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Effective website design for experience-influenced environments: The case of high culture museums

Jessie Pallud [a,*], Detmar W. Straub [b,c,1]

[a] EM Strasbourg Business School, Humanis, 61, av. de la Forêt Noire, 67085 Strasbourg Cedex, France
[b] Department of Computer Information Systems, J. Mack Robinson College of Business, Atlanta, GA 30302-4015, United States
[c] Korea University Business School, Anam-Dong, Seongbuk-ku, Seoul, 136-701, South Korea

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ABSTRACT

While most research on website has focused on functional tasks, the Internet offers many opportunities for leisure as well as experiential activities. Because of the evolution of developed society toward an *experience economy*, analyzing the role of technologies in the presence of prior user experiences makes sense. This research identifies variables that play a role and influence online behaviors in a specific experiential environment, namely the high culture museum website. Relying on the literature on experience, we propose a research model tested with two different websites. The results of the free simulation experiment indicates that (1) esthetics is the most important design criteria for experiential interfaces and (2) that website design influences intentions to visit a physical place.

1. Introduction

Museums are among the most socially valued cultural institutions in the world, and their attendance has been growing since the end of the 1980s [89]. Indeed, Poulot [89] indicated that in developed countries, one-third of the population frequently visits museums. Through a cross-national comparison, Schuster [96] observed that museum attendance generates the highest participation rates, just after cinema, reading, and sports. The Louvre Museum in Paris, for example, reported 6.1 million visitors in 2000 and 8.8 million visitors in 2011. This increased interest in museums can be explained by the many socioeconomic benefits that they can offer, such as providing new community/social space, improving quality of life for residents, and providing learning resources and support [14]. A study commissioned by the European Union indicates that culture is also closely related to innovation and creativity [57].

Along with this growing interest in high culture institutions, museum websites are grappling with how to improve their website design [9,22,59,74]. A survey conducted by the Institute of Museum and Library Services [51] revealed that 97% of large to medium-sized American museums while 78% of small museums have a website [51]. Museum professionals initially feared that virtual museums would replace physical museums and discourage people from visiting traditional museums [73]; however, today, most museum experts accept the unique opportunities that websites offer for attracting people to their museums [73]. In 2008, 50% the American museum audience comprised in-person visitors, while 45% comprised people who visited both museums online and in person [50]. Consequently, museums tend to invest increasingly more money in their websites to improve the quality of these virtual interfaces. As an example, within the last decade, the Louvre has spent more than €7 million on its new website [94]. One could thus conjecture that well-designed museum websites will attract Internet visitors and that a "sticky" website [91] may induce visitors to return to it or even induce visitors to regularly visit a physical museum as a future leisure activity. Although well-designed websites should induce behavior and inspire visits to physical museums, extant research has not documented this phenomenon at any level.

Furthermore, museums are worth studying in Information Systems (IS) research because museums represent a distinctive context in comparison to the business context on which past IS research has mainly focused (e.g., [60,83,106]). In fact, museums belong to the *experiential realm* characterized by sensations, engagement, and esthetics, among other things [43,46,87]. While

* Corresponding author. Tel.: +33 953 966 685.
E-mail addresses: jessie.pallud@em-strasbourg.eu (J. Pallud), dstraub@gsu.edu (D.W. Straub).
[1] Tel.: +1 404 413 7378.

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most research on websites has focused on functional tasks, the Internet offers many opportunities for leisure as well as experiential activities [25]. As an example, online users regularly visit tourism websites, online gaming websites, sports websites, virtual environments (such as Second Life), and social media platforms. During the first quarter of 2012, the Museum of Modern Art, New York, reached one million fans on Facebook, demonstrating the potential of the Internet to create large communities of visitors and to expand knowledge beyond museum walls. Among the 50 most active museums on social media, The Tate Museum was ranked second in February 2012 with 547,102 followers on Twitter [68].

Orlikowski and Iacono [81] encouraged researchers to study Information Technologies (IT) in different contexts of use and, in doing so, to analyze the differences produced by these new contexts. "Letting go of a monolithic view of technology implies recognizing that technologies such as the Internet and other distributed applications do not provide the same material and cultural properties in each local time and context of use" ([81], p. 32). Indeed, the same technology can be used in different contexts or for different tasks; thus, the context will likely influence the outcomes of the interactions and variables that are considered in a research model. Petter et al. [86] recommended applying the Delone and McLean Success Model to new contexts (p. 239). Similarly, Zhang and Li [110] identified context as one of the four variables that influence key interactions with a system.

The evolution of society toward an *experience economy* [87] necessitates an analysis of the role of technologies in experiential contexts. Accordingly, in the current research, we identify variables that play a role and influence online behavior in a specific experiential environment, namely, high culture museum websites.

The following research questions guide this study:

1. In an experiential environment, such as museum websites, which design characteristics most satisfy user needs and most contribute to the user experience?
2. Do museum websites encourage physical visits to museums?

Relying on the literature on experience, we propose a research model to be tested with two different websites. This paper is organized as follows. The second section introduces the literature on experience by identifying the characteristics of the experience economy and of user experience. The third section presents hypotheses related to the specific context of museum websites. In addition, this section justifies how website design criteria are linked to the evaluation of experiential settings as mediated by IT. In Section 4, we introduce our methodology. In Section 5, we present the data analysis and main results. In Section 6, we discuss the results and highlight the main contributions of the research. The last section concludes the study by calling for more studies in this socially important context.

2. Literature review on experience

Stressing that experience represents the latest stage in modern developed economies, Pine and Gilmore [87] highlighted the role of experience in co-creating value for industrialized societies. As the successor to agrarian, industrial, and service economies, experience captures customer interests at multiple levels:

> The company—we'll call it an experience stager—no longer offers goods or services alone but the resulting experience, rich with sensations, created within the customer. [...] experiences are inherently personal. They actually occur within any individual who has been engaged on an emotional, physical, intellectual, or even spiritual level. ([87], p. 30)

Therefore, the main function of experience businesses is to orchestrate events to create memorable and personal experience. Indeed, the factors of demand are driven by "sensations," a turn of phrase that means that people who are engaged in the experience economy tend to seek and pay for highly sensory activities. Consequently, businesses predicted to perform better in an experience economy are those that can offer a unique experience to their customers, often instantiated as a differentiation strategy.

Individuals can have diverse types of experiences, depending on, for example, their environment, the offering, and their personality. Thus, prior research indicates that experience is best captured as a multidimensional concept [46,47,88]. While their proposed dimensions differ, both Pine and Gilmore [88] and Holbrook [46] identified four dimensions of experience. Relying on level of participation and intensity of connection to the event, Pine and Gilmore [87] obtained four quadrants/types of experience: (a) entertainment, (b) education, (c) escapism, and (d) esthetics. On the basis of a literature review on experience, Holbrook [46] classified the dimensions into "four Es": (a) experience, (b) entertainment, (c) exhibitionism, and (d) evangelizing.

Although interesting in their own right, these two classification schemes do not address the role played by technologies, particularly IT, in experience. With the omnipresence of technologies in both the private and the public spheres, it is critical that we turn our attention to the interaction between IT and experience. The Internet offers many opportunities for leisure and experiential activities. Online users regularly visit tourism, online gaming, and sports websites as well as virtual environments (such as Second Life). Therefore, the evaluation of user experience has become an important field of research for the IS discipline.

User experience (UX) research "goes beyond the purely cognitive and task-oriented perspective" that is generally assumed in research on information systems ([43], p. 92). More precisely, three characteristics of user experience research have been noted [43]: first, it goes beyond the instrumental perspective; second, it encompasses emotions and affect; and third, it deals with experiential issues. For instance, the UX field has paid attention to the very diverse needs addressed by technology, such as play [71], enchantment [76,78], cognitive absorption [25,2], esthetics [41,63,100], and enjoyment [10,104]. Generally in this body of research, emphasis is placed on the emotional, hedonic, or esthetic dimensions of experience [42,43,64]. As such, we can note commonalities between the focus of the UX research stream and the two aforementioned classifications.

Echoing researchers in marketing and management who argue that experience has several facets, Human Computer Interaction (HCI) researchers have also encouraged the use of a multidimensional approach to capture experience [52,75,76]. For instance, McCarthy et al. [76] studied two types of interactive experiences involving enchantment, namely, film and mobile phone experiences. Their research objective was to identify key "sensibilities" that HCI designers can take into account when designing systems. The presence of the two different contexts of enchantment highlights the importance of having multiple criteria to examine user experience.

The field of user experience has also inspired the creation and development of new IT-based applications, called *experiential computing systems* [54,55]. As an illustration, Jain and his research group at the Georgia Institute of Technology are focusing on developing applications that acknowledge user experience and that store and process these user insights as traditional data. Experiential computing systems can integrate components, such as sensors, video, or virtual reality, to address user needs from multiple perspectives [54,55].