

Enhancing the art museum experience through mobile technologies

With an emphasis on the experience of novice users.

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ABSTRACT

This article examines how mobile technologies can improve the art museum experience for novice visitors. Through a literature review, the article firstly gives an overview of the visitor experience as a term for explaining museum behaviour. Secondly, it examines how this relates to novice users in contemporary art museums. Furthermore, it provides an overview of the potential uses of mobile technologies. Findings show that mobile technologies open up the possibility to utilize a range of different media types, and that by implementing these can provide solutions that improves the experience of visitors within the museum realm. However, findings also suggest that there are several challenges related to the implementation of mobile technologies in museums in general, and art museums in specific. Results point to the fact that mobile technologies can improve the visitor experience of novice visitors in art museums by providing more context to the art objects. Another point is that museums ought to use mobile technologies to facilitate groups more, as novice visitors prefers to visit art museums in the companionship of others.

KEYWORDS: Museum experience, mobile technologies, novice visitors, art museums

1. INTRODUCTION

1.1 The historical context

The realm of art museums has undergone several paradigm shifts. When the first great museums emerged in Europe in the late 18th century, one of their objectives was to make sure that museum visitors followed a certain set of rules, which included prohibitions against swearing, spitting, fighting, eating or drinking. In practice, this excluded people from lower classes from experiencing the art museums, and the museums became a place where citizens from the upper middle class

could distinguish themselves as members of their own social group. Later, in the 19th century, the art museums took on a more socializing role, where “the common man” was meant to copy the behaviour of the upper classes and become more like them (Mørch, 2013). Sociologists like Tony Bennett argues that art museums still cater to social elites, and differentiate between upper and lower classes instead of working in an emancipatory fashion towards including all people (Bennett, 2013).

From the 1930’s and onwards the *white box* was considered an ideal exhibition method for

art museums. (Marstine, 2012). The visitors view the artworks on top of a neutral background, with as few distractions as possible. This allows the museum visitor to experience the artwork without any guidance, giving them the freedom to interpret the art on their own accord (Laubscher, 2012). Many art experts appreciate this environment. However, art museum visitors who do not possess prior knowledge of the artworks do not consider the *white box* might to be ideal. By removing distractions, one also removes the context of the artwork, a context that might enhance the art experience for some visitors. Additionally, the *white box* is not suitable for participatory art, an art form that depends on the context around it and the process that led to the artwork (Laubscher, 2012).

1.2 Art museums today

Contemporary museums have understood that their services are competing in a larger *service economy*, where theme parks, concerts, theatre, cinema and other culture services are competing against each other for the attention of their visitors (Hume, 2015; Pine, Pine, & Gilmore, 1999). In this context, museums have seen the need to innovate in their solutions to stay relevant sources for entertainment and learning, and many museums have changed their perspectives and strategies for making their services from being collection-centred to being experience-centred (Vermeeren, Calvi, & Sabiescu, 2018). Many within the museum sphere view mobile technology as a method for expanding their services and staying relevant (Macdonald, 2011, pp. 302-318). These changes are happening across the entire museum spectre, but it appears that the thresholds for implementing new technologies is somewhat higher in art museums (Hall, 2013).

1.3 Methodology

This article will describe some of the ways one might use mobile technologies to enhance the art museum experience of novice visitors through a literature review. The article will cover central aspects on how people experience museums, and art museums in

specific. Furthermore, it will describe some of the advantages and challenges connected with using mobile technologies in museums in general. This will form the basis for a discussion on how well suited mobile technologies are for enhancing the visitor experience in art museums for novice users.

2. THE VISITOR EXPERIENCE

Visitor experience is a central term used by museum researchers. Traditionally, research on the museum experience has focused on the learning outcomes after a visit. However, the people who visit museums are diverse, and they have a multitude of different goals they hope to accomplish by spending time in the museum. The research field reflects this, where different studies have varied in their description and definition of the subject. (Packer & Ballantyne, 2016). In recent years, many researchers have written about the museum experience can be seen as a part of the wider field of visitor experience, which describes the experiences of a wide array of entertainment and learning services within tourism and recreational services. This article will use the definition provided by Packer and Ballantyne defined the visitor experience in the following manner:

“An individual’s immediate or ongoing, subjective and personal response to an activity, setting or event outside of their usual environment.”

(Packer & Ballantyne, 2016).

This defines the experience as subjective, because the individual values, background, and memories held by the visitor influences the it. It is also personal; meaning that researchers cannot observe it directly. Nevertheless, the visitor experience is also influenced by impersonal factors, like the locations and services provided by the museum. Thus, the museum may facilitate for experiences, or influence them in various ways, but it cannot control them. Experiences also has to leave an impression on the visitor, differentiating it from everyday experiences. When talking about visitor experience, researchers often describe the positive memories that it creates,

but they can be negative as well. When using visitor experience as a term, one should also clarify the time scope of the experience, if it occupies a single point, or several different time spaces (Packer & Ballantyne, 2016).

2.1 The facets of the visitor experience

In addition to defining the general visitor experience, Packer & Ballantyne also described some of the more specific goals and motivations visitors have. They categorized these components into 10 different facets, which makes up different types of positive experiences a visitor might want to have in a museum. They include experiences of physical, sensory, restorative, introspective, transformative, hedonistic, emotional, relational, spiritual, and cognitive nature. These facets might be useful for museum researchers and museum professionals as a common framework, enabling them to measure different types of experiential factors and comparing more immediate experiences with longer lasting ones (Packer & Ballantyne, 2016). According to Falk and Dierking, grouping visitors according to their motivations will provide more meaningful results than solely grouping them based on demographic factors like age, social groups and education level. In addition to the visitors motivations, their prior knowledge to the museum and theme of the exhibits are some of the other factors that are important when grouping different types of visitors together (Bowen et al., 2008).

3. THE ART MUSEUM EXPERIENCE

3.1 Attentive viewing

When describing the act of experiencing art objects, Kesner writes that many within the art community would separate it from other types of museum experiences in general. It involves examining art objects in a state of *attentive viewing* where the visitor extrapolates a deeper meaning of an artwork through using their cognitive skills and sufficient attention (Kesner, 2006). A certain level of cognitive competence is required to achieve this state of attention, which novice visitors, do not possess.

These visitors tend to compare the art object experience with a wide array of other services the museum might offer, unable to reach the potential the artwork has to lead to a deeper, more satisfying experience. Furthermore, Kesner claims that the influx of new types of media, consisting of moving pictures and a more fleeting consummation of information, is of a hindrance to the training required for the novice visitors truly appreciating works of art (Kesner, 2006).

3.2 Differing ideologies

Within the art world, there exist various ideological perspectives on how to experience and interpret art. Sayers (2011) separates between two schools of thought. The conservative school claims that art had a singular “meaning” when it was made, and although alternate meanings may be made in relation to the historical and situational circumstances of the interpretation, the goal of the art experience should be to find the true meaning of the artwork. The moderate school emphasizes that interpretations should be individual. They can relate to the author, but there are no rules that these interpretations should be the same as the “correct one” done by the artist. Furthermore, all interpretations of the artwork are equally relevant, and equally important (Sayers, 2011). Contemporary museums are increasingly trying to reach out to newer audiences, but Sayers argues that the paradigm differences between moderates and conservatives is detrimental to this goal. According to her, it creates the question whether museum should try to shape behaviour of the visitors to a “correct” way of interpreting artworks, or if one should encourage the visitors to make their own types of interpretations, even if that ends up questioning the authority of the museum (Sayers, 2011).

3.3 The white box ideal

The white box ideal continues to influence art museums today, even if it does not suit the majority of visitors. Research conducted in art museums in the USA in the 1980s showed that visitors, both experienced and unexperienced,

would like more information about the objects. The study also showed that when the visitors had more information about a particular object, there was an increased likelihood that they could form a meaningful connection to it (Samis & Michaelson, 2016). When the museum refuses to provide contextual information about the artworks, it creates an intimidating atmosphere for the visitors, where they do not have the abilities to relate to the artworks. Furthermore, they get the impression that it is their own fault for not having sufficient capabilities. This creates a threshold for people to enter art museums, and becomes a reason for many to refrain from visiting them at all (Samis & Michaelson, 2016).

3.4 Companions in art museums

People who visit the museum choose to do so individually or in the company of others. Of those visiting the museum on their own, the clear majority has an extensive knowledge of art and art museums. They are able to enjoy the exhibitions in solitude, because they have acquired the expertise to interpret the artworks and navigate through the exhibitions without help. The majority of museum visitors, and especially novice users, will typically prefer to share the experience with others (Debenedetti, 2003). For both experienced and inexperienced visitors, the selection of potential partners depends on certain factors. Art enthusiasts generally want to be in the company of someone that roughly approaches their knowledge of art, thus enabling a discourse on the professional level they desire. Many novice art museum visitors want a person that might aid them in interpreting the art works, something they feel unable to do on their own. In both accompanied and unaccompanied visits, the social aspect is important. Even though people may visit the museum on their own, the social experience manifests itself before or after the stay, through for instance sharing of their experiences with others, or talking about their experience with others. Thus, the museum experience is not limited to the time and space of the museum itself, but includes time spent

before and after as well (López Sintas, García Álvarez, & Pérez Rubiales, 2014).

4. MOBILE TECHNOLOGIES

4.1 Mobile use in museums today

Using handheld technologies in museums themselves has roots back as far as 1952, when the Stedelijk art museum in Amsterdam used handheld radios to transmit an audio guide describing the objects displayed (Bowen et al., 2008). One of the reasons why museums are interested in implementing mobile technologies is the widespread use of mobile devices in our contemporary society. A study conducted by the V&A museum in London in 2012 concluded that most of their visitors had access to a mobile device, that they were positive to interacting with the museum through their own mobile devices, and that mobile technologies provided an opportunity to connect with younger audiences ("Understanding the Mobile V&A Visitor: Autumn 2012," 2012). The fact that most people own a smart phone allows museums to implement the BYOD model – Bring Your Own Device. This has some advantages over the alternative, which is that the museum provides the devices themselves. Firstly, the museum saves money in maintenance costs by not having to provide and maintain the devices. (Li & Liew, 2015) Secondly, many visitors prefer to use devices that are familiar to them. Worth noting here is that younger visitors are more positive towards using their own devices than older visitors, who to a greater degree wish to use dedicated devices provided by museums ("Understanding the Mobile V&A Visitor: Autumn 2012," 2012). Digital solutions might suit some visitors better than others, but studies from British Galleries have shown that among those that did not use the technologies, only a minority felt like the use of the technologies detracted from their own experience. (Bowen et al., 2008, p. 39) Other studies have confirmed that museums themselves in general view mobile technologies as a well-suited alternative for attracting new, younger audiences ("Mobile survey," 2013). However, although mobile

solutions have been shown to enhance the visitor experience in various ways in different studies, there have yet not been conducted comprehensive studies that shows that digital mobile technologies enhance the visitor experience better than other alternatives (Bowen et al., 2008, p. 28).

4.2 What can mobile technologies provide?

Mobile technologies may provide an individualization of information and context in a museum setting. Thus, visitors might extract information according to their levels of prior knowledge and interests. This is not only something that might enhance their learning outcomes and interaction with the exhibits, but also something that the visitors expects from a modern museum (Bowen et al., 2008). According to Falk and Dierkings *conceptual model of learning*, learning is something that transpires over a long period, stretching further than the time spent in the museum itself. By enabling the visitors to go back in time to reflect on what they experienced, the museum may enhance both the learning outcome and the experience of the visit (Falk & Dierking, 2016). In some cases, mobile technology is the only viable method of enhancing the visitor experience in a specific way, by using the large variety of media types including static images, videos, text, sound, and animations. All of these being able to change according to the wishes of the user (Bowen et al., 2008).

4.3 The possibilities of mobile technologies

A study from the heritage site Thetford Priory in England showed how a mobile app could direct visitors through an interactive map on the site, and prompting reflections through a variety of different media usage, including AR-technologies, videos, photos, and 3D models. The study showed that the app was both enjoyable to visitors and increased their learning outcome concerning the history behind the heritage site (Vermeeren et al., 2018, pp. 205 - 224). One of the problems the Thetford Priory had before they launched their app was that they had problems visualizing the things that might make the heritage site to be

of relevance to the visitors. This is similar to the problem of many art museums, in that they have objects that public do not know well, and therefore stay irrelevant to the visitors by not providing any context to help the artwork become relevant (Samis & Michaelson, 2016). This suggests that similar apps in art museums might have some of the same positive effects as the app in the Thetford Priory.

Mobile technologies could also be a way to implement storytelling techniques. A mobile app developed for the Acropolis museum in Greece used different characters to tell stories related to the objects on display in the museum. A quiz the users took beforehand made it possible to personalize the stories, which improved the experience further. Through several iterations and user testing the development team provided a solution that enhanced the experience of the users through the immersive nature of the stories (Roussou & Katifori, 2018). Recent studies have confirmed that storytelling has the potential to enhance the experience within the realm of art museums as well, especially when the visitors get to be part of the storytelling creation themselves (Vayanou & Ioannidis, 2017).

4.4 Multimedia guides

Of the different types of mobile technologies, multimedia- and audio guides are the most common types of solutions implemented in art galleries and museums (Li & Liew, 2015). In this way the museum may deliver context to the collections through different types of media output. The guides might require some input of the user to provide information related to specific parts of an exhibition. Multimedia guides may also implement interactive elements, such as providing a quiz about the contents of the exhibition (Røtne & Kaptelinin, 2013). Multimedia guides sometimes rely on headphones to provide sound to the users. This isolates the user from their companions, and therefore may detract from the social museum experience. (Vermeeren et al., 2018, pp. 239 - 258)

4.5 Challenges with mobile technologies

Researchers have conducted various studies on how mobile technologies influences the museum experience, but few studies comparing mobile technologies as a whole against other solutions, for instance through stationary digital kiosks in the proximity of the museum objects or through different analogue means. (Bowen et al., 2008, p. 28). It is therefore difficult to make assertive claims regarding the viability of mobile technologies versus the other alternatives. However, some research may give indications on this matter. Research from a study about interactive exhibits in Vienna noted that big screens were useful for sharing an interactive experience within a group (Hornecker & Stifter, 2006). This might be detrimental to the potential of mobile technologies to facilitate a social experience. Although the same study found that touchscreens were good for sharing an experience, because others can see where the user directs their attention (Hornecker & Stifter, 2006). Other research shows that most of the apps that are developed in contemporary art museums are designed to be used by one person (Economou & Meintani, 2011).

Mobile devices might also distract the visitor from the objects exhibited (Bowen et al., 2008). A study regarding the mobile storytelling app used in the Acropolis Museum in Greece found that users often would look at the devices more than the objects. Two factors in particular caused this, firstly that the users were anxious about missing information that would aid them in progressing the story. Secondly that the application hindered the users from spending time with potentially interesting objects, by not having sufficient possibilities for the users to take a pause from the storytelling app (Roussou & Katifori, 2018).

In general, transferring between virtual and physical planes is a pain point, which may detract from the museum experience. When considering mobile guides, for instance, the user has to navigate both through the physical location of the museum and the information provided by the guide, and connect them correctly. The museum may use various

technologies and techniques to accomplish this, for instance QR-codes, input from the user correlating to certain locations in the museum, and detecting the user's location automatically through GPS-technology or iBeacons. All of these have certain challenges connected to their use (Roussou & Katifori, 2018).

A practical obstacle when implementing mobile technologies is the costs associated with developing and maintaining the solutions. (Vermeeren et al., 2018). This is especially a problem for art museums, since they typically have a large number of temporary exhibitions, and developing mobile technologies for these has an even higher cost relative to the time the exhibition is open to the public than permanent exhibitions. (Hall, 2013) Additionally, digital products age quicker than the museum objects for which they provide context. One museum professional in Hall's study concerning the use of digital media in a Swedish museum compared an iPad application with a 150 year old skeleton. The participant claimed that the skeleton would hold the same relevance today as it would in 10 years, whereas the Ipad application would probably look outdated in 10 years' time (Hall, 2013).

Another practical difficulty with implementing mobile technologies is the market split between android and IOS based devices. According to data from IDC (<http://www.idc.com/prodserv/smartphoneos-market-share.jsp>) most mobile devices run on the Android operating systems. Yet most of the apps released for museums are IOS-exclusive. (Li & Liew, 2015) The reason that many museums only develop solutions for one operating system may stem from financial restraints. (Economou & Meintani, 2011) The practice of only developing for one operating system might hinder visitors who do not have the right type of phone.

In some cases, museums implements solutions like audio guides or multimedia guides to provide context for the users, but a large part of the visitors end up not using them. This may stem from different reasons, like bad internet

access ("Understanding the Mobile V&A Visitor: Autumn 2012," 2012), visitors having anxieties about understanding the systems (Hume, 2015), visitors not wanting to pay for content, or not sufficiently informing of the existence of the guide (Economou & Meintani, 2011). When this happens, the museums might use the existence of the guide as an excuse for not providing more context, even though many people do not use the mobile technologies (Samis & Michaelson, 2016).

Many museums wish to establish a more meaningful dialogue with their visitors, and use mobile technologies to make the museum a space for those who did not feel at home there before (Westin, 2011). While adopting interactive technologies might aid the accomplishment of some of these goals, it is important to remember that interactive technologies have some inherent traits that inhibits this. Factors like time, skill, and not wanting to overwhelm the visitor with information often leads to developing interactive technologies with limited choices. The visitor ends up not acting on his or her own accord, but simply reacting to the information that the technology presents. If the museum wishes to establish a more meaningful dialogue with the visitor, it is therefore important to have a dedicated channel for this in addition to the interactive technology (Westin, 2011).

5. DISCUSSION

5.1 Addressing the social needs of the visitor

As explained by Falk and Dierking, mobile technologies need to address the social and personal needs and motivations of the user to improve the experience in a meaningful way (Bowen et al., 2008). Museum visitors in general, and especially when it comes to novice visitors in art museums, usually wants to visit the museum in a group. One of their main motivations is having a social experience and building social relations with people close to them (Debenedetti, 2003). However, many of the mobile applications used in art museums today are more suited towards individual use. (Economou & Meintani, 2011) Granted, this

doesn't necessarily mean that mobile technologies does not have the potential for improving the social experiences of novice visitors, but it could suggest that this potential have not been fulfilled yet. On the other hand, mobile technologies have shown that they can provide personalized experiences (Li & Liew, 2015), and one might argue that this indirectly allows groups of novice visitors to have an improved experience as individuals.

5.2 The art aspect

According to Kesner, to have a deep and meaningful art object experience the visitor needs to be in a state of *attentive viewing* (Kesner, 2006). A central aspect of this is to give the art object the undivided attention required to unravel a deeper meaning behind what meets the eye at the first glance. In this context, one might criticise the use of mobile technologies, as the screen could distract the visitor and hinder them in truly experiencing the artwork. Even if this argument is true, a counterpoint is that art museums could still provide something of value to the visitors by instead using mobile technologies to facilitate experiences within the ten facets of the museum experience as described by Packer and Ballantyne (Packer & Ballantyne, 2016).

Within the *white box* ideal of the museum, the artworks in an art museum should be in an environment with as few distractions as possible. (Marstine, 2012) This might hinder novice users in engaging the artworks, as they lack the context and experience required to interpret the artworks in a meaningful way. (López Sintas et al., 2014) With mobile technologies, one has the possibility to provide context for those who want it through their own devices, but leaving the exhibition space free of distractions for those who prefer the exhibition style of the *white box*. Although, as mentioned by Samis (2016) the museum should not use the mobile technologies as an excuse for not providing any other context, as not everyone will use the mobile technologies (Samis & Michaelson, 2016).

The development of mobile technologies is a costly venture and requires funding. (Vermeeren et al., 2018) This makes it easier for larger and wealthier museums to develop mobile services, as they can spare the resources. As mentioned by Falk and Dierking, the motivations and memories and background of a visitor shapes the visitor experience (Bowen et al., 2008). This might imply that smaller museums would be at a disadvantage, because the larger museums could create mobile services that of such a quality that the smaller museums might not be able to meet the expectations of the visitors, as they do not have the same resources and possibilities to make mobile services of the same quality.

5.3 Different experiences for different people

Art museum visitors have come to museums with a variety of different motivations and goals (Packer & Ballantyne, 2016). Mobile technologies have shown that they can enhance the visitor experience through various methods, including information and context giving apps, storytelling devices, and games (Roussou & Katifori, 2018; Vermeeren et al., 2018). Some people in the museum world views the mobile technologies as a method that is suitable for attracting new audiences (Macdonald, 2011; Westin, 2011). While this may be true, it is important to note that the mobile technologies will not create better visitor experiences just based on being novelties. To facilitate for improved visit need to prioritize which motivations they wish to address and design the mobile solutions according to this, because that is the most important factor that shapes their experience (Bowen et al., 2008).

6. CONCLUSION

Art museums face a significant problem in attracting novice users, partly because of the intimidating effect of the white box ideal that refrains from providing contextual information that might make the museums relevant to them. Mobile technologies have the possibility to provide them with such information with a

wide variety of different information formats, and enhance the museum experience in other ways as well. This is a view shared by many in the museum world. The mobile technologies cannot accomplish this on their own accord just on the account of them being a novelty; they have to respond to the needs and motivations of the visitors. Some of them might not want to use the mobile technologies, and it is therefore important that the museums refrain from using mobile technologies as the only way of providing context in art museums.

A common coping mechanism for overcoming the intimidating effects of the art museum for novice users is to visit the museum in the company of others. However, most of the mobile technologies in use in contemporary art museums do not have the possibilities to be shared with others. They could potentially be more of use to novice visitors if they facilitated for groups to use them together, but it is not clear whether this stems from restrictions related to the technology.

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