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Generation Y: evaluating services experiences through mobile ethnography

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Abstract

Purpose – *This paper suggests mobile ethnography as a method for data collection, where Generation Y customers are integrated as active investigators. The paper aims to contribute to the debate on museums as experience-centred places, to understanding how the experience is perceived by Generation Y, to identifying the customer journey, to providing an insight into service experience consumption and to deriving managerial implication for the museum industry of how to approach Generation Y.*

Design/methodology/approach – *Mobile ethnography is applied to the National Museum of Australia in Canberra with a sample of Generation Y visitors as the future visitor market.*

Findings – *The paper finds that there is a need to involve museum management in measuring museum experiences, especially with regard to the definition and improvement of the service-delivery processes. Service experience must be appropriately managed by museum operators by collecting, evaluating, storing and reusing relevant data on customer experience. Mobile ethnography and tools such as MyServiceFellow offer an important potential source of sustainable competitive advantage by improving customer experience, particularly for Gen Y.*

Research limitations/implications – *The most significant limitation is the exploratory nature of the single case study derived from a small sample within only one museum.*

Originality/value – *This is one of the few studies to have addressed mobile ethnography in a service context and examined the museum experience of Generation Y. The paper finds that there is a need to involve museum management in service design to improve the service-delivery process, especially with regard to the different mindsets of the Millennials.*

Keywords *Generation Y, Ethnography, Mobile ethnography, Service experiences, Museums*

Paper type *Research paper*

Introduction

Museums are experience-centred places that offer both emotional and cognitive stimuli and are places of service experience consumption. Museums are becoming more visitor-oriented and facilitate experiences that satisfy their visitors. Hence, the initial purpose of conservation and presentation of historical information needs to be extended by a deeper understanding of visitor experiences via their personal thoughts and feelings during museum visits. Following this paradigm shift in museum experience management, a museum is an amalgam of a series of experience encounters (tangible and intangible) and museum experiences that are derived from both service providers (quality of performance) and visitors themselves (quality of experience).

Today's ''experience generation'', or Generation Y, seeks intensity, such as life-hype, impulsive and fast experiences, as well as calmness, authenticity, and ''soft tourism'' experiences, such as relaxation (Pikkemaat and Schuckert, 2006, 2007). Like every generation before, today's Gen Y stands for unique consumers and producers of culture. Similar to tourists, the characteristics of Generation Y visiting museums comprise the groups

of ''excitement and entertainment'' seekers as well as other groups who seek ''solitude and reflection'' (Alcaraz et al., 2009). Hence, one could conclude that museum managers should involve Gen Y to establish what products and themes would appeal to the characteristics of Gen Y.

The adoption of experience orientation by museums has thus become of increasing interest in recent years, and is regarded as a crucial factor in the enhancement of profit, growth, customer satisfaction, and customer loyalty (Alcaraz et al., 2009; Zehrer, 2009; Lytle and Timmerman, 2006; Fitzsimmons and Fitzsimmons, 2001; Lynn et al., 2000; Lytle et al., 1998; Heskett et al., 1997; Johnson, 1996; Rust et al., 1996; Schneider and Bowen, 1995; Henkoff, 1994). The experience, and therefore service orientation, is an organisational predisposition that encourages a distinctive approach of all aspects of the consumer market. Parallel with this emphasis, the design of services has become an increasingly important issue in services management; however, there is only little research in this area (Teixeira et al., 2012). Growing demand in the service experience sector exacerbates the importance of developing knowledge that assists in analyzing and designing service experiences. This is of particular importance in the context of museum management, as those mostly publicly funded organisations have rather been ''object'' oriented, and therefore ''it is evident that enhanced application of service theory and strategy would greatly benefit design and delivery in the museum experience'' (Alcaraz et al., 2009, p. 224).

The measurement of service experiences has become a major research field in the framework of the consumer behaviour research and various research approaches have been considered in the past, such as attitude science, satisfaction theory, complaint management, and customer incident research. Mobile ethnography means a process where researchers collect information using mobile ethnographic technologies. This paper suggests mobile ethnography as a methodological basis for analysing the museum experiences of Generation Y visitors. The objective of the present study is, therefore, to establish a link between service experiences in museums and service design with a view to contributing to the debate on museums as experience-centred places, to understanding how museum experiences are perceived by Gen Y, to identifying their customer journey in a museum setting, to providing an insight into museum service experience consumption from the minds of young visitors and to deriving managerial implications for the museum industry. The research questions therefore are:

■ How is a museum visit experienced by Generation Y (customer journey)?

■ To what extent does mobile ethnography facilitate the measurement of service experiences in museums by Generation Y visitors?

■ What do these insights mean for museum management?

Following this outline, the paper undertakes a review of the relevant literature regarding the concepts of:

■ GenerationY;

■ customer experiences in museums;

■ the measurement of customer experiences; and

■ mobile ethnography as a new approach to assess museum experiences of Gen Y.

The authors then present the exploratory research methodology, which is a qualitative approach with Generation Y using mobile ethnography and analyse the findings of a single case study: the National Museum of Australia, Canberra. The paper then discusses the limitations of the study and future research possibilities and concludes with a summary of the major findings of the study.

Literature review

Following this introduction, there are four areas of research that serve as a foundation of this study and will be briefly discussed in this section.

Generation Y

Generation theory aims to understand and characterise cohorts of people according to their membership of a generation revealing patterns across the generation group. ''The profile of the tourism industry is characterised by multigenerational visitors'' (Pendergast, 2012, p. 1). Generation Y, which is often referred to as Generation Next, Millennials or the Net Generation, usually refers to people born between 1982 and 2002, distinguishing three generation units:

1. Generation Why (born 1982-1985);

2. Millennials (born 1985-1999); and

3. iGeneration (born 1999-2002) (Pendergast, 2012).

''Members of the Y Generation are confident and relaxed, conservative and the most educated generation ever'' (Pendergast, 2012, p. 5). Generation Y can be regarded as a hero generation, with a focus on brands, friends, fun and digital culture (Howe and Strauss, 2000; Huntley, 2006). Howe (2006) characterises the generation as special, sheltered, confident, team-oriented, conventional, pressured and achieving.

Being the generation with most spending power so far (Morton, 2002), Gen Y has grown up in a consumption society strongly influenced by advertising, both online and offline (Freestone and Mitchell, 2004; Shearer, 2002). The behaviour of Generation Y members has been researched in recent years with regards to travel behaviour, consumer behaviour and service experience. Within travel behaviour, Moscardo and Benckendorff (2010) do not see much differentiation in behaviour of Gen Y compared with Gen X and Baby Boomers. Yoo and Gretzel (2008) state that Gen Y is more likely to be influenced by word-of-mouth than other generations. Within consumer behaviour Solka *et al.* (2011) could show an influence of gender and culture on Gen Y consumer decision-making styles. On the other hand, Parment (2011) explored ''generational'' marketing, as opposed to age group marketing, describing Gen Y as demanding and with limited loyalty (Parment, 2011). Ma and Niehm (2006) have explored Generation Y's service expectations within retail, while Kumar and Lim (2008) did the same for mobile communication. Both author groups compared Gen Y with the Baby Boomer generation and found significant differences in service perception. Even though Generation Y has been the subject of investigation for some years now, little is still known about this generation's attitude towards the museum service experience.

Customer experiences in museums

Enhanced interest in the cultures of others has generated a popular demand for cultural tourism within a highly competitive leisure industry environment. Success factors of museum management have changed from the previous display and conservation of historical information (Goulding, 1999) towards the integration of positive customer feedback and their perceived experience of the entire visit. Hence, researchers claim that contemporary museum management needs to change their objectives and priorities towards understanding and evaluating the relationship with their audiences (Gilmore and Rentschler, 2002). Research has demonstrated that visitors expect ''to learn something'' when visiting museums (Jansen-Verbeke and van Rekom, 1996). ''The purpose of museums reflects various cultural agendas; but the ability of institutions to adhere to public mandates and plays a central role in the overall tourism product often is determined by the operating environment'' (Tufts and Milne, 1999, p. 614). The museum of today serves increasingly complex institutional missions and diverse audiences through their programs (Carter *et al.*, 2001; Suarez and Tsutu, 2004).

The museum experience is a complex construct given the multiplicity of visitor and museum types, and involves the interaction of three contexts: personal, social and physical contexts (Falk and Dierking, 1992). ''Visiting the museum is a dynamic and special experience. The visitors' visual experience is direct and continuous as they move along the exhibition areas' (Jeong and Lee, 2006, p. 963). From this point-of-view, a museum is a unique place where visitors communicate and interact with exhibits in a given architectural space. Chen (2007)

asserts that the perceived quality of a museum is associated more with experiences during the process of visitation and the psychological outcome resulting from the participation in the activity, than with services provided by the museum.

Many studies have indicated that museum visitors are diverse and there have been numerous researchers who proposed experience models regarding factors of the museum experience (Falk and Dierking, 1992; Loomis, 1993; Borrie and Roggenbuck, 2001; Shaw and Ivens, 2002; Uriely, 2005; Larsen, 2007; O'Dell, 2007; Larsen and Mossberg, 2007; Sheng *et al.*, 2008; Liu, 2008). Museums in recent years have given much more serious consideration to attracting visitors and have been gathering information on their visitors since at least the late 1920s (Robinson, 1928). Most of these studies focused on gathering quantitative information (Dixon *et al.*, 1978), although some limited early work strove for a more qualitative approach to museum visitation (Draper, 1977). In recent years, there has been a greater concentration on collecting data of a more qualitative nature (Bourdieu, 1990; Hooper-Greenhill, 1994; Merriman, 1989; Shettel, 1989; Walsh and Duke, 1991).

Visitor studies, including studies of experiences of visitors, are important for museums in terms of management and development. But as yet there is still much work to be done on understanding the behaviours and nature of the experience for different categories of museum visitors. Specifically of interest here are details of the nature of visitors' experiences, what makes a museum an attraction, and what the visitors look for when visiting a museum. In the end, the objective must be to measure experience quality, which is very subjective, holistic and with a focus on the self (Chen, 2007; Hosany and Witham, 2010). These particularities can also be regarded challenges when it comes to experience measurement of Generation Y.

Measurement of experience quality

Basically, there are two customer-oriented measurement approaches of experience quality:

1. Measurement of experience quality by means of objective criteria, i.e. during service delivery, objectively verifiable criteria (nature of products, service delivery location, and waiting period of the customer, etc.) are assessed. Objective criteria are very coarse indicators for experience quality, as interactions between customer and service provider are not considered. Objective criteria constitute only general quality indicators since the inherent quality of the service encounters cannot be determined.

2. Measurement of experience quality by means of subjective criteria, i.e. measurement methods try to grasp service quality through interviewing or observing the customer. For this purpose, marketing science in the framework of the consumer behaviour theory and market research have developed a range of measurement methods, which have been theoretically developed further and empirically tested in the last two decades. Central to this approach is the quality perception of single consumers (Trischler and Zehrer, 2012).

In terms of experience quality measurement, various research approaches have been considered in the past:

■ Attitude science – when quality-related attitudes are to be assessed, service experience characteristics are defined and evaluated by the customer according to importance and other criteria. In case of multi-dimensional approaches (cognitive or affective attitude components), mathematic algebra must be used to link attitude dimensions. The most widely used method in attitude science is the interview technique.

■ Satisfaction theory – satisfaction research is based on the assumption that satisfaction is a reaction of a discrepancy between expected and received service quality. Satisfaction methods require that customers have already gained experiences with services. Interviews are mostly carried out before or following service delivery.

■ Complaint management – this field of research is occupied with the behaviour of unsatisfied customers, especially with the perception of and reaction to gaps or negative experience identified in the service delivery process.

- Customer incident research – measurement methods concentrate on customer incidents and experiences and are summarised under the term ''incident research''. Measurement methods comprise customer-contact-analysis, the critical incident technique, the sequential incident technique, blueprint, etc. (Butterfield *et al.*, 2005; Dwayne, 2004).

All methods are highly demanding and complex. The measurement of experience quality has become a major research field in the framework of the consumer behaviour research; however, all measurement types have their pros and cons. Mobile ethnography is a means to collect customer data using mobile ethnographic technologies. As this paper suggests mobile ethnography as a methodological basis for analysing the museum experiences of Generation Y visitors, this approach is discussed afterwards.

Mobile ethnography as a new approach to assess museum experiences of Gen Y

Ethnography derives from the field of anthropology and provides different methods such as diary studies, observational protocols, video recordings, photo observation, cultural probes, and directed storytelling (Segelström and Holmlid, 2009; Goulding, 2005, Elliot and Jankel-Elliot, 2003; Arnould and Wallendorf, 1994). Mobile ethnography means a process where researchers collect information using mobile ethnographic technologies. While classical ethnographers travelled to distant locations to participate in the target society's everyday life to gather data, modern ethnographers use modern technology to get under the skin of the target group (Frischhut *et al.*, 2012; Stickdorn and Zehrer, 2010). The early devices used in mobile ethnography were cameras and video recorders; today, it is laptops, iPhones, iPads and other similar mobile appliances through which the target group can describe, scan, record and send their findings to the researcher using specially designed programs and applications. Mobile ethnography makes it possible to collect direct user information, which is not just recalling experiences and giving feedback to them afterwards, but reporting experiences online at the time of the experience, on the very spot or location of the experience, and in the mental space of the experience itself based on the genuine feelings generated by it. Mobile ethnography follows the principal ideas and methods of user-centred design. Mobile ethnography clearly contrasts other quantitative but also qualitative research approaches through its open manner, which intentionally does not predetermine questions or categories (Frischhut *et al.*, 2012; Stickdorn and Schneider, 2010; Stickdorn and Zehrer, 2009). It is the customers who decide what is a touchpoint during their individual customer journeys (Stickdorn and Zehrer, 2010; Stickdorn and Schneider, 2010; Stickdorn and Zehrer, 2009).

MyServiceFellow is the result of multiple publicly funded research projects and is one of the first prototypes of a mobile ethnography app (see www.myservicefellow.com). The app enables users to capture touchpoints right at the moment of an experience. It allows adding and evaluating touchpoints on a five-point Likert scale (ranging from $+2$ to -2) and documenting touchpoints with text, audio, photos or videos, which can be each individually flagged as positive or negative. Participants can download MyServiceFellow to their smartphones (i.e. Android phones, iPhone, iPad, iPod Touch, etc.) from the Android Market Place or the AppStore. The caption of date, time and GPS data of each touchpoint allows the construction of a customer journey based on either route or time sequence of the user, even for complex tourism products. The data of each user is then uploaded to a web-based analysis software called ServiceFollow, which visualises the touchpoint sequences of different users as a touchpoint matrix. While the rows visualise each customer journey as a horizontal sequence of touchpoints, columns can be used to represent the same touchpoints of different users. The users' touchpoint assessments are aggregated to mean values to identify critical incidents immediately. These critical touchpoints (positive or negative) and their consolidated documentations can be the starting point for further in-depth research (Frischhut *et al.*, 2012; Stickdorn and Frischhut, 2012; Stickdorn and Zehrer, 2010).

There have been various methods how to study customer experiences in the past. This paper suggests mobile ethnography as a methodological basis for analysing the museum experiences of Generation Y visitors and applies MyServiceFellow as a mobile app.

Empirical study

Research design

The methodology used in this study is an exploratory and qualitative research. Data was collected in June of 2012 by 29 postgraduate students of the University of Canberra, which represent Generation Y, at the National Museum of Australia in Canberra. This museum is a social history museum where visitors explore the land, nation and people of Australia; it focuses on indigenous histories and cultures, histories of European settlement and Australian interaction with the environment, and sits on an 11-hectare site in Australia's national capital, Canberra, on the Acton Peninsula, edging Lake Burley Griffin. The project originated with an international design competition, which the architects won in 1997, and was opened in March of 2001.

Findings

Within a two-month period, UC students made use of MyServiceFellow and captured their customer journey while visiting the National Museum of Australia, Canberra. A useful technique for visualising the service-delivery process is the so-called customer journey, which captures interactions between customers and the service provider that are especially satisfying or especially dissatisfying. According to this view, customer satisfaction is significantly influenced by the customer's positive or negative judgment of specific ''critical incidents'' during the service experience. The customer journey can be used to identify the ''fail points'' in the service-delivery process that precipitate such critical incidents in the customer's experience. As such, it can be utilised as the basis for service design that enables the service provider to shape the customer's emotional experience, and thus attain a competitive advantage.

Aspects of data collection and touchpoint allocation

Some students have set touchpoints without commenting, probably assuming that GPS data will be supplied giving evidence to where they were (see ''Limitations and further research'' below). As this feature was not used during data collection for this project, these uncommented touchpoints have had to be sorted as ''non-attributed data''.

Some touchpoints were set by participants with comments, but the comments could not be attributed to known venues within the museum (cp. below comment ''awsome'' (*sic*)). For data analysis purposes, again these touchpoints have been grouped as ''non-attributed data'' (see Figure 1).

Participants of the study did sometimes comment on several aspects at once, with only one set of data available, for example ''Excellent personal service on entry and clean toilets. The signage is good too'' (see Figure 2). These are three different aspects that should be

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Figure 1 Example of non-attributed data

collected discretely as ''service'', ''toilets'' and ''signage''. Therefore, this data was split into different discrete touchpoints in the backend tool.

Data gathering by participants can lead to validity issues. The question arising here is ''What is actually assessed?''. Is it about objectively assessing what the museum is displaying, and if the participant is deeming this positive or negative? Or is about the subjective reaction by the participant to the display? This became obvious in the following situation: the student is assessing with ' − 2', the maximum negative score to assess, that he/she feels ''being sad'' about the fact that Australia has had a biological invasion by foreign species (see Figure 3). The way the museum displays this has actually received positive scores by other students commenting from an objective angle of assessment.

Customer journey of the museum

Each of the students – pretending to be a visitor – experienced the museum as an individual. There are some touchpoints that all students had in common and which can be regarded as the aggregated customer journey. This starts with the parking, followed by the architecture of the museum, which was largely a positive touchpoint. So was the entrance to the museum, the information desk and/or lobby, which is the central room upon arrival in the museum. The cloakroom was also experienced as convenient and safe. The different exhibitions created diverse experiences by the customer and were captured differently by the visitors. The Cuiseum, which is the coffee shop, was criticised more by some of the customers than by others. The last two touchpoints were the gift shop and the exit area. A typical customer journey is depicted in Figure 4, with a mean value of 1.2 for the guests'

Figure 3 Validity issue of data
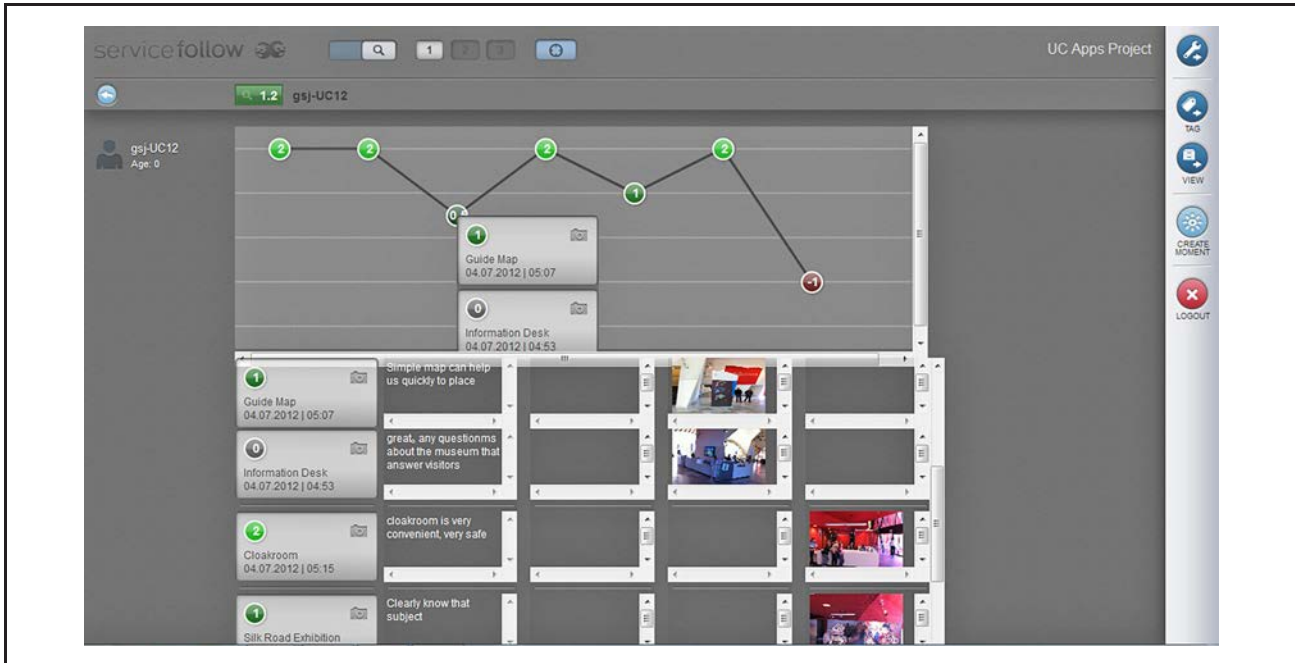
overall customer experience, and the single touchpoints with pictures, texts and audio files that the visitor recorded.

Aggregated touchpoint matrix

The backend tool, ServiceFollow, allows aggregating all touchpoints of a project; this is what was done after having generated individual customer journeys. According to the aggregation of customer journeys, we ended up with the following aggregated list of touchpoints:

- parking;
- architecture of building;
- entrance hall;
- information desk;
- venue map;
- cloakroom;
- Circa Theatre;
- Eternity Gallery;
- Old New Land gallery;
- upper level: Australian Journeys Gallery;
- upper level: Visions Theatre;
- Landmark Gallery;
- First Australians Gallery;
- Garden of Australian Dreams;
- Kspace;
- Silk Road (temporary exhibition);
- other exhibition aspects (not clear where);

- museum shop, gift shop;
- Cuiseum, restaurant;
- exit;
- other touch points (miscellaneous);
- museum staff, service (human aspect);
- museum experience overall, summary by students;
- about ServiceFellow;
- signage within exhibition areas; and
- facilities, scooters, service (hardware).

If these touchpoints are aggregated, the touchpoint matrix show in Figure 5 can be generated.

Service moments

In order to be able to analyse data on a more aggregate level than the touchpoints themselves, the software ServiceFollow allows the generation of so-called ''service moments''.

A possible application of this tool within the museum project described is that of aggregating service moments according to the pre-exhibition, within-exhibition and post-exhibition experience of visitors. This summary of touchpoints would then display how satisfied the participants had been with their service experience before, while and after visiting the museum (for screenshots on creating service moments and further details please compare with the Appendix).

The touchpoints (see previous paragraph) aggregated to the pre-exhibition service moment, are the ones prior to entering the exhibition halls; namely parking, architecture of building, entrance hall, information desk, venue map and cloakroom. The exhibition service moment consists of the touchpoints gathered within the exhibition area; and the final service moment

Figure 5 Touchpoint matrix (aggregated customer journeys)

created is post-exhibition, with touchpoints used by participants after leaving the exhibition halls (gift shop, restaurant, and exit).

After creating moments (see the Appendix), an analysis on this level shows the following aspects. Pre-exhibition aggregated touchpoints lead to a positive participants' assessment of +1.3. The data for the touchpoints of the combined exhibition aspects add up to again +1.3, while the post-exhibition service moment produces +1.0.

This level of the study findings, therefore, can be described as a rather positive service assessment for the participants overall for both the pre- and the actual exhibition experience of visiting the National Museum of Australia, and a slightly lower, but still rather positive experience after the exhibition.

Within service management, one of the major distinctions focuses on the personal service provided by an individual staff member versus the technical aspects of a service. Touchpoints encompassing these aspects have been gathered, but were not attributed to specific service moments due to technical obstacles while handling the software. This provides opportunity for further research.

The following touchpoints could be attributed to form a personal service moment:

- information desk;
- cloakroom; and
- staff members within the exhibition halls.

The touchpoint data on participants' satisfaction are +1.5, +2 and +2, respectively. This data could be mirrored with participants' satisfaction on technical aspects of service: venue map, signage within exhibition areas, and facilities and scooters. Touchpoint data here are +1.5, −1 and +2.

Limitations and further research

The present paper has certainly acknowledged limitations that need to be taken into account when considering the results of the study and its contributions.

The most significant limitation is the exploratory nature of the study; the findings are drawn from a single case study with a small sample within only one museum. This leads to the frequent criticism of single-case studies being ''microscopic,'' due to the insufficient number of cases for providing generalizable conclusions (Yin, 1994). Hence, whereas the application of mobile ethnography and qualitative research brings about significant information and insights, the findings of this study cannot be generalised to all museums.

Second, the study involved students as representatives of Gen Y, and even though a student sample is likely to represent the general visiting public of Gen Y, the potential for generalizability can never be achieved in any one study, but is an empirical question that requires comparisons over different studies. Thus, what is now needed is similar research with different sample populations of Gen Y. Results from these studies could then be compared and differences and similarities revealed.

The software MyServiceFellow is developed to also capture GPS data for every touchpoint taken. This will then allow creating maps and thus visualising the participants' journey in their service experience. For the described project no GPS data was captured at the museum; touchpoints were sorted and moments were created through the evidence of students' description and pictures and videos taken. Future projects using MyServiceFellow will be able to additionally benefit from the GPS feature.

Nevertheless, it remains true that the focus of the study has been on the museum industry, and it is in that industry that the findings of the present paper particularly need to be validated or modified by appropriate empirical studies among museums. Indeed, it is the intention of the present authors to undertake a study with special emphasis on the process of the museum experience among Gen Y. It is hoped that this paper will help to create

awareness of the fundamental issues among service experience management. More generally, as with any academic work, it is hoped that the present paper will stimulate other researchers to study the issue of mobile ethnography among museums and the role that this can play in securing competitive advantages for such service providers for the current generation. More extensive research is certainly needed in this important area.

Managerial implications

Following a customer-centred approach to marketing requires an understanding of customers' needs, expectations and perceptions.

Museums have traditionally been rather concentrating on evaluating their management effectiveness in terms of presenting historical information (Goulding, 1999), rather than approaching success from a service encounter point-of-view.

Knowledge about customer experiences is of crucial importance to the museum industry. The easily applicable mobile app MyServiceFellow supports service providers to analyse the service quality and service experiences from a genuine customer-centred approach, including the service ecosystem in which services are embedded. These insights enable museums to ''market'' themselves as cultural centres, which delights both residents and visitors and appeals to professionals and investors. The results of this study have implications for the managers of the museum studied, which will be discussed in the following paragraphs.

There are a number of problem areas or critical incidents which have been detected along the defined service moments, which are indicators for quality improvement in the museum. Some of these indicators are operational factors; others are strategic factors, which will be discussed subsequently.

Regarding the pre-exhibition service moment, the attributed touchpoints are the parking lot and the architecture of the Museum of Australia, the information desk, the guide map and the cloakroom. Amongst these touchpoints, which were evaluated by Gen Y with an average mean of 1.3, parking came up as a matter of concern. While it generated positive touchpoints for some young visitors, it also resulted in negative indicators for others. Functionality of parking signage seems to be an issue the museum might want to look into, as this is one of the first impressions a visitor gets when entering the museum precinct.

With regard to the exhibition itself, the overall assessment and evaluation of the exhibits was very positive, with an average mean of 1.3. It was interesting to see that the artefacts produced very different views in the eyes of the young visitors and were largely polarized. In general though, the museum employees were rated very positively regarding their helpfulness and overall service. This is a positive and important feedback for the museum management.

Regarding the post-exhibition touchpoints (gift shop, restaurant and exit), which created an average mean of 1.0, this is still a positive result, albeit slightly less positive than the first two service moments. Some students took pictures from the exit signage saying ''Thank you for visiting the National Museum of Australia'', which they rated rather high on average ($+1$); on the other hand side, the restaurant Cuiseum again was polarizing amongst visitors, generating a differentiated picture in the end. This might also be an issue that the museum management might want to consider rethinking.

A further theme emerged while students were experiencing the use of the service app. The majority of Gen Y reflected on their own experiences and through the interviews with other classmates, stating that although the app was generally user-friendly, there was no real motivation for a participant to use the app. Organisations would need to provide an incentive to get participants to utilise the app. The students did believe that the data would be beneficial to an organisation and that it would offset the costs of any incentives. Furthermore, several students claimed that the experience of visiting the museum was more interesting as a result of utilising the app. This goes hand-in-hand with the characteristics of Gen Y as mentioned in the literature review. Students took more notice of positives at the Museum,

enhancing their overall service experience. Conversely, this also resulted in a more critical eye and some students noticed negatives more than they would have without the app; however overall their experience was more positive. From a user perspective, students with more internet usage experience, particularly smart phone usage, found the app more user friendly than those with less experience. All students had utilised smart phones prior to the data collection, and every student owned a smartphone; however, some had considerably more experience than others with the usage of these phones. The length of time using smartphones had implications for how user friendly they perceived the technology to be. This confirms the digital culture of Gen Y and their basically high acceptance of mobile media for assessing their customer experience.

Conclusions

The findings of this study may contribute to the on-going field of measuring customer experience quality. From a leisure and touristic point-of-view, mobile ethnography seems to be effective and applicable due to its user-centred approach, especially for Gen Y. This paper has examined mobile ethnography among the museum industry as one particular tourist activity. The paper finds that there is a need to involve museum management in measuring museum experiences, especially with regard to the definition and improvement of the service-delivery processes, if they are to improve customer experiences and enhance satisfaction for their visitors. In summary, the study has identified the following characteristics of service experiences as being of importance to museums:

■ Service experiences must be appropriately managed by museum operators by collecting, evaluating, storing and reusing relevant data on customer experience. The data generated by Gen Y visitors provides interesting insights for the museum management.

■ Mobile ethnography and tools such as MyServiceFellow offer an important potential source of sustainable competitive advantage by improving customer experience.

The study concludes that the professional management of museum experiences by museum operators requires cooperative and synergistic attention to the measurement of customer experiences, with a focus on producing memorable service experiences for visitors. The approach suggested in this single-case study among Gen Y visitors, applied to a museum in Canberra, Australia, is successful and significant due to the identification of problem areas, critical incidents, and improvement indicators at the strategic and operational levels. This is primarily due to its user-centred and qualitative approach. It provides information about how the visitors evaluated experiences, which may not be found by methods so far used on museums. Additionally, by using customer journey mapping as a visualisation technique, this study enables a categorisation and evaluation of the experience cues that Gen Y had during their visit. This leads to the conclusion that the visualisation of results and an analysis of the service experiences from a customer-centred view makes the complex museum experience transparent, tangible and designable. Since the data is captured *in situ* with a personally owned, unobtrusive and easy-to use device, it is hoped that mobile ethnography will yield data beyond only critical incidents, and rather a comprehensive insight into the customer journey.

The new approach of mobile ethnography remains a research field in which so far only little research has been done. However, since first case studies – like this one – indicate that it might be a promising method to collect data, various interesting research questions arise as briefly outlined. This paper strives to close to some extend this gap in scholarly literature and to provide an insight into museum service experience consumption from the minds of Gen Y visitors, and to contribute managerial implications for formulating relevant marketing strategies and the promotion of the National Museum of Australia as a service experience consumption location to attract more young visitors.

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Appendix

Creating pre-exhibition *service moment*

This moment aggregates the touchpoints consisting of parking, architecture of building, entrance hall, information desk, venue map and cloak room. While creating the moment, the selected touchpoints appear with a light blue background (see Figure A1). After confirming the creation of the service moment and naming it, the service moment will show with the aggregated and averaged participants' assessment (see Figure 4).

Creating exhibition *service moment*

This moment aggregates the touchpoints consisting of the Circa Theatre, Eternity Gallery, Old New Land Gallery, Australian Journeys Gallery, Visions Theatre, Landmark Gallery, First

Figure A1 Creating *pre-exhibition* service moment
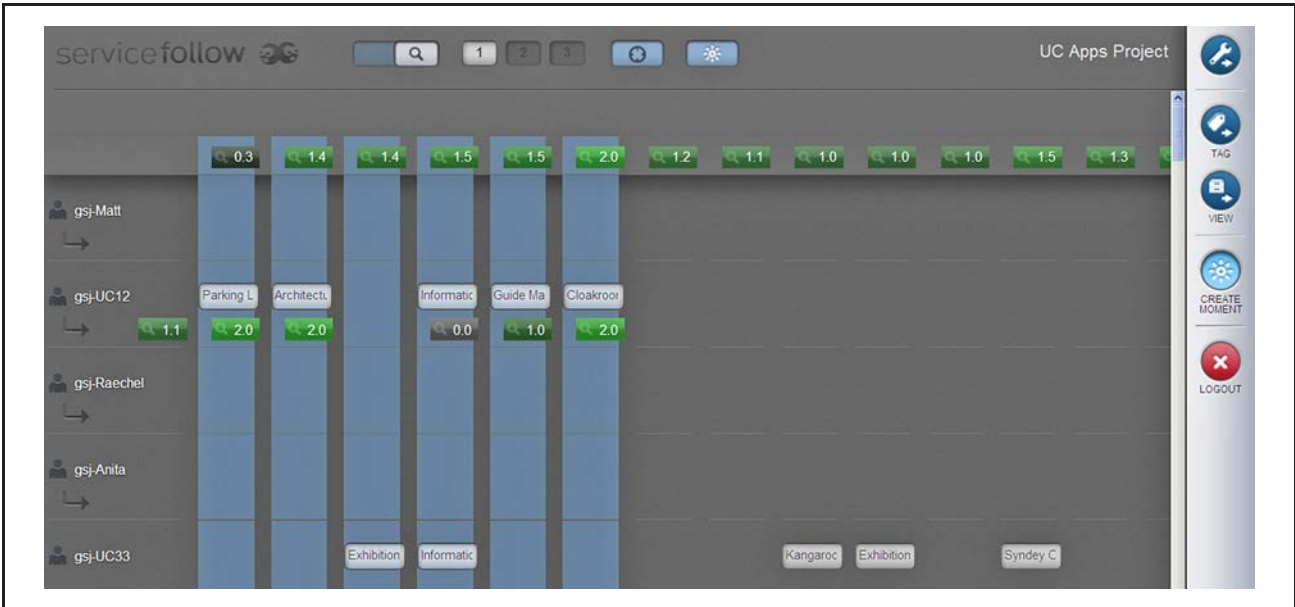
Australians Gallery, Garden of Australian Dreams and Kspace. Additional touchpoints within this service moment are the temporary exhibition Silk Road and other exhibition aspects (no location given). The screen shot in Figure A2 shows how this service moment has been created.

Creating post-exhibition *service moment*

This moment aggregates the touchpoints consisting of the Gift Shop, Museum Restaurant Cuiseum, and the exit area. The screen shot shows how this service moment has been created (see Figure A3).

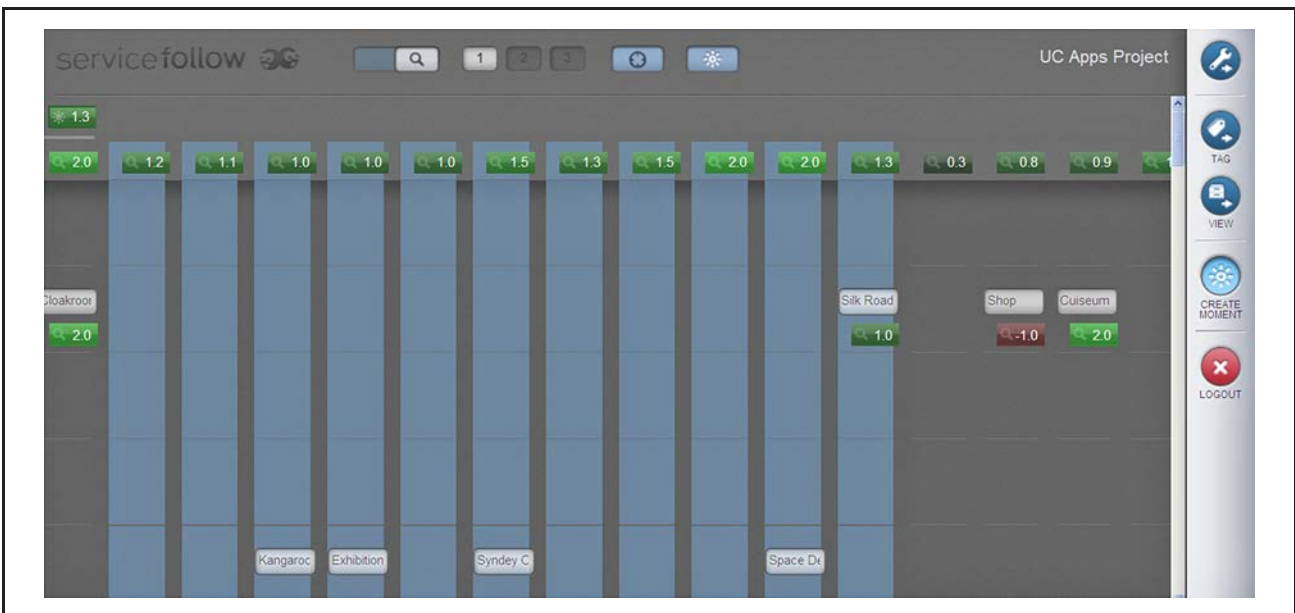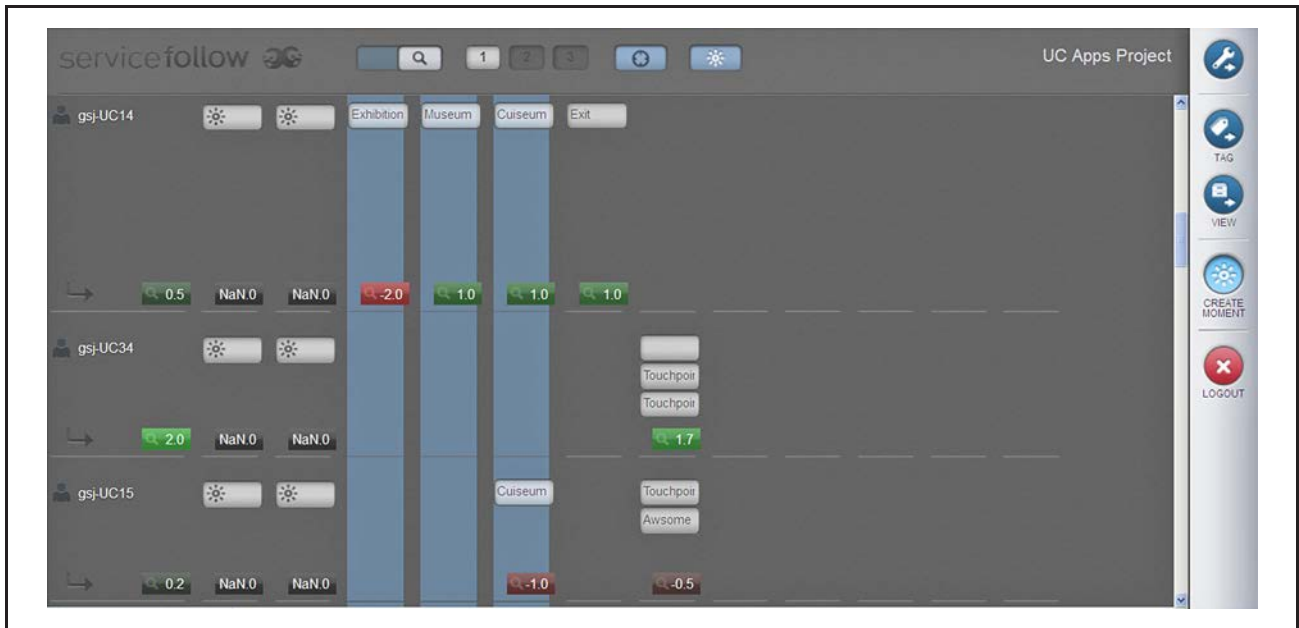**Figure A2** Creating *exhibition* service moment

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