizations of the activities and interactions

As illustrated in the empirical context of the study, the value co-creating activities and interactions form two main on-going customer processes through servicescapes and experience rooms in the public transport industry – namely navigating and ticketing (see Figure 1).

Navigating

Navigating is the process of identifying, making sense of and using resources for the task of finding one's way and relating one's current position to other important landmarks. Typically, it can be the planning of the trip, the creation of reference points such as the closest bus stop and the destination, which modes of transport (bus, ferry, metro, etc.) to take and where to switch to another vehicle. The following narrative is an illustration of the value co-creation process navigating:

> A customer tries to switch from one bus to another at the central bus stop. She is missing a resource [a map of all bus lines] needed for navigation. She identifies different resources [different time-tables] and is trying to make sense of them. The resources are not really suitable for her navigation process, but she is trying to use them anyway, resulting in a negative experience ["This is confusing"]. After a while, she identifies an important landmark on the timetable ["There it says 'Sundsta', yes."],

> makes sense of it and is able to successfully finish her navigation process ["Then we can take bus 6."].

Although this quotation illustrates a single episode, this type of process is found to be on-going and critical during the whole trip. During their travel experience, customers reassure themselves repeatedly about their current position, travel progress and upcoming switches. Constellations of identifying, sense-making, and using of different resources contribute to or hinder the navigating process.

Ticketing

Ticketing is the process of identifying, making sense of, and using resources for tasks relating to the purchase and payment of one's ticket as well as checking its validity.

The following narrative illustrates the ticketing process and its link to identifying, sense-making, and using:

> A customer is on her return trip and has to change buses. She uses her mobile phone (*using*) and checks whether or not her ticket is still valid (*sense-making*). She understands that she has to buy a new ticket, but does not remember the number to send the SMS to. She searches for information at the bus stop (*identifying*), but cannot find any sign. She identifies a ticket machine, hoping to find the number there. She studies the machine (*sense-making*), but the number is not displayed on the machine. While walking around, she identifies a sign informing about the different payment ways. She makes sense of the signs, uses her mobile phone and purchases her ticket.

Paying for one's ticket can be argued to be a single transaction. However, the empirical data reveals that ticketing is a process that makes an appearance at several stages during the travel. As well as planning their travel, customers plan their ticket purchase, choosing from several options and thinking during the travel about the validity of their ticket.

To conclude, we find that identifying, sense-making, and using describe the mechanisms of how activities and interactions in servicescape processes create customer responses and thus form the customer experience. Further, these constitute central customer practices such as navigating and ticketing, which run parallel during the customer experience. They are linked to resources and can respectively require more or less cognitive, emotional or behavioural effort. As a result, they either contribute to or hinder a positive travel experience. Finally, from the study we can see that when there is congruence between the three constellations of activities and interactions – identification, sense-making, and using – it eases the customer process and creates an experience of value. When the resources of the servicescape is intuitive (contributing to identifying), meaningful (contributing to sense-making) and, easy (contributing to using) they are linked to a high level of value experience.

Discussion and contributions

The aim of this paper was to explore customer interactions with servicescape and to explain in more depth the internal mechanisms that form the customer service experience. The results from the empirical study reveal three constellations: namely, *identifying*, *sense-making*, and *using*, which, depending on the empirical context, form two main customer practices – *navigating* and *ticketing*. These constructs are theoretical and have implications for service research in the sense that they explain how customer experiences are formed.

In contrast to earlier research on servicescape and value co-creation this paper is not focusing predominantly on the outcome of the servicescape process in terms of favourable or unfavourable customer experiences. Rather, it focuses on mechanisms; that is, how constellations of activities and interactions in servicescape processes create customer responses and thus form the customer's experience. Earlier in the paper we defined a customer experience as the customer's cognitive, emotional and behavioural responses that result in a mental conception. If we understand what a favourable and unfavourable customer experience is, but not how it is formed, something fundamental is lacking. We argue that so far in service research, the formation of customer experiences is more or less a "black box". This paper contributes to service research by opening this "black box". The findings extend our knowledge about activities and interactions when using resources in servicescape processes and the customers' responses that result in the customer experience. Although this study was only conducted in one context – public transportation – we argue that the findings can be generalized to similar contexts. For instance, it seems very likely that the internal mechanisms of identifying, sense-making, and using can be found in other facility driven services, such as amusement parks, health clubs, supermarkets, or hotels.

We can now outline some of the contributions of the paper. Firstly, the identification of the three value co-creating constellations of activities and interactions has several implications for the servicescape literature. Instead of merely focusing on the effects of the different design dimensions on the customer experience, the identified value co-creating activities and interactions provide a more complete picture of the environment–customer relationship. Identifying, sense-making, and using complement the dimensions used in the servicescape and experience room models (Edvardsson *et al*., 2010; Bitner, 1992). Specifically, we link the dimensions such as physical artefacts, intangible artefacts, and technology (Edvardsson *et al*., 2010; Bitner, 1992) – as well as ambient conditions, space/function, and signs, symbols and artefacts (Edvardsson *et al*., 2010; Bitner, 1992) – to the three value co-creating constellations. The design dimensions should reduce cognitive, emotional, and behavioural effort in the activities and interactions of identifying, sense-making, and using. This is when the design is intuitive, meaningful and easy to use. This is consistent with a service logic, in which the role of the company is to support the customers' processes (Vargo and Lusch, 2008a; Grönroos, 2008).

Secondly, a significant contribution to the servicescape literature is the provision of a veritable customer perspective of servicescape processes. So far both the servicescape and the experience room model, and other research building on the servicescape model, seem to

focus predominantly on the provider perspective and the resources in the service environment rather than on interactions and activities when resources are integrated and used in value co-creation. Even in very recent articles (Vilnai-Yavetz and Gilboa, 2010) the servicescape is conceptualized as a marketing tool, which reveals the marketing management perspective of the authors. Our research approach enables a more balanced view on the different perspectives of service facilities (Turley and Fugate, 1992) and pays special consideration to customer use processes. This approach provides a more in-depth understanding of the active role of the customer integrating resources, including other individuals. As a result, our study extends the value co-creation framework of Payne *et al*. (2008), by theorizing the mechanisms of encounter processes and how customer experiences are formed within these.

Thirdly, in the service literature it is a common understanding that customers' knowledge and skills influence actions in service processes (Bowen and Scheider, 1995). The customer's experiences stored in their memory will probably influence their future behaviour. Similarly, the value co-creating activities and interactions are affected by customers' internal responses and backgrounds, such as prior experience. The more prior knowledge a customer has, or the more skilful they are, the lesser are cognitive, emotional, and behavioural efforts for the customers. Based on this study we can now link this understanding to the activities and interactions of identifying, sense-making and using resources. Typically, as illustrated in the empirical study, elaborate experience and skills in writing SMS messages with a mobile phone simplifies the process of buying an SMS ticket. Prior knowledge of the spatial location of destinations and bus lines simplifies the navigation process, and so on. However, what we found in this study is that prior knowledge can also limit the identifying process of customers. Customers continue to utilize known options for ticket payment or bus lines instead of identifying other options, which might be more suitable for them.

Finally, our study extends the work of Dziekan (2008) in transportation research by including ticketing in the scope of the research. Ticketing was highlighted as an essential part of the travel experience and theorized as formed by the value co-creating activities and interactions of identifying, sense-making, and using. As shown in our study the individual customer's cognitive, emotional and behavioural efforts are facilitated when the servicescape design is intuitive (in *identifying*), meaningful (in *sense-making*), and easy (in *using*). From this we can argue that the identified value co-creating constellations have several managerial implications for the public transportation sector as well as for other utilitarian self-services. In complement to the suggestions of Dziekan (2008) of pinpointing bus stops as an entry point into the service, which provides sufficient information to the use of the entire system, we argue that information should facilitate navigating as well as ticketing processes. Specifically, each bus stop should provide information not only regarding the bus lines departing from the stop in question, but also an overall line map. Moreover, information about different payment options should be provided. The information should be intuitive, meaningful and easy to apprehend – even for first-time customers. Signs and symbols should be easily recognizable by customers. When the public transport system consists of bus lines as well as tram lines, the mapping of the different modes should be meaningful for customers. That is, trunk bus lines

are likely to be categorized by customers as buses and not as tram lines even if traffic planners regard them as equivalent and map both of them on tram lines instead of on bus line maps.

By complementing research that focuses on the effects of single variables we hope to inspire researchers to focus on how servicescape dimensions could facilitate identifying, sense-making and using activities and interactions during the customers' process. Moreover, while we argue that this conceptual framework is also applicable to other servicescape processes and thus has the capacity to explain how a wide range of customer experiences are formed; it would be worthwhile to verify our framework in different service settings.

Notes

1. The aim of the survey was to apply a scale measuring the service experience of public transport users. A random sample of 1,000 informants was obtained from Statistics Sweden, which consisted of residents between 18 and 76 years of age who were living in Karlstad and Gothenburg, Sweden (the populations are approximately 80,000 and 550,000, respectively). Questionnaires were mailed to each respondent's home address with a reply-paid envelope. In order to increase the response rate, informants were told that every fifth questionnaire that was returned would entitle the respondent to receive two lottery tickets. No reminders were sent out. We achieved a response rate of 36.1 %.

References

Andreassen, T.W. (1995), "(Dis)satisfaction with public services: the case of public transportation", *Journal of Services Marketing,* Vol. 9 No. 5, pp. 30-41.

Aubert-Gamet, V. (1997), "Twisting servicescapes: diversion of the physical environment in a re-appropriation process", *International Journal of Service Industry Management,* Vol. 8 No. 1, pp. 26-41.

Arnould, E.J., Price, L.L. and Malshe, A. (2006), Toward a Cultural Resource-Based Theory of the Customer, in Lusch, R.F. and Vargo, S.L. (Eds), *The service-dominant logic of marketing : dialog, debate, and directions* M.E. Sharpe, Armonk, N.Y.

Bailey, N. and Areni, C.S. (2006), "When a few minutes sound like a lifetime: Does atmospheric music expand or contract perceived time?", *Journal of Retailing,* Vol. 82 No. 3, pp. 189-202.

Bates, J., Polak, J., Jones, P. and Cook, A. (2001), "The valuation of reliability for personal travel", *Transportation Research Part E: Logistics and Transportation Review,* Vol. 37 No. 2-3, pp. 191-229.

Belk, R.W. and Kozinets, R.V. (2005), "Videography in marketing and consumer research", *Qualitative Market Research: An International Journal*, Vol. 8 No. 2, pp. 128-41.

Berry, L.L., Carbone, L.P. and Haeckel, S.H. (2002), "Managing the Total Customer Experience", *MIT Sloan Management Review*, Vol. 43 No. 3, pp. 85-89.

Berry, L.L., Wall, E.A. and Carbone, L.P. (2006), "Service Clues and Customer Assessment of the Service Experience: Lessons from Marketing", *Academy of Management Perspectives*, Vol. 20 No. 2, pp. 43-57.

Berthon, P. and John, J. (2006), From Entities to Interfaces: Delineating Value in Customer-Firm Interactions, in Lusch, R.F. and Vargo, S.L. (Eds), *The service-dominant logic of marketing : dialog, debate, and directions*, M.E. Sharpe, Armonk, N.Y.

Bitner, M.J. (1992), "Servicescapes: The impact of physical surroundings on customers and employees", *Journal of Marketing*, Vol. 56 No. 2, pp. 57-71.

Bowen, D.E. and Scheider, B. (1995), *Winning the service game*, Harvard Business School Press, Boston, MA.

Carbone, L.P. (2004), *Clued In: How To Keep Customers Coming Back Again and Again*, FT Prentice Hall, Harlow.

Carroll, K., Iedema, R. and Kerridge, R. (2008), "Reshaping ICU Ward Round Practices Using Video-Reflexive Ethnography", *Qualitative health research*, Vol. 18 No. 3, pp. 380-90.

Chébat, J. and Michon, R. (2003), "Impact of ambient odors on mall shoppers' emotions, cognition, and spending: A test of competitive causal theories", *Journal of Business Research*, Vol. 56 No. 7, pp. 529-39.

Creswell, J.W. (1998), *Qualitative inquiry and research design : choosing among five traditions*, Sage, London.

Dziekan, K. (2008), *Ease-of-use in public transportation: a user perspective on information and orientation aspects*, Department of Transport and Economics, Royal Institute of Technology, Stockholm.

Echeverri, P. (2005), "Video-based methodology: capturing real-time perceptions of customer processes", *International Journal of Service Industry Management*, Vol. 16 No. 2, pp. 199-209.

Edvardsson, B. (1998), "Causes of customer dissatisfaction - studies of public transport by the critical-incident method", *Managing Service Quality*, Vol. 8 No. 3, pp. 189-97.

Edvardsson, B., Enquist, B. and Johnston, R. (2005), "Cocreating Customer Value Through Hyperreality in the Prepurchase Service Experience", *Journal of Service Research*, Vol. 8 No. 2, pp. 149-61.

Edvardsson, B., Enquist, B. and Johnston, R. (2010), "Design dimensions of experience rooms for service test drives: Case studies in several service contexts", *Managing Service Quality*, Vol. 20 No. 4, pp. 312-27.

Ezeh, C. and Harris, L.C. (2007), "Servicescape research: a review and a research agenda", *Marketing Review*, Vol. 7 No. 1, pp. 59-78.

Fellesson, M. and Friman, M. (2008), "Perceived Satisfaction with Public Transport Service in Nine European Cities", *Journal of the Transportation Research Forum*, Vol. 47 No. 3, pp. 93-103.

Friman, M., Edvardsson, B. and Gärling, T. (2001), "Frequency of negative critical incidents and satisfaction with public transport services. I", *Journal of Retailing and Consumer Services*, Vol. 8 No. 2, pp. 95-104.

Gärling, T. and Steg, L. (Eds.), (2007), *Threats from Car Traffic to the Quality of Urban Life: Problems, Causes, Solutions*, Elsevier Science, Oxford, UK.

Glaser, B.G. (1978), *Theoretical sensitivity : advances in the methodology of grounded theory*, Sociology Press, Mill Valley, CA.

Glaser, B.G. and Strauss, A.L. (1967), *The discovery of grounded theory: strategies for qualitative research.* Aldine, Chicago, IL.

Grönroos, C. (2008), "Service logic revisited: who creates value? And who co-creates?", *European Business Review*, Vol. 20 No. 4, pp. 298-314.

Grönroos, C. and Ravald, A. (2011), "Service as business logic: implications for value creation and marketing", Vol. 22 No. 1, pp. 5-22.

Haidet, K.K., Tate, J., Divirgilio-Thomas, D., Kolanowski, A. and Happ, M.B. (2009), "Methods to improve reliability of video-recorded behavioral data", *Research in nursing & health*, Vol. 32 No. 4, pp. 465-74.

Harris, L.C. and Ezeh, C. (2008), "Servicescape and loyalty intentions: an empirical investigation", *European Journal of Marketing*, Vol. 42 No. 3/4, pp. 390-422.

Heath, C., Hindmarsh, J. and Luff, P. (2010), *Video in qualitative research: analysing social interaction in everyday life*, Sage, Los Angeles.

Hensher, D.A., Stopher, P. and Bullock, P. (2003), "Service quality – developing a service quality index in the provision of commercial bus contracts", *Transportation Research Part A*, Vol. 37 No. 6, pp. 499-517.

Holbrook, M.B. (2006), ROSEPEKICECIVECI versus CCV: The Resource-Operant, Skills-Exchanging, Performance-Experiencing, Knowledge-Informed, Competence-Enacting, Co-producer-Involved, Value-Emerging, Customer-Interactive View of Marketing versus the Concept of Customer Value: "I Can Get It for You Wholesale", in Lusch, R.F. and Vargo, S.L. (Eds), *The service-dominant logic of marketing : dialog, debate, and directions*, M.E. Sharpe, Armonk, N.Y.

Johnston, R. and Clark, G. (2008), Service operations management : improving service delivery, 3rd edn, FT/Prentice Hall, Harlow.

Kearney, T., Coughlan, J. & Kennedy, A. (2007), Servicescapes: A Review of Contemporary Empirical Research. *Sixteenth Annual Frontiers in Service Conference*, p. 58.

Kotler, P. (1974), "Atmospherics as a Marketing Tool", *Journal of Retailing*, Vol. 49 No. 4, pp. 48-64.

Latvala, E., Vuokila-Oikkonen, P. and Janhonen, S. (2000), "Videotaped recording as a method of participant observation in psychiatric nursing research", *Journal of advanced nursing*, Vol. 31 No. 5, pp. 1252-57.

Lehn, D.v. (2006), "Embodying experience: A video-based examination of visitors' conduct and interaction in museums", *European Journal of Marketing*, Vol. 40 No. 11/12, pp. 1340-59.

Mattila, A.S. and Enz, C.A. (2002), "The role of emotions in service encounters", *Journal of Service Research*, Vol. 4 No. 4, pp. 268-77.

Meyer, C. and Schwager, A. (2007), "Understanding Customer Experience", *Harvard business review*, Vol. 85 No. 2, pp. 116-26.

Miles, M.B. and Huberman, A.M. (1994), *Qualitative data analysis : an expanded sourcebook*, Sage, Thousand Oaks, CA.

Morrin, M. and Chébat, J. (2005), "Person-Place Congruency: The Interactive Effects of Shopper Style and Atmospherics on Consumer Expenditures", *Journal of Service Research*, Vol. 8 No. 2, pp. 181-91.

Normann, R. (2001), *Reframing business : when the map changes the landscape*, Wiley, Chichester.

Ostrom, A.L., Bitner, M.J., Brown, S.W., Burkhard, K.A., Goul, M., Smith-Daniels, V., Demirkan, H. and Rabinovich, E. (2010), "Moving forward and making a difference: research priorities for the science of service", *Journal of Service Research*, Vol. 13 No. 1, pp. 4-36.

Pareigis, J., Edvardsson, B. and Enquist, B. (2011), "Exploring the role of the service environment in forming customer's service experience", *International Journal of Quality and Service Sciences*, Vol. 3 No. 1, pp. 110-24.

Payne, A.F., Storbacka, K. and Frow, P. (2008), "Managing the co-creation of value", *Journal of the Academy of Marketing Science*, Vol. 36 No. 1, pp. 83-96.

Prahalad, C.K. and Ramaswamy, V. (2004), The future of competition : co-creating unique value with customers, Harvard Business School Pub., Boston, MA.

Pullman, M.E. and Gross, M.A. (2004), "Ability of Experience Design Elements to Elicit Emotions and Loyalty Behaviors", *Decision Sciences*, Vol. 35 No. 3, pp. 551-78.

Rafaeli, A. and Vilnai-Yavetz, I. (2004), "Emotion as a Connection of Physical Artifacts and Organizations", *Organization Science*, Vol. 15 No. 6, pp. 671-86.

Ramírez, R. (1999), "Value co-production: intellectual origins and implications for practice and research", *Strategic Management Journal*, Vol. 20 No. 1, pp. 49-65.

Reimer, A. and Kuehn, R. (2005), "The impact of servicescape on quality perception", *European Journal of Marketing*, Vol. 39 No. 7/8, pp. 785-808.

Rosenstein, B. (2008), "Video use in social science research and program evaluation", *International Journal of Qualitative Methods*, Vol. 1 No. 3, pp. 22-43.

Sandström, S., Edvardsson, B., Kristensson, P. and Magnusson, P. (2008), "Value in use through service experience", *Managing Service Quality*, Vol. 18 No. 2, pp. 112-126.

Shaw, C. (2005), *Revolutionize your customer experience*, Palgrave Macmillan, Basingstoke.

Shaw, C. (2007), *The DNA of customer experience : how emotions drive value*, Palgrave Macmillan, Basingstoke.

Silverman, D. (2006), *Interpreting qualitative data: methods for analyzing talk, text and interaction.* 3rd ed., Sage Publications, London.

Speer, S.A. (2002), "'Natural' and 'contrived' data: a sustainable distinction?", *Discourse Studies*, Vol. 4 No. 4, pp. 511-42.

Starrin, B. (1997), *Along the path of discovery: qualitative methods and grounded theory.* Studentlitteratur, Lund.

Streeck, J. and Mehus, S. (2005), Microethnography: The study of practices, in Fitch, K.L. and Sanders, R.E. (Eds), *Handbook of language and social interaction*, Lawrence Erlbaum Associates, Mahwah, NJ.

Turley, L.W. and Fugate, D.L. (1992), "The Multidimensional Nature of Service Facilities", *Journal of Services Marketing*, Vol. 6 No. 3, pp. 37-45.

Turley, L.W. and Milliman, R.E. (2000), "Atmospheric Effects on Shopping Behavior: A Review of the Experimental Evidence", *Journal of Business Research*, Vol. 49 No. 2, pp. 193-211.

Van den Haak, M.J., de Jong, M.D.T. and Schellens, P.J. (2004), "Employing think-aloud protocols and constructive interaction to test the usability of online library catalogues: a methodological comparison", *Interacting with Computers*, Vol. 16 No. 6, pp. 1153-70.

Vargo, S.L. and Lusch, R.F. (2004), "Evolving to a New Dominant Logic for Marketing", *Journal of Marketing*, Vol. 68 No. 1, pp. 1-17.

Vargo, S.L. and Lusch, R.F. (2008a), "Service-dominant logic: continuing the evolution", *Journal of the Academy of Marketing Science*, Vol. 36 No. 1, pp. 1-10.

Vargo, S.L. and Lusch, R.F. (2008b), "From goods to service(s): Divergences and convergences of logics", *Industrial Marketing Management*, Vol. 37 No. 3, pp. 254-59.

Vilnai-Yavetz, I. and Gilboa, S. (2010), "The Effect of Servicescape Cleanliness on Customer Reactions", *Services Marketing Quarterly*, Vol. 31 No. 2, pp. 213-34.

Voss, C.A. (2003), "Rethinking paradigms of service: Service in a virtual environment", *International Journal of Operations & Production Management*, Vol. 23 No. 1, pp. 88-104.