

A24488 - Unrestricted

Report

Customer journey measures - State of the art research and best practices

Customer Care 2015, WP3, deliverable D12

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KEYWORDS:
 Service innovation,
 service design, customer
 journey

VERSION

2

DATE

2013-06-24

AUTHOR(S)

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CLIENT(S)

Norwegian Research Council, BIA programme

CLIENT'S REF.

NRC p.nr. 219800

PROJECT NO.

102002281

NUMBER OF PAGES/APPENDICES:

28 pages + two appendices

ABSTRACT

We have conducted a systematic review of the emerging scientific literature on customer journeys to support our work on customer journey measures in the research project *Customer Care 2015*. A total of 54 journal and conference papers have been analysed. Key insights from the review include:

- A customer journey is a process which a customer goes through to achieve a specific goal, involving one or more service providers. Customer journeys concern customer experiences and may include touchpoints, steps, and actions.
- Customer journey measures should support customer journey mapping, that is, analyses to identify customer journeys.
- Customer journey mapping may be based on internal collaboration to identify generic journeys and customer data to identify actual journeys. However, studies comparing generic and actual journeys, to identify gaps, are remarkably absent.
- The state of the art for mapping and measuring actual journeys with customers is fragmented. Interviews and observations are prominent methods. Interesting alternative methods include the service walkthrough method and customer-initiated data-collection through smartphones.
- The sequential incident technique (SIT) and long-term user experience methods may serve as inspiration for future method development.
- Standard measures for customer experience are needed as part of the customer journey measures. Both retrospective and concurrent data collection methods are relevant.

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REPORT NO.

A24488

ISBN

978-82-14-05325-8

CLASSIFICATION

Unrestricted

CLASSIFICATION THIS PAGE

Unrestricted

Document history

VERSION	DATE	VERSION DESCRIPTION
1	2013-05-31	Draft version, permissions to use copyrighted figures to be cleared.
2	2013-06-24	Final version, permissions to use copyrighted figures granted.

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1 Introduction

Customer care is provided across an increasing number of channels and points of contact. In consequence, managing the customer experience grows ever more challenging. The points of contact between the customer and the service provider should be orchestrated so the customer achieves her goals according to or above expectation. From service providers' point of view, such orchestration requires knowledge on how the offered customer care is experienced by the customers. Furthermore, when designing customer care facilities, knowledge is needed on the customers' requirements and expected experience.

The concept of *customer journey* has been taken up to support a customer-centric perspective in service management and design, in practical work and in the literature. A customer journey is the process a customer goes through to achieve a specific goal involving one or more service providers. By analyzing the customer journey we can gain knowledge on how customer care is experienced from the customers' point of view. Furthermore, customer journey visualizations may be helpful to summarize user research and also support design of innovative solutions for customer care.

Voss and Zomerdijk (2007) describe the customer journey as "numerous touchpoints between the customer and the organization or the brand" (p. 8) and argue that the customer experience is a result of all elements of this journey. Experiences in one touchpoint may affect the experience of the following touchpoints (Stauss & Weinlich, 1997)¹. At the same time, the customers' experience may differ significantly between touchpoints (Kujala, Roto, Väänänen-Vaino-Mattila, Karpanos, & Sinnelä, 2011). Consequently, it may be necessary to get knowledge on customers' experience on the level of touchpoints as well as the overall journey.

In a recent McKinsey article, Stone and Devine (2013) argue that the reason why leading companies in almost all customer industries fail to improve their customer experience is their failure to appreciate customer experience as a result of a customer's repeated interactions with the company throughout the customer journey. They argue we need a paradigmatic shift "away from moments of truth and toward Customer Journeys" (p. 3). Stone and Devine advice companies to define customer journey metrics, feed these metrics back to the frontline, and establish a common language for cross-channel management of customer journeys.

In the research project *Customer Care 2015*, founded by the Norwegian Research Council, we will establish *customer journey measures* that allow service providers to gather data on customer journeys and associated customer experiences in the context of customer care. Such data collection should allow us to identify critical aspects of a customer journey and support the management and design of customer care. We aim to ground our customer journey measures in the state of the art. For this purpose we have conducted a systematic review of the emerging scientific literature on customer journeys. Furthermore, we have suggested literature from the fields of management, marketing, and human-computer interaction to extend the knowledge base provided in the customer journey literature.

This report will be structured as follows. In Chapter 2 we present the background for our work. The literature review is presented in Chapter 3. As we found that existing knowledge from related fields is not fully utilized in the literature on customer journeys, we suggest possible extensions of the customer journey knowledge base in Chapter 4. We then present important considerations for future work on customer journey measures in Chapter 5 before summarizing our key findings in Chapter 6.

¹ Strauss and Weinlich (1997) do not use the term *touchpoints*, but discuss how experiences from one service episode may affect the following episodes.

2 Background – the fragmented state of customer journey research

The literature on customer journeys draws on several research fields. In particular work conducted within the management and marketing literature, such as service blueprinting (Shostack, 1984; Bitner, Ostrom, & Morgan, 2008), and within the emerging field of service design (Parker & Heapy, 2006; Stickdorn & Schneider, 2010).

The concept of customer journeys is increasingly used in the management and design of services. In an interview study involving 17 leading experiential service providers, Zomerdijsk and Voss (2011) found that the majority of these applied customer journeys in service development. Segelström and Holmlid (2009), in an interview study on service designers' visualization techniques, found customer journeys to be the most commonly used among such techniques.

Customer journeys are in particular used for analysis (Stickdorn & Zehrer, 2009; Trischler & Zehrer, 2012) and design (Kankainen, Vaajakallio, Kantola, & Mattelmäki, 2012). Though the term has been employed for more than 20 years (Whittle & Foster, 1991), the emerging body of scientific literature on customer journeys appears immature. Most of the scientific literature on this topic has been published within the last decade, there is only limited consensus concerning the definition of a customer journey, and there is no common agreement on the appropriate means for gathering data for customer journeys.

Nevertheless, the emerging scientific knowledge base on customer journeys is highly relevant for our purpose of establishing customer journey measures. Therefore, a systematic review of this literature will be of value both to inform the subsequent work in *Customer Care 2015* and to serve as a basis for future research also outside this project.

3 Customer journey - a literature review

The purpose of the literature review was to gain an overview of the scientific literature concerning customer journeys. The following research question was stated:

How are customer journeys used to support service management and design in the current scientific literature? And how is the management and design of customer journeys informed by customer data.

The review was conducted according to Kitchenham's (2004) recommendations for systematic literature review. In the following we present the scoping, search and analysis, before presenting the findings of the literature review.

3.1 Scoping, search and analysis

3.1.1 Scoping

The review was scoped to include only the literature specifically treating customer journeys. This scoping was necessary to make the review feasible. We are aware that approaches resembling the use of customer journey exist under different names, such as *service journeys* (Parker & Heapy, 2006) and *customer process* (Edvardsson, 1998). However, due to the fragmented nature of the literature on customer journeys we found that including alternative search terms, more or less referring to the same thing as customer journey, would severely increase the complexity of the review. Furthermore, as the term *customer journey* is commonly used in practical service management and design (Zomerdijsk & Voss, 2011), more so than other journey-oriented terms (Segelström & Holmlid, 2009), we argue that this scoping is justified. In particular as papers presenting resembling approaches without using the term *customer journey* are likely to be referred in the reviewed papers, given that they have had an impact in this area, and thereby will be analyzed as referred background.

We also scoped the review so as to only include papers from scientific journals and conferences. The reason for this was to benefit from the quality control of the peer review of such publication channels. There certainly are valuable sources on customer journeys also outside these channels, such as the book *This is service design thinking* (Stickdorn & Schneider, 2010) and the report *Innovation in Experiential Services - An Empirical View* (Voss & Zomerdijk, 2007). We assumed that such influential other sources would be included as references in the reviewed papers and, consequently, analyzed as referred background.

3.1.2 Search and analysis

We aimed to get an overview of how customer journeys are used for service management and design across a wide range of fields. Therefore, we needed to search in a broad literature base. For this purpose, we chose to conduct our search in Google Scholar (<http://scholar.google.com>). This search engine has a broader coverage of publication channels (Beel, Gipp, & Wilde, 2010; Kulkarni, Aziz, Shams, & Busse, 2009) and specific fields, for example within social science (Harzing, 2013) and marketing (Soutar and Murphy, 2009), than do other broad academic search engines such as Scopus and Web of Science.

Following initial piloting of various search terms, we decided to conduct a single search on "customer journey". This search was conducted February 25, 2013, and returned a total of 1000 hits. Of these, 134 hits were identified as scientific journal papers, 57 as scientific conference papers. To filter out papers only treating customer journeys in passing, we excluded all papers where *customer journey* was mentioned only once or twice in the text (126). The exceptions from this were papers mentioning *customer journey* once or twice and then referring to the same by a different term such as *journey* or *user journey*.

We also excluded nine journal papers because they were non-retrievable (2), duplicates (2), book reviews (2), petites (1), erroneously classified as journal papers (1), or published in a predatory open access journal according to Beals listing (<http://scholarlyoa.com/publishers/>) (1). Three conference papers were excluded because they were erroneously classified as conference papers (2), or non-retrievable (1).

Following this initial filtering, we were left with 35 journal papers and 18 conference papers. These papers were coded on each of the following aspects: scientific field, referred background on customer journeys, stated purpose of using customer journeys, relation of customer journeys to customer experiences, applied customer journey concepts, synonyms for *customer journey*, applied data collection methods, customer journey visualizations, and organizational impact of customer journey work. For some aspects, the codes were predefined. For others, the codes were established in basis of the content of the reviewed papers. See **Appendix 1** for a full overview of the aspects and associated coding categories.

Following the coding process, the papers were analyzed for each aspect in a two-step process. First, a descriptive overview was established on basis of the distribution of the papers across the coding categories of the particular aspect. Second, if relevant, the papers were reviewed to identify characteristics of the papers belonging to each coding category.

One additional journal paper on customer journeys (Whittle & Foster, 1991) was identified when going through previous work referred in the papers. This paper was added to the set of reviewed papers and duly coded and analyzed.

3.2 Overview of the reviewed papers

After the search and filtering process described above, 54 papers were identified as concerning customer journeys; 36 journal papers and 18 conference papers. The full list of references is provided in **Appendix 2**. Though the earliest scientific paper on customer journeys that we have identified is more than 20 years old (Whittle & Foster, 1991), the vast majority of the papers are published within the last five years. See Table 1 for an overview of the papers according to publication year.

Year	Journal	Conference	Total
1991	1	0	1
1993	1	0	1
1999	1	0	1
2002	0	1	1
2007	1	0	1
2008	1	2	3
2009	4	6	10
2010	5	3	8
2011	11	2	13
2012	11	4	15
Total	36	18	54

Table 1: Distribution of the analyzed papers according to publication year.

The reviewed papers are mainly distributed across two broad fields: design (25) and management/marketing (24). These two fields may to some extent be overlapping, as is for example seen in Gloppe's (2009, 2011) papers on *service design leadership*. In cases of such overlap, the fields of the papers were classified according to the field targeted by its publication channel.

In 24 of the papers, the authors present results from their own work concerning customer journeys. In the remaining papers, customer journeys are discussed as related work, or customer journeys are presented as a promising approach to the management and design of services. The impact of the presented customer journey work is not well documented in the papers. Only 5 papers include findings on specific (Lee et al., 2010; Steen et al., 2011) or general (Kimbrell, 2011; Segelström, 2009; Wechsler, 2012) effects of the presented customer journey work on the downstream design process or concrete management practices.

Twenty-six of the papers refer to previous work on customer journeys. The two most referred sources of such work are Parker and Heapy's service design pamphlet *The journey to the interface. How public service design can connect users to reform* (2006) and the work of Zomerdijk and Voss (2010), including their report *Innovation in Experiential Services - An Empirical View* (Voss and Zomerdijk, 2007).

Other sources of previous work mentioned in more than one paper are Stickdorn's work on service design (Stickdorn, 2009; Stickdorn & Schneider, 2010), the work of the service design group at Linköping University (Holmlid & Evenson, 2008; Segelström, 2009; Segelström, 2010), Richardson's book *Innovation X* (Richardson, 2010), Dunn and Davis' *Brand touchpoint wheel* (Davis & Dunn, 2002; Dunn & Davis, 2003) and the HM Government guide on customer journey mapping (Varney, 2006; HM Government, 2007).

3.3 What are customer journeys?

The concept of customer journeys is defined or described in 33 of the reviewed papers. In the remaining 21 the term *customer journey* is used without being defined or described, something that may be due to the authors of these papers seeing customer journey as a concept thoroughly grounded in current practice and therefore not requiring a definition or further description. The least common denominator of the definitions and descriptions of customer journeys in the reviewed papers is: *a process which a customer goes through to achieve a specific goal, involving one or more service providers*².

² Rasila et al. (2009) make a distinction between customers and users, and prefer to use the term *user journey* rather than *customer journey*. To limit the complexity in presenting this review we do not make this distinction.

3.3.1 Customer journeys concern customer experiences

The vast majority of the reviewed papers (48) concern customer experiences, sometimes termed *service experiences* (Shaw & Williams, 2009; Segelström & Holmlid, 2009, 2012) or *user experiences* (Huang et al., 2012; Mangiaracina, Brugnoli, & Perego, 2009; Rasila, Rothe, & Nenonen, 2009). Customer experience is argued to be a differentiating factor among competitors in a service market (Zomerdijk & Voss, 2010, 2011; Johnston & Kong, 2011).

Though a key object of interest, the term *customer experience* often is not explicitly defined. Nevertheless, the explication by Johnston and Kong (2011) seems compliant with how the term is typically used in the reviewed papers. For Johnston and Kong *customer experience* is the customers' interpretations of the service process and their associated emotions. Furthermore, customer experiences are held to be subjective for the individual customer (*ibid.*). The customer experience is seen as evolving throughout the customer journey, affected by the different touchpoints involved (Rockwell, 2008; Clatworthy, 2010, 2011; Kankainen et al., 2012). Customer experience is also argued to be a holistic concept as it "encompasses every aspect of a company's offering" (Teixeira et al., 2012, p. 363).

Customer journeys are typically seen as an approach, method, or technique that supports the management or design of experiential services, that is, services to which the customer experience is critical; this because customer journeys are seen as an adequate way to represent and communicate the customer perspective. Zomerdijk and Voss (2011) compare the customer journey approach to that of service blueprinting and argue that a key difference lies in the concern for the customer experience in the former; "the scope of the journey perspective is broader than what is typically incorporated in blueprinting, for example, designing the emotional as well as the physical journey" (p. 74). The same authors have found that the customer journey approach is prevalent among experiential service providers (Zomerdijk & Voss, 2010, 2011).

The relation between the customer journey approach and customer experience management and design is also seen in the focus on customer experience measures in the reviewed papers. Customer experiences are typically seen as directional, either positive or negative, and are made the object of quantitative assessment. Seven of the reviewed papers include quantitative experience measures in their customer journey visualizations (such as Huang, Deng, & Chuang, 2012; Rasila et al., 2009, Stickdorn & Zehrer, 2009). Customer experiences are also reported as qualitative descriptions in customer journey visualizations (Crosier & Handford, 2012; Yeh et al., 2012).

3.3.2 Touchpoints in customer journeys

Touchpoints is a key customer journey concept and is used in 38 of the reviewed papers, though thoroughly described or defined in only 11. In these latter papers, a touchpoint is typically described as a point or moment of interaction or communication between the customer and a service provider. Touchpoints are central in several of the customer journey visualizations presented in the reviewed papers (such as Xinhui, 2008; Shaw & Williams, 2009; Stickdorn & Zehrer, 2009; Trischler & Zehrer, 2012; Alves et al., 2012; Yeh, Chuang, & Kuo, 2012).

Touchpoints is a key concept also in the most cited background literature on customer journeys (Parker & Heapy, 2006; Voss & Zomerdijk, 2007). In the reviewed papers, customer journeys are often defined or described as a set or sequence of touchpoints (for example Gloppe, 2011; Alves, Lim, Niforatos, Chen, Karapanos, & Nunes, 2012; Clatworthy, 2011; Kankainen et al., 2012). An example customer journey with touchpoints, such as *hotel website*, *hotel check in*, and *hotel rating website*, is presented in Figure 1.

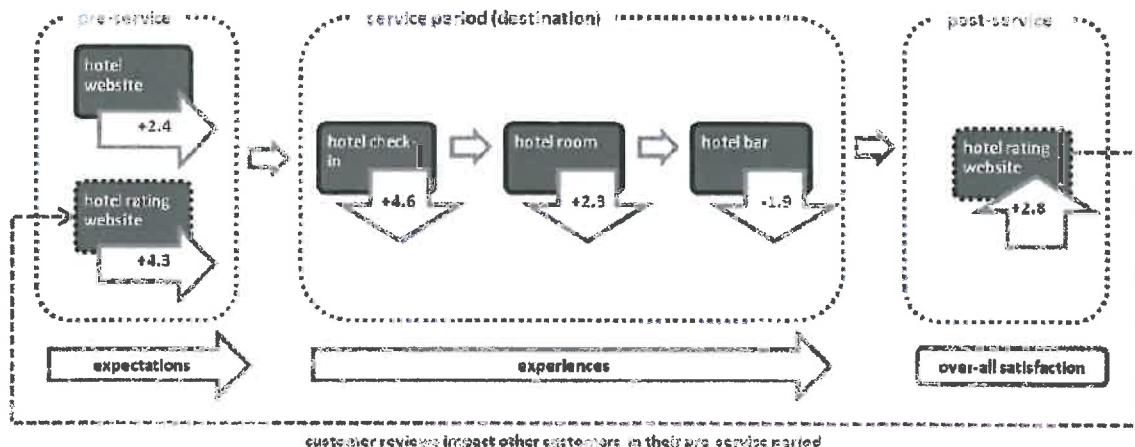


Figure 1: Customer journey with touchpoints concerning a tourist destination (Stickdorn & Zehrer, 2009, p. 8). Copyright held by the Stickdorn and Zehrer (permission granted).

There is some discrepancy in the use of the touchpoint term. Four of the papers (Zomerdijk & Voss, 2010, 2011; Alves et al., 2012; Patrício, Fisk, e Cunha, & Constantine, 2011) describe touchpoints as referring to the actual interactions or "moments of contact between the customer and the organization" (Zomerdijk & Voss, 2011, p. 74). Two of the papers (Clatworthy, 2010, 2011) follow the lead of Parker and Heapy (2006) and discuss touchpoints as "the people and tangible things that shape the experience of services" (ibid., p. 26). Five of the papers (Stickdorn & Zehrer, 2009; Gioppen, 2009, 2011; Kimbell, 2009, 2011) do not make a clear distinction between these two uses of the touchpoint term.

In spite of the importance attributed to touchpoints in most of the reviewed papers, 16 of the papers do not refer to touchpoints at all. Nevertheless, also these papers concern what could be referred to as touchpoints following Parker and Heapy's (2006) use of the term. For example, Johns and Clark (1993) include *entry*, *museum exhibits* and *exit* in their museum customer journey (p. 362), Stone and Liyanarachchi (2006) include *access to a lounge* and the *cabin crew* as important to a flight customer journey (p. 93), and Bal and Boucher (2011) includes *priority ticketing* and *exclusive access to VIP facilities* in their customer journey from a sponsored show (p. 241). All these customer journey elements clearly comply with Parker and Heapy's understanding of touchpoints, though the elements are not named as such.

3.3.3 Other customer journey concepts

The customer journeys presented in the reviewed papers typically contain other elements than touchpoints and experience reports. In particular, *steps* are often included. Less prevalent concepts are *events*, *customer actions*, and *activities*.

In 30 of the reviewed papers, the customer journey is divided in sections typically termed *steps* or *stages*. As these terms are often used interchangeably, we use the term *step* in the following. Other terms in use for such divisions are *events* (Johns & Clark, 1993; Kankainen et al., 2012), *customer actions* (Spraragen & Chan, 2008; Baranova, Morrison, & Mutton, 2012), or *periods* (Stickdorn & Zehrer, 2009). An example of such steps is the *pre-service*, *service-period*, and *post-service* of Figure 1. Likewise, Shaw and Williams (2009) divide their customer journey for tourism in *pre-purchase*, *purchase*, and *post-purchase* (p. 327). Peterson, Gröne, Kammer, and Kirscheneder (2010) divide their customer journey for e-commerce in *locate sellers*, *compare/select price level*, *compare/select product*, *purchase*, and *delivery* (p. 12). Such division in steps may be useful to add structure and provide an easy overview of the customer journey.

Events (Rasila et al., 2009; Crosier & Handford, 2012) are used to refer to significant happenings along the customer journey, and may include both what might be termed touchpoints by other authors as well as activities and experiences. Crosier and Handford (2012) present an example customer journey, redrawn in Figure 2, concerning events structured according to journey steps. The presented events are of a kind that could be termed touchpoints, but also include qualitative experience reports (for example "Anxieties about physical obstacles ..."). Due to the conceptual overlap between *touchpoints*, as described above, and *events*, as used by Rasila et al. (2009) and Crosier and Handford (2012), the concept of events may be redundant.

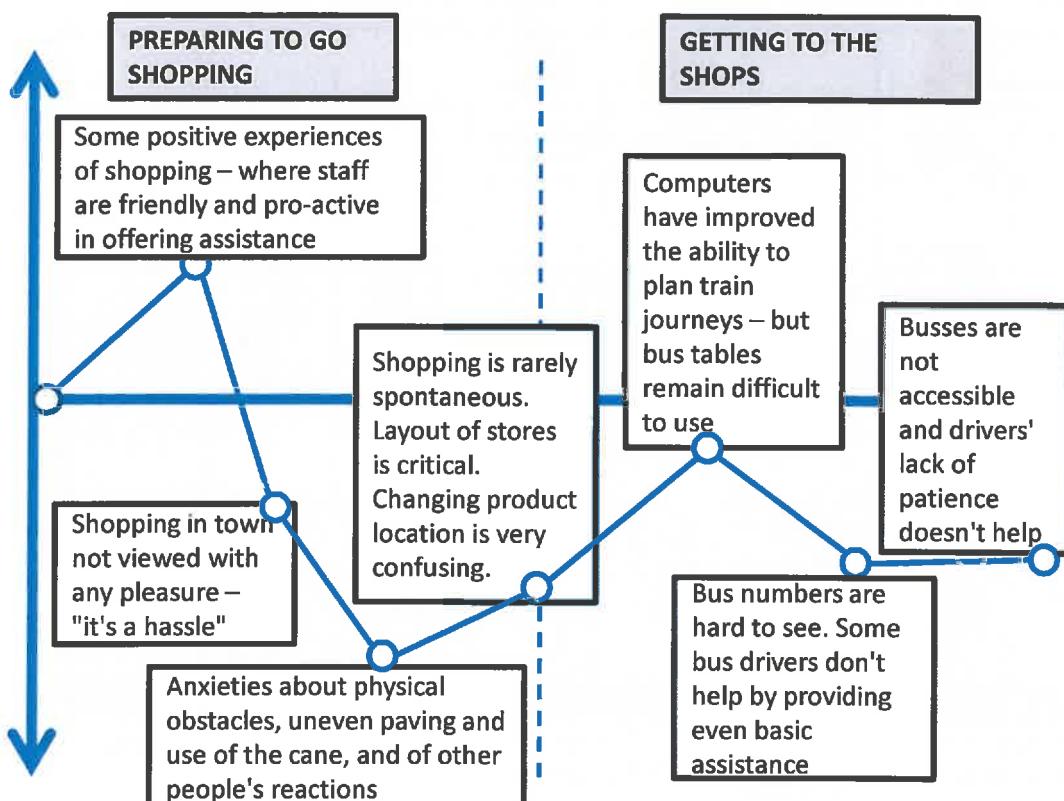
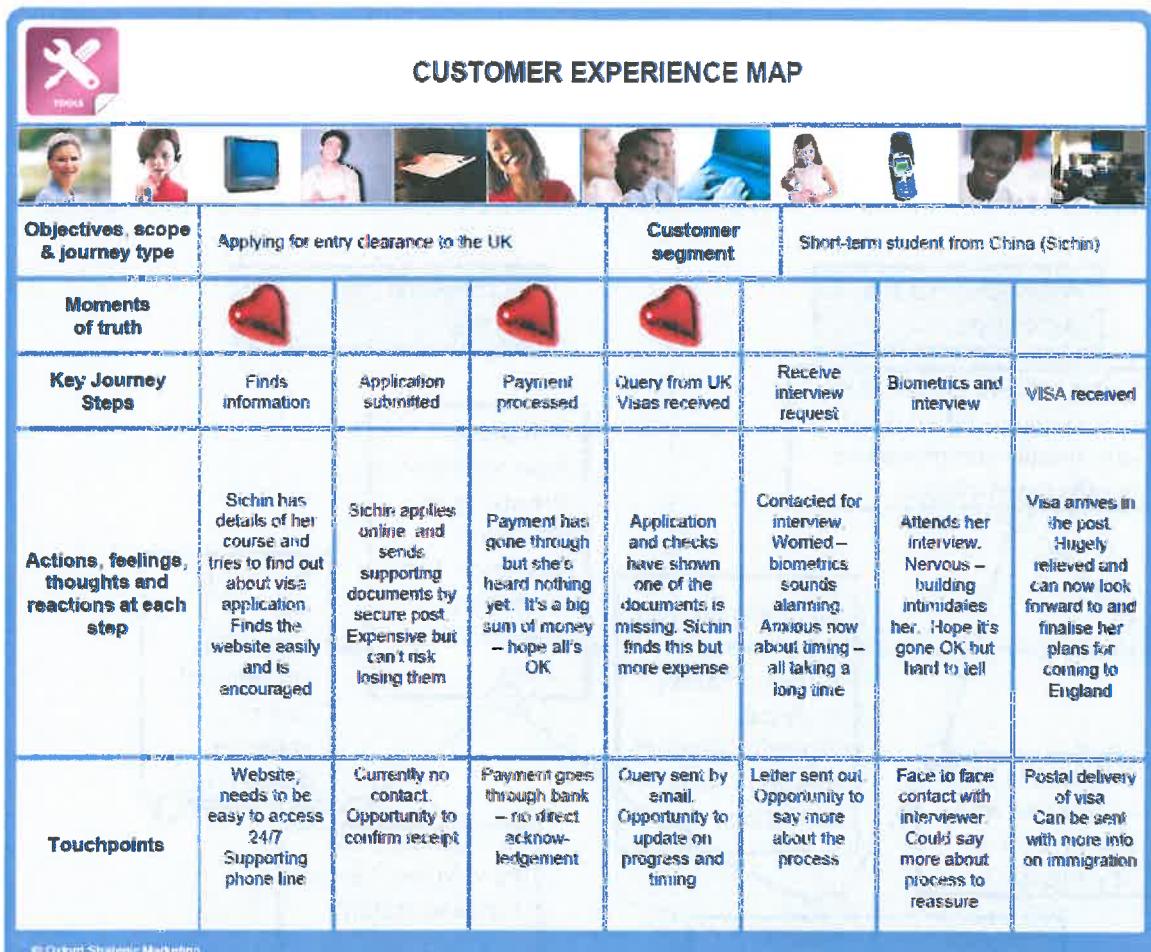


Figure 2: Customer journey concerning blind or partially sighted people shopping (redrawn from Crosier & Handford, 2012, p. 75) Vertical axis: Emotional response.

Customer actions (Spraragen & Chan, 2008; Baranova et al., 2012) and *activities* (Rasila et al., 2009; Huang et al., 2012) are seen as actions done by the customer or user which may or may not involve an interaction with a service provider. Due to their similarity in use we refer to these two terms as *actions*. Such actions may be used to structure a customer journey much in the same way as the *steps* discussed above.

Though not much used in the reviewed papers, *actions* (as something distinct from the interaction between the customer and service provider in each touchpoint), may be a useful concept in customer journey work. The HM Government guidelines on customer journey mapping (HM Government, 2007), referred as background in two of the reviewed papers, exemplify how customer journey mapping can be structured to explicitly include actions in addition to steps, touchpoints and experience reports (including feelings, thoughts and reactions). An example customer journey from the HM Government guidelines is presented in Figure 3.



The Customer Experience Map (CEM) is a grid-based tool for visualizing customer journeys. It includes a header row with icons representing various customer segments, followed by rows for objectives, moments of truth, key journey steps, actions/reactions, and touchpoints.

CUSTOMER EXPERIENCE MAP								
								
Objectives, scope & journey type	Applying for entry clearance to the UK			Customer segment	Short-term student from China (Sichin)			
Moments of truth								
Key Journey Steps	Finds information	Application submitted	Payment processed	Query from UK Visas received	Receive interview request	Biometrics and interview	VISA received	
Actions, feelings, thoughts and reactions at each step	Sichin has details of her course and tries to find out about visa application. Finds the website easily and is encouraged	Sichin applies online and sends supporting documents by secure post. Expensive but can't risk losing them	Payment has gone through but she's heard nothing yet. It's a big sum of money – hope all's OK	Application and checks have shown one of the documents is missing. Sichin finds this but more expense	Contacted for interview. Worried – biometrics sounds alarming. Anxious now about timing – all taking a long time	Attends her interview. Nervous – building intimidates her. Hope it's gone OK but hard to tell	Visa arrives in the post. Hugely relieved and can now look forward to and finalise her plans for coming to England	
Touchpoints	Website; needs to be easy to access 24/7 Supporting phone line	Currently no contact. Opportunity to confirm receipt	Payment goes through bank – no direct acknowledgement	Query sent by email. Opportunity to update on progress and timing	Letter sent out. Opportunity to say more about the process	Face to face contact with interviewer. Could say more about process to reassure	Postal delivery of visa. Can be sent with more info on immigration	

Figure 3: Example customer journey from the HM Government guidelines (HM Government, 2007, p. 37). Copyright held by Oxford Strategic Marketing (permission granted).

By clearly explicating the role of experience in customer journeys, as well as additional concepts such as *steps*, *events*, and *actions*, we allow a more nuanced understanding and expression of customer journeys than by seeing the customer journey as consisting of touchpoints alone. A more extensive definition of customer journeys, representative of the reviewed papers, may be expressed as follows:

A customer journey is a process which a customer goes through to achieve a specific goal, involving one or more service providers. Customer journeys concern customer experiences and may include touchpoints, steps, and actions. Touchpoints are the points or moments of interaction or communication between the customer and a service provider. Steps are sections of the customer journey. Actions are the customers' activities which may or may not involve an interaction with a service provider.

3.4 Customer journey analysis

Analysis is the most common purpose of the customer journey studies in the reviewed papers. The majority of the papers (34) concern service analysis supported by customer journeys in one way or another. The most commonly reported approach to customer journey analysis is customer journey mapping.

3.4.1 Customer journey mapping

We understand customer journey mapping as a customer journey analysis where the elements of the customer journey is not *a-priori* defined, that is, an analysis process aimed to identify customer journeys. In customer journey mapping, the analysis may take as starting point a set of high level steps that the customer is expected to go through (such as Johns & Clark, 1993; Rasila et al., 2009), but none of the papers presenting customer journey mappings has the full journey predefined before the start of the analysis process.

Twenty-seven of the reviewed papers concern customer journey mapping. The mappings are conducted on basis of stakeholder collaboration or customer data. Customer journey mappings may involve touchpoint identification (such as Stickdorn & Zehrer, 2009; Gloppe, 2009; Clatworthy, 2011; Alves et al., 2012), steps (such as Johns & Clark, 1993; Peterson et al., 2010; Bal & Boucher, 2011), experience reports (such as Rasila et al., 2009; Trischler & Zehrer, 2012; Crosier & Handford, 2012; Huang et al., 2012), as well as potential problems (such as Rasila et al., 2009; Yoo, Zimmerman, Steinfeld, & Tomasic, 2010; Crosier & Handford, 2012).

In a technical report on customer journeys, Halvorsrud and Kvale (2009) make a distinction between *generic* and *actual* customer journeys. A *generic* customer journey is the expected or anticipated journey for the customer to go through. An *actual* customer journey is the "real" journey that a customer experiences. Halvorsrud and Kvale argue that the generic journey serves as a "theoretical model" for the actual customer journeys as experienced by the customers. The generic and actual journeys, respectively, correspond to the *potential* and *kinetic state* of services in Shostack's pioneering work on service classifications (Shostack, 1982). *Generic* journeys can be mapped with internal resources. The mapping of *actual* journeys requires investigations of customer data.

Twelve of the reviewed papers present customer journey mappings with internal resources (for example Johns & Clark, 1993; Gloppe, 2011; Clatworthy, 2010, 2011; Wechsler, 2012) and, by extension, concern generic customer journeys. Twenty-one of the papers present mappings with customer data (for example Rasila et al., 2009; Crosier & Handford, 2012; Huang et al., 2012; Trischler & Zehrer, 2012) and, consequently, actual customer journeys.

Whether customer journey mapping involves generic journeys, actual journeys or both may depend on case-specific differences in objective. For example, the mapping described by Clatworthy (2011) only involves generic journeys, whereas the mapping by Crosier and Handford (2012) only concerns actual journeys. In the former case, the objective was to support an internal service design process. In the latter, the objective was to document the perspective of disabled users. However, as discussed in the HM Government guidelines on customer journey mapping (HM Government, 2007), both internal collaboration and customer data will typically be useful for a comprehensive mapping. Comparisons of actual and generic customer journeys may provide insight in possible gaps between service providers' expectations and customers' experiences.

Interestingly, only four of the papers report on cases involving customer journey mappings with both company internals and customers (Zomerdijk & Voss, 2010, 2011; Steen, Manschot, & de Koning, 2011; Baranova et al., 2012). This may indicate a lack in attention towards the potential insight to be gained in analyzing the gap between service providers' expectations of the customer journey and the customers' experienced journey.

3.4.2 Other approaches to customer journey analysis

Not all the reviewed papers present the customer journey as something to be mapped, but rather as an a-priori defined process. In four of the reviewed papers, customer journeys are presented as service processes described prior to the involvement of internal resources or customers. These predefined processes are then used to assess the service with internal or hired-in resources (Whittle & Foster, 1991; Mangiaracina et al., 2009) or customer data (Ang & Buttle, 2002; Manschot & Visser, 2011). These predefined service processes are all high-level, such as the online shopping journey of Mangiaracina et al. (2009) which consists of *entering and landing, catalogue searching and browsing, product selection and customization, shopping cart management, and order setup and checkout* (p. 9). The mainstream approach to customer journey analysis, however, is that customer journeys are to be mapped on basis of customer data or the involvement of internal resources and not to serve as an a-priori starting point of analysis. Consequently, the four papers on analysis on basis of predefined customer journeys are to be seen as representing a minor undercurrent of research.

Yet another approach to the customer journey concept is seen within the field of web analytics where analysis of log data from a customer's entire visit on a website or journey across websites is argued to be useful supplement to analyses of referring pages only (Skinner, 2010; Lee, 2010; Chaffey & Patron, 2012). However, as the mainstream approach to customer journey analysis concern more channels than just the internet, the three papers on customer journeys in web-analytics is of lesser significance for the purpose of this report.

3.5 Customer journeys to support design

Customer journeys are also used to support service design, in particular to optimize customer experience. Eighteen of the reviewed papers present customer journey mappings done to support a design process. In these papers, customer journeys are in particular used to structure customer research (Stickdorn & Zehrer, 2009; Segelström, 2009; Yoo et al., 2010) and to support creativity in the design process (Clatworthy, 2010, 2011; Kimbell, 2009; Kronqvist & Korhonen, 2009). An additional four papers report on the use of customer journeys in design processes without preceding customer journey analysis (Haukkamaa, Yliräsänen-Seppänen, and Timonen, 2010; Blomkvist & Holmlid, 2011; Kankainen et al., 2012; Miettinen et al., 2012).

Customer journeys are used to support design in three different ways: to structure and communicate the user research at the beginning of the service design process, to support collaborative or co-creative processes, and to serve as visualizations of the produced service design.

Customer journeys to structure user research in the design process: Several of the papers that present customer journey mapping in support of design concern customer journeys as a way to structure and communicate user research, that is, research on user needs, and requirements as well as the context of use (Segelström, 2009; Segelström & Holmlid, 2009; Stickdorn & Zehrer, 2009). Segelström and Holmlid (2009), in an interview study of 14 service designers, found that customer journeys are a much used technique for this purpose in service design practice.

Customer journeys to support co-creative processes: Customer journeys are also presented as supporting co-creative processes. Kankainen et al. (2012) describe how they use customer journeys in co-design, where users formulate "dream" customer journeys during co-design workshops. Haukkamaa et al. (2010) discuss how the design of customer journeys depends on a co-creative process involving different stakeholders. Gloppe (2009, 2011) and Clatworthy (2010, 2011) discuss the importance of mapping customer journeys as a collaborative process involving designers and company representatives.

Customer journeys to visualize the output of a service design project: Customer journeys are reported to be commonly used to visualize the output of service design projects. Blomkvist and Holmlid (2011) found in an interview study involving six service designers that customer journeys were a much used technique for visualization in later stages of the service design process. Segelström (2010), in a licentiate thesis on

visualizations in service design, claims that "the customer journey is probably the most used visualization technique for public presentations of service design projects" (p. 26).

3.6 Does the design of services require different mappings than service management?

Interestingly, during the review of the papers, it was noticed that customer journey mappings seem to differ somewhat depending on their intended purpose. In particular, there seems to be a distinction between customer journey mappings done to support the management of services and mappings done to support design.

In mappings to support design, the collaborative or communicative aspect of the mapping is accentuated (Segelström, 2009; Kronqvist & Korhonen, 2009; Gloppen, 2009; Segelström, 2010; Clatworthy, 2010, 2011). Mappings in support of management seems to be more oriented towards assessment, for example by including quantitative user experience data (Trischler & Zehrer, 2012), CRM data (Ang & Buttle, 2002) or customer problems (Rasila et al., 2009). The suggested distinction between mappings to support design and mappings to support management is exemplified in two customer journey maps presented in Figure 4 and Figure 5. The map in Figure 4 is presented in one of the referred sources of previous work, the map in Figure 5 is presented in one of the reviewed papers.

We do not have a ready explanation for why customer journey maps should differ across these purposes. Possibly, the requirements for mappings intended to facilitate design may differ from the requirements for mappings intended to support management, as the former should serve as input in a creative process whereas the latter should provide an easy overview of the key data to monitor the service provision as experienced by the customers.

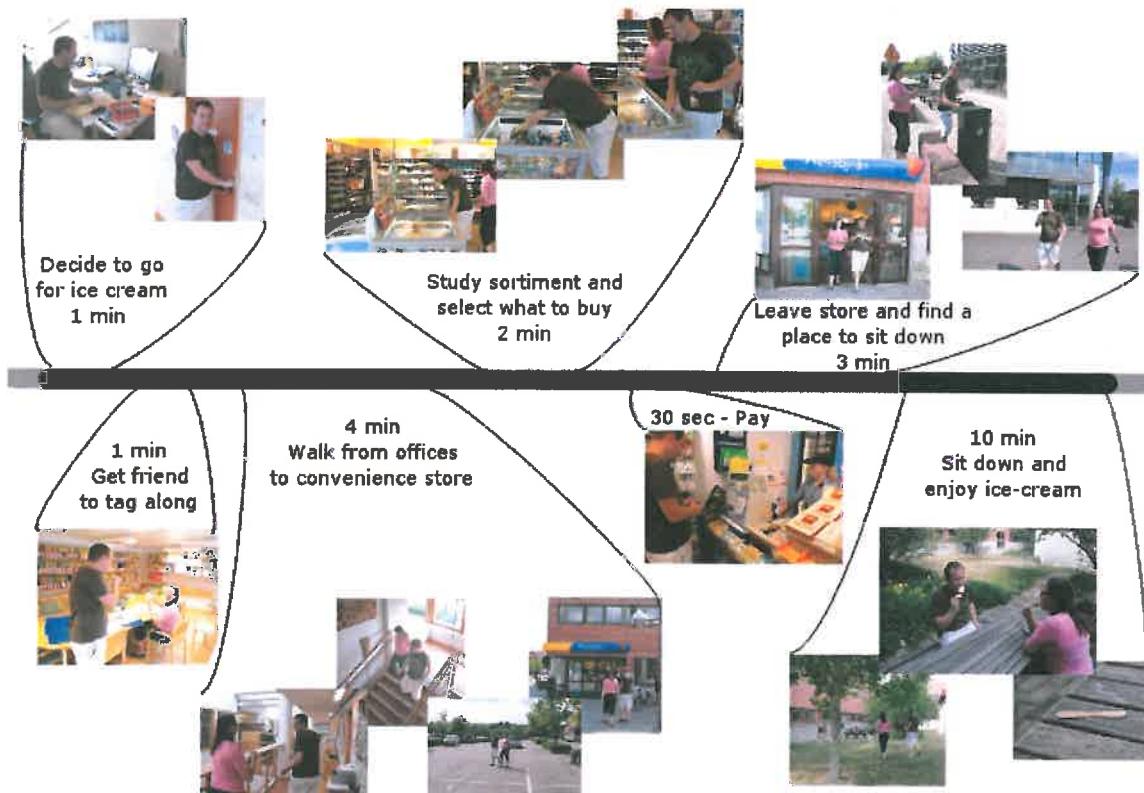


Figure 4: Example customer journey map to support design (Segelström, 2010, p. 27). Copyright by the author (permission granted).

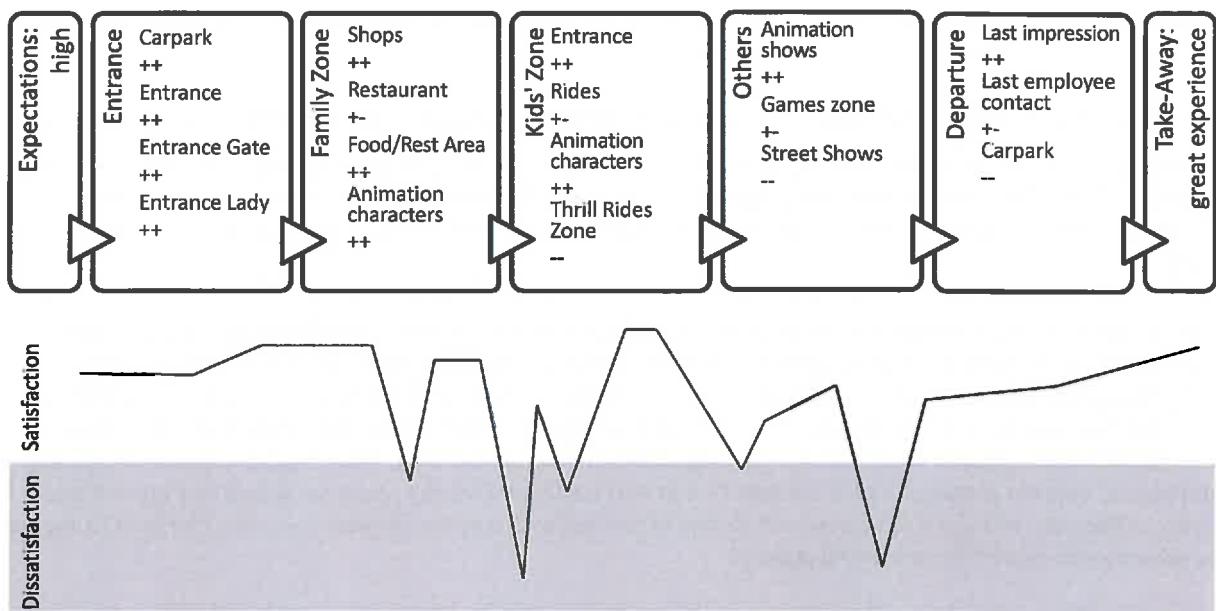


Figure 5: Example customer journey map to support management/marketing (redrawn from Trischler & Zehrer, 2012, p. 65)

The distinction between mappings for management and mapping for design, however, is not clear cut. This is, for example, seen in the term *service design leadership*, which refers to an intersection between design as organizational leadership (Gloppen, 2009, 2011), and in the use of customer journey assessments to motivate redesign (Yoo et al., 2010; Johnston & Kong, 2011; Steen et al., 2011; Wechsler, 2012). Likewise, a customer journey map supporting management may also be useful to document user research as part of a design process.

3.7 Data collection in the reviewed papers

The reviewed papers report on a wide range of methods to gather the input necessary for customer journey mapping. Following our earlier distinction between actual and generic customer journeys we distinguish between (a) methods used to gather customer data and (b) approaches to involve internal resources.

3.7.1 Methods for customer data

In total, 22 of the reviewed papers refer to customer data as input to customer journey mapping. In addition, three papers concern customer journey analysis based on web analytics. However, not all the papers are explicit on how data are collected from the customers. The reported methods for data collection are presented in Table 2.

Customer data collection method	Count
Interviews	10
Observations	4
Web analytics	3
Smartphone app (i.e. MyServiceFellow)	2
Customer forums	1
EEG and eye track data	1
Service walkthrough	1

Table 2: Reported methods for customer data

The most frequently used method is interviews with customers. The interviews, however, do not follow a common approach and we have found no references to authoritative sources on method use in the reviewed papers. The level of structure reported for the interviews span from informal discussions with customers (Baranova et al., 2012) to structured interviews with a laddering approach and predefined probes (Trischler & Zehrer, 2012). The frequent use of interviews suggests that this is seen as an efficient approach to access needed data on customer experiences during a customer journey. Interviews may be conducted retrospectively (Baranova et al., 2012; Trischler & Zehrer, 2012) or during the customer journey (Crosier and Handford, 1993). Interviews during the customer journey may be beneficial as they would ensure a more immediate access to the customers' experience. However, such interviews require immediate access to the customer during the journey. Furthermore, repeated interviews during the customer journey may affect the customers' experience. More generally, the validity of the study results may be challenged when directly involving the customer in assessment of customer experience as the observation and measurement tools may affect the reported experience.

Observations were reported in four of the papers. Yoo et al. (2010) described their observation as a ride-along to gather customer data on transport services. Crosier and Handford (1993) gathered observation data when following disabled participants on transport and shopping. Trischler and Zehrer (2012) observed customers in an amusement park. Huang et al. (2012) observed supporters at home during televised football matches. In all these papers, observations were combined with interviews. The benefit of observations is that they may provide direct access to customers' actual behavior. However, they are resource demanding and may also be suitable only for services with a relatively short time span such as a visit to an amusement park or a football match.

The only novel data collection method in the reviewed papers is a smartphone app for capturing customer data, i.e. MyServiceFellow (<http://www.myservicefellow.com/>). With this app, customers define their own customer journey in terms of touchpoints and document their experience using texts, pictures, videos, ratings and automatically collected location data. The customer journey data are uploaded to a server at the customer's discretion. MyServiceFellow is presented as a method for data capture throughout the customer journey. Example screenshots from MyServiceFellow are presented in Figure 6.

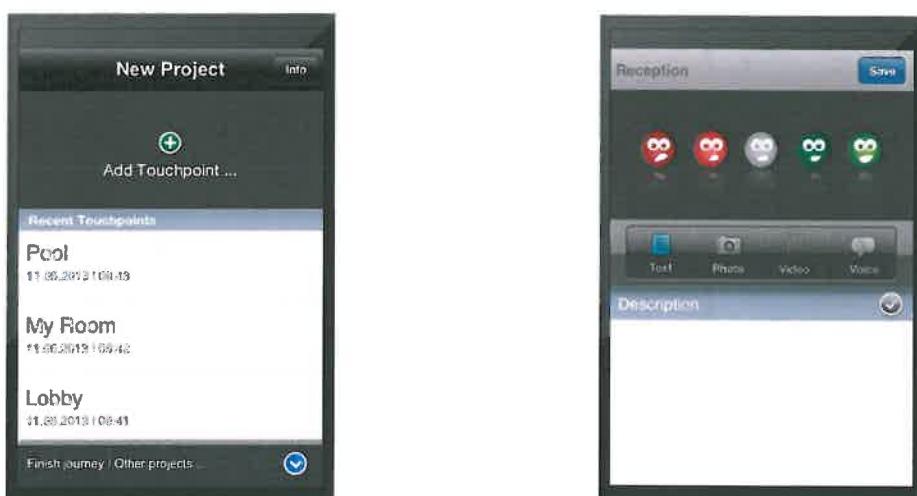


Figure 6: MyServiceFellow example screenshots.

MyServiceFellow is presented and used by Stickdorn in one of the reviewed papers (Stickdorn & Zehrer, 2009). Also the reviewed paper by Segelström and Holmlid (2012) concerns this app. Both these papers concern customers' holiday experiences. See also the eBook *Service design and tourism* (Stickdorn & Frischhut, 2012) for more cases involving MyServiceFellow.

The smartphone app, along with a customer forum method described by Johnston & Kong (2011), are methods that leave the customers more in charge of the reporting process. This may be beneficial, as the data collection process may be less biased by the preconceptions of the study administrators. For example, when using MyServiceFellow, the customers themselves define what constitutes a touchpoint. Furthermore, leaving the customer more in charge of the data collection may make it practically feasible to gather experience data during customer journeys of longer time spans. However, leaving the customers in charge of data collection may also be challenging, as substantial analysis efforts will be needed to merge the qualitative data reported from different participants. Leaving the customers in charge of the data collection will also require highly motivated participants.

The service walkthrough described by Rasila et al. (2009) is an approach that balances customers' free reporting with a predefined structure provided by the study administrators. This service walkthrough builds on the sequential incident technique (Stauss & Weinlich, 1997), to be described more fully below, and the service transaction analysis (Johnston, 1999). In the service walkthrough a group of customers are lead through a service process while noting down experiences and issues on a predefined form and informally discussing the process with each other and the study moderator. The walkthrough sequence serves to structure to the customer data while the process is sufficiently flexible for the participants to report on aspects of the service not preconceived by the study administrator. A redrawn report sheet from the service walkthrough is presented in Figure 7.

TRANSACTION EXPERIENCE SHEET							
Organization	Business Park Tenants					Service concept	
Process	Journey to work						
Customer type	End user						
Transaction	Score					Message	
	Intolerable	Unacceptable	Acceptable	Neutral	Ordinary	Priceless	
0. Riding the bike to work							
1. Parking the bike to the racks.						More bike racks and space for bikes	
1.1. Too many bikes – bikes tumble over							
1.2. Heavy door – inconvenient to open							

Figure 7: Example form for data collection in service walkthroughs with customers (redrawn from Rasila et al., 2009, p. 494)

3.7.2 Approaches to involve internal resources in the mapping process

Twelve of the reviewed papers present customer journey mappings where internal resources are involved as the main source of input. In some of the papers these methods are not described at all, in others they are only described on a high level. The reported approaches are summarized in Table 3.

Approaches to input from internal resources	Count
Collaboration	7
Observation	2
Interviews	1

Table 3: Reported approaches to involve internal resources for input in customer journey mapping

The main approach to involving internal resources, such as managers or service team members, is some sort of collaboration, for example by way of internal workshops (Gloppen, 2009; Clatworthy, 2010, 2011; Wechsler, 2012), by getting assistance from internal resources to gather information across organizational silos (Steen et al., 2011), or by involving internal resources in service quality audits (Johns & Clark, 1993).

Non-collaborative approaches to the involvement of internal resources are presented in two papers. Kimbell (2009) presents a case where observation of a client meeting was used as a source of input to a mapping process. Baranova et al. (2011) present a case where "student journeys" were discussed through interviews with university employees.

The approaches used for involving internal resources to a greater degree seem to facilitate collaboration between the participants than do the methods for data collection from users. This is reasonable, as internal collaboration may be necessary for a beneficial outcome of a customer journey process.

4 Extending the knowledge base – other relevant background for customer journey measures

Though the literature on customer journeys draw on several research fields, such as management, marketing, and design, and to some degree human-computer interaction, the approaches to customer journey measures presented in the reviewed papers only to a limited degree benefit from advances in these fields.

In the following, we present three approaches to data collection with customers that we believe may be useful extensions to the methods discussed in the reviewed literature: the sequential incident technique (SIT), from the field of marketing research, long-term user experience data collection methods, from the field of human-computer interaction (HCI), and standard measures of service quality and user experience (UX).

4.1 The sequential incident technique (SIT)

The sequential incident technique has been developed to measure perceived service quality across a period of service provision (Stauss & Weinlich, 1997). "The fundamental purpose of the method is to record all incidents customers perceive in a specific service transaction sequentially" (*ibid.*, p. 34), and should consequently be highly relevant as an approach to customer journey measure. Even so, only one of the reviewed papers used data collection methods reminiscent of SIT (Rasila et al., 2009). Possibly the limited use of SIT in the reviewed papers is due to the relative immaturity of the scientific literature on customer journeys.

SIT is described as an extension of the critical incident technique (Bitner, Nyquist, & Booms, 1985), in that it extends the scope of the customers report not to critical incidents alone but to all incidents associated with a particular service transaction.

In SIT, customer data are collected retrospectively through individual interviews. As basis for the interview, a customer process structured in phases "showing the main episodes and/or contact points" (ibid, p. 34) has been established through a pre-survey among former customers. The interviewer then takes the customer through the customer process. At each *episode*, the customers are asked to describe the course of this phase, the steps involved, and the encounter of any positive or negative incidents during this phase. An example episode for which the customer is to report steps and incidents is "reception at the airport" as part of a charter tour customer process. Key data returned from the SIT include perceived quality measures, proportions of positive vs. negative incidents, and an overview of problems concerning customers' experiences in specific service episodes.

SIT may well serve as a structured approach to retrospective data collection on customer journeys, and seems to deserve more attention in the future work on customer journeys than it has in the past.

4.2 Long-term UX methods

Within the field of HCI, the concept of UX have been received much interest the last decade (Law, Roto, Hassenzahl, Vermeeren, & Kort, 2009). UX has been given numerous interpretations (Hassenzahl & Tractinsky, 2006), and may be taken to encompass "cognitive, socio-cognitive and affective aspects of users' experience in their interaction with artefacts, such as users' enjoyment, aesthetic experience, desire to repeat use, positive decision to use a digital artifact and enhanced mental models" (Law & van Schaik, 2010, p. 313).

How a system or service is experienced may change as the user grows more familiar to it. Within HCI research effort has been made to gather data on users' evolving experience. In particular, three approaches to collecting data on long-term user experience has been sought: Repeated data collection on immediate experiences (experience sampling), repeated data collection involving reconstruction of a relatively short time span (day reconstruction method), and retrospective data collection (UX curve).

The experience sampling method: The experience sampling method developed within the field of psychology (Larson & Csikszentmihalyi, 1983) has been suggested as a data collection method for UX research by several authors (for example Isomursu, Kuutti, & Väinämö, 2004; Mulder, Ter Hofte, & Kort, 2005). In this method, participants in longitudinal studies are reminded at random intervals during their waking hours to contribute data according to a predefined format. However, the experience sampling method has so far shown to be impractical due to difficulties concerning participant reminding, reporting, and motivation.

The day reconstruction method: The day reconstruction method, also from the field of psychology (Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004), has been suggested as a more feasible alternative to experience sampling, as participants are asked to reconstruct their experiences across a day following a prescribed format. Karpanos, Zimmerman, Forlizzi, and Martens (2009) used the day reconstruction method to capture users' experiences during their period as beginning iPhone users. In this study, users made daily reports of "their daily experiences as a continuous series of episodes, writing a brief name for each" (ibid., p. 732), then choosing the three most impactful episodes and explicate these as narratives, before providing satisfaction ratings using a standard questionnaire.

UX curve: UX curve has been suggested as a third approach to long-term user experience data. In this method, the aim of data collection during the experience period is abandoned due to the impractical nature of such data collection (Kujala et al., 2011). Rather, data on users' experiences are collected retrospectively. Kujala et al. (2011) describe their work on a UX curve, where data on users' experiences are collected along a timeline. An example UX curve is presented in Figure 8.

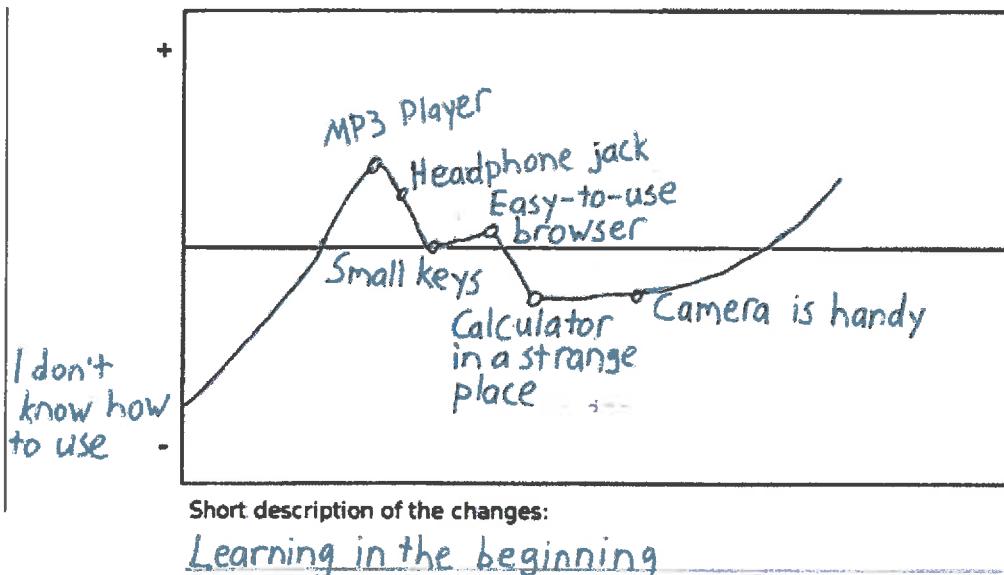


Figure 8: Example UX curve (Kujala et al., 2011, p. 477). Horizontal axis: time. Copyright held by Elsevier (permission granted)

Interactive tools have been suggested to support UX-curve drawings, such as iScale and UX-draw. However, at present none of these are available.

The UX curve in many ways resembles SIT in its retrospective approach to long-term experience data. However, UX-curve differs from SIT in that no predefined phases or episodes are used to structure the data collection. This lack of episodic structure may be beneficial in that the participants are less restricted in her presentation. At the same time, the lack of episodes may make analysis across participants more challenging. As a more flexible alternative than SIT, the UX-curve also deserves attention in future work on customer journey measures. For more detailed customer journey studies where it is important to avoid retrospective bias in reporting, the day reconstruction method as well as the experience sampling method may also be relevant.

4.3 Standard measures of service quality and user experience

Only one of the reviewed papers (Klaus & Maklan, 2012) concern standard measures of service quality, that is, measures that are commonly accepted and used. This is surprising, as standard measures are needed to compare and benchmark touchpoints and journeys for cross-channel management of customer journeys.

In the service literature, different alternatives exist for such standard service quality measures. One of the more prominent measures is the SERVQUAL instrument (Parasuraman, Zeithaml, & Berry, 1988), which have been made the object of substantial scientific research across the last two decades (Ladhari, 2009). SERVQUAL covers five main service quality dimensions (tangibles, reliability, responsiveness, assurance, empathy) and is developed for assessment of manual service provision. Service quality measures for online service provision include E-S-QUAL, which concern four service dimensions: efficiency, system availability, fulfillment, and privacy (Parasuraman, Zeithaml, & Malhotra, 2005).

Within the field of HCI, a range of standard measures of users' experience have been developed. These measures concern, for example, users' satisfaction and perceived ease of use of interactive systems (Ozok, 2008). As standard measures of service quality, as well as similar measures from the field of HCI, may be rather extensive with many questionnaire items for the user to fill out, it is interesting to note that

quantitative measures containing only one item have been found to perform well for assessments of ease of use (Sauro & Dumas, 2009).

Possibly, well performing single-item measures may be identified also for customer journeys, for example to assess users' experience for given stages or touchpoints. In the reviewed papers, several studies reported on customer experience measures based on single rating scale (for example Stickdorn & Zehrer, 2009; Rasila et al., 2009). Future research is needed to assess the reliability and validity of such single item measures for use in customer journey analysis.

5 Important considerations

When establishing customer journey measures on basis of the reviewed papers and the suggested extensions to the customer journey knowledge base, there are two considerations that deserve particular attention: Should the data collection methods be quantitative or qualitative? And should the data collection be concurrent or retrospective?

5.1 Qualitative or quantitative?

To gain rich insight in the customer perspective, qualitative data collection methods are needed. Consequently, customer journey mapping will require a qualitative approach, as we need data that may uncover how actual customer journeys deviate from the expected generic journeys. At the same time, qualitative data collection is resource intensive. In particular, data analysis where large numbers of participants have reported self-defined journeys and touchpoints (Stickdorn & Zehrer, 2009) is bound to be resource intensive. Furthermore, it will be difficult to use such qualitative data for benchmarking purposes.

For assessments involving comparisons and benchmarks, quantitative measures will be beneficial. In particular, if standard measures are used. Furthermore, such measures will require less in the way of resources concerning analysis and communication of findings.

In conclusion, efficient customer journey measures are likely to contain both qualitative and quantitative measures. The balance between these may depend on the purpose for which the measures are to be used.

5.2 Concurrent or retrospective?

Our retrospectively remembered experiences clearly differ from our concurrent experiences (Kahneman, 2011). Consequently, customer journey measures collected during a customer journey may tell a different story than retrospective customer journey measures. Kujala et al. (2011) acknowledge that there are important differences between our concurrent and retrospective experiences. However, they argue that as long as the retrospective experience is all that is remembered and communicated by the user, the concurrent experience is not that important.

Given that the story the customers take away from a customer journey is their retrospective experience, why would we need concurrent measures? The literature is silent on this issue, but we offer the following suggestions. Concurrent customer journey measures may be useful to identify:

- Problems which may cause customers to require customer service, abandon the customer journey, or to obtain a less than optimal outcome.
- Possible improvements or innovations in or across touchpoints.
- Opportunities for routing customers to more efficient service channels.

We suggest that unless there are good reasons for using concurrent measures, retrospective measures may be seen as more representative of the customers remembered experience. Nevertheless, concurrent data collection methods may be useful for some purposes. For both these approaches to data collection it will be

important to be aware of their limitations. Retrospective methods may not be reliable for data on the experience as it unfolds, only for the experience as it is remembered. Concurrent methods may provide insights needed for redesign to support customer retention and reduce the load on customer service. However, practical data collection in concurrent methods is challenging. Possibly, the day reconstruction method (Kahneman et al., 2004) may be a relevant approach for a concurrent customer journey measure.

6 Implications and future work

The customer journey is an increasingly important concept in the management and design of services. In particular, a shift in perspective is needed from focusing on individual service encounters or touchpoints to focusing on entire customer journeys (Stone & Devine, 2013). For this purpose, customer journey measures are needed.

In this deliverable, we have presented a systematic review of the scientific literature on customer journeys to serve as basis for the customer journey measures to be developed in the *Customer Care 2015* project. Through this review, we have established an integrated understanding of the concept of customer journeys, presented the purposes for which customer journeys are used, and provided an overview of applied data collection methods. Furthermore, we have extended the knowledge base provided in the reviewed papers with selected literature from the fields of marketing, management, psychology, and HCI.

On basis of the presented findings, we draw out the following key implications for our continued work on customer journey measures:

- **A customer journey is a process which a customer goes through to achieve a specific goal, involving one or more service providers.** Customer journeys concern customer experiences and may include touchpoints, steps, and actions.
- **Customer journey measures should support mapping of customer journeys.** Customer journey analysis typically involves mapping, not predefined journeys.
- **Customer journey mapping may concern generic journeys identified through internal collaboration and actual journeys identified through customer data.** Both types of customer journeys are amply represented in the reviewed papers; the latter is even more prominent.
- **The state of the art for mapping of generic customer journeys is collaborative activities involving internal resources.** In particular, workshops with managers or cross-functional teams are reported in the reviewed papers.
- **The state of the art for mapping of actual journeys with customers is fragmented.** Interviews and observations are the most frequently reported methods to collect customer data. Interesting alternative methods in the reviewed papers are the service walkthrough method and the smartphone app MyServiceFellow. No authoritative sources on method use have been found and there is marked variation between method instances. Relevant methods from related fields, such as the sequential incident technique (SIT) and long-term user experience methods are generally disregarded.
- **Mapping may involve analysis of customer experiences as well as the involved touchpoints, steps, and actions.** Variation in customer journey mapping is likely due to case-specific differences in objective. Consequently, our customer journey measures may need to cover customer experience measures as well as measurements corresponding to concepts such as touchpoints, steps, and actions, though all measures will not be relevant for all mapping processes.
- **The state of the art for quantitative customer journey measures is fragmented.** We have identified no authoritative sources on such measures. Single item measures are presented in some studies, but no standard measures are used.

On basis of the gaps in the state-of-the-art for the analysis and design of customer journeys, the following research questions are found to be of particular relevance for our future work on customer journey measures:

- **How to identify and compare generic and actual customer journeys?** To identify gaps between the generic journey, as expected by the company, and the actual journey, as experienced by the customer, it is beneficial to conduct mappings with both company internals and customers (HM Government, 2007). However, there is a surprising lack in literature on customer journey analyses where generic and actual customer journeys are mapped and compared. Research is needed to support the use of customer journeys for this purpose.
- **How should customer journey mappings be conducted and presented to best support management and design? Are different approaches needed?** The literature review hints that there may be different requirements on customer journey maps concerning whether they are to support service management or design. Future research is needed to explore whether this distinction is real and, if so, how to best adapt customer journey mapping to serve these two purposes.
- **How should data collection methods be constructed to support customer journey mapping with customers?** In particular, the data collection methods should be developed in consideration of the benefits of concurrent vs. retrospective methods. Furthermore, the methods should provide sufficient structure so as to facilitate analysis, while at the same time allow qualitatively new insight by not overly guiding the customer during data collection.
- **How should quantitative measures be constructed to provide valid and reliable information on customers' experience relating to the customer journey?** The establishment of standard measures in the fields of service management and human-computer interaction may serve as inspiration for establishing standards measures also for customer journey analysis. In particular, the measures need to balance the need for reliability with the need for simple measures that are quick and easy to report for the customer.

In *Customer Care 2015* our next steps will be to present our review findings to the project partners, and on basis of their feedback refine our requirements for the customer journey measures to be established as part of this project.

We also consider the findings to be a potentially relevant contribution to the scientific body of literature on customer journeys. In particular, our work provides a needed overview of the emerging customer journey literature as well as it serves to necessary future research.

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Appendix 1: Literature review analysis criteria

The papers included in the literature review were coded and analyzed on the aspects presented below. For each aspect the relevant codes are provided.

The codes were established in three ways:

- *Predefined*, that is, defined prior to the coding
- *Adjusted*, that is, defined prior to coding but adjusted following initial coding
- *Data-driven*, that is, established following a first reading of the papers and adjusted following initial coding.

In the table, the way the codes were established are noted in the right hand column.

Aspect	Codes	Code definition
Scientific field	Design Management Marketing Human-computer interaction Other	Adjusted
Referred background on customer journeys	Parker and Heapy (2006) Voss and Zomerdijk (Voss & Zomerdijk, 2007; Zomerdijk & Voss, 2010) Stickdorn (Stickdorn, 2009; Stickdorn & Schneider, 2010) The service design group at Linköping University (Holmlid & Evenson, 2008; Segelström, 2009; Segelström, 2010) Richardson (2010) Dunn and Davis (Davis & Dunn, 2002; Dunn & Davis, 2003) The HM Government guide on customer journey mapping (Varney, 2006; HM Government, 2007). Other	Data-driven
Stated or inferred purpose of using customer journeys	Analysis following preset phases Design Framework Mapping Mapping as basis for (re)design Mapping and design Web analytics	Adjusted
Focus on <i>customer experience / service experience</i> in paper	Key focus Some focus None	Adjusted
Mentions of the term <i>customer journey</i>	In title (yes/no) In abstract (yes/no) In key words (yes/no) In body (count)	Predefined

Aspect	Codes	Code definition
Mentions of the term <i>touchpoint</i>	In title, abstract, key words or body (yes/no)	Predefined
Precision in terminology for the term <i>customer journey</i>	Used but not described Described but not defined Defined	Predefined
Precision in terminology for the term <i>touchpoint</i> (if relevant)		
Other customer journey concepts	Step Stage Event Customer action Activity Other	Data-driven
Synonyms for <i>customer journey</i>	Service journey Customer behavior journey User journey Buying journey Channel journey Student journey Customer staircase Customer ladder	Data-driven
Data sources for customer journey mapping (if relevant)	Company internals External / hired-in experts Customers	Adjusted
Applied methods for input to customer journey mapping with internals (if relevant)	Collaboration Observation Interviews Service quality audit	Data-driven
Applied methods for data collection in customer journey mapping with customers (if relevant)	Interviews Smartphone app (i.e. myServiceFellow) Observations Web analytics Customer forums EEG and eye track data Service walkthrough with customers	Data-driven
Stated organizational impact of customer journey work	Hope for impact Claim impact (no results presented) General report on impact in case Concrete report on impact in case	Adjusted
Presented visualizations of customer journeys	Type of visualization (process model (other than service blueprint)/service blueprint/timeline) Phases represented (yes/no) Touchpoints represented (yes/no) Qualitative experience reports (yes/no) Y-axis – if relevant (Emotional response or Experiences / Importance)	Data-driven

Appendix 2 – the list of journal and conference papers analyzed in the review

Journal papers

- Bal, C., & Boucher, S. (2011). Venue sponsorship and customer journey: A case study of The O 2. *Journal of Sponsorship*, 4(3), 236-244.
- Baranova, P., Morrison, S., & Mutton, J. (2011). Enhancing the student experience through service design: The University of Derby approach. *Perspectives: Policy and Practice in Higher Education*, 15(4), 122-128.
- Bridge, C. (2012). Citizen Centric Service in the Australian Department of Human Services: The Department's Experience in Engaging the Community in Co-design of Government Service Delivery and Developments in E-Government Services. *Australian Journal of Public Administration*, 71(2), 167-177.
- Chaffey, D., & Patron, M. (2012). From web analytics to digital marketing optimization: Increasing the commercial value of digital analytics. *Journal of Direct, Data and Digital Marketing Practice*, 14(1), 30-45.
- Clatworthy, S. (2011). Service innovation through touch-points: Development of an innovation toolkit for the first stages of new service development. *International Journal of Design*, 5(2), 15-28.
- Crosier, A., & Handford, A. (2012). Customer Journey Mapping as an Advocacy Tool for Disabled People A Case Study. *Social Marketing Quarterly*, 18(1), 67-76.
- Gloppen, J. (2011). The Strategic Use of Service Design for Leaders in Service Organizations. *FORMakademisk*, 4(2), 3-25.
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Conference papers

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