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Influence of Consumer Innovativeness on Perceptions of Museum Podcasts

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ABSTRACT

The primary objective of this study was to investigate museum visitors' interest in podcast museum tours and identify determinants which influence perceptions of the podcast tour experience. In particular, this study hypothesized a positive effect of consumer innovativeness on expected changes in the museum experience as a result of the podcast tour. Self-report questionnaires were distributed to visitors who had finished their museum visit and a total of 797 usable questionnaires were collected. The findings of this study indicate that the majority of museum visitors included in the study are still unaware of emerging technologies such as podcasts. However, museum visitors clearly show interest in special audio tours and expect those to enhance their museum experience. Innovativeness as an individual's trait drives these perceptions as well as actual technology ownership. Thus, it is recommended that offerings for visitors with different levels of innovativeness have to be designed (e.g. devices to be rented at the museum vs. podcasts downloadable from a Web site) in order to speed up the adoption process and to make podcast tours useable for the majority of visitors. The study findings suggest that new technologies such as podcasts provide opportunities for museums to interpret their offerings in new ways, targeting more specific audiences. With growing familiarity of museum visitors with these technologies and increasing adoption by other museums, it is expected that demand for special interest tours available as podcasts will rapidly increase.

INTRODUCTION

As a popular tourism resource (Beeho & Prentice, 1995), museums have played a role as educational institutions, catering to an audience largely of adults (MacDonald & Alford, 1995). Recently, the notion of a museum perceived as a collection for scholarly and educational use has been challenged by the need to facilitate visitor experiences (Johnston & Rennie, 1995). Several researchers have shown that visitors to museums frequently seek a variety of experiences and entertainment and do not visit museums simply to acquire information (Johnston & Rennie, 1995; Beeho & Prentice, 1995; MacDonald & Alford, 1995; Prentice, Guerin, & McGugan, 1998; Moscardo, 1996). Acknowledging the experiential aspects of motivations to visit a museum, several researchers have tried to understand how museums have to become fundamentally visitor-oriented, attracting a visitor's attention, simulating interest, and conveying information, thereby creating an experience (Middleton, 1990). Some researchers have argued that it is important to understand how visitors to heritage attractions (e.g., museums) may be rendered 'mindful' (Langer, 1993). Moscardo (1996) suggests that mindfulness is critical to enhance visitors experiences because mindful visitors will be more likely enjoy their visit,

express satisfaction with their visit, learn more from their visit and be interested in discovering more about a topic or place. This has important implications for designing effective interpretation at a built heritage sites.

Many researchers argue that information technologies have a great potential to increase interpretation effectiveness, thereby creating mindful visitors and enhancing the quality of visitors' experience in a museum. As a consequence, greater emphasis is being placed on interpretative media being entertaining and enjoyable in order to provide added appeal for the visitors (Prentice & Cunnell, 1997). In particular, MP3 players or iPods have emerged as a new mobile technology that can potentially enhance visitor experiences. Along with the development of MP3 technology, podcasting has started being considered as an interpretive communication medium in the tourism context. Recently, some museums have started providing podcast tours, which visitors can download from the Internet before or after visiting the museum. Podcasting is a method for distributing multimedia files such as audio and video files through subscription to either RSS or Google's Atom format but is often more generally applied to describe the provision of downloadable audio files on a Web site (Lee & Gretzel, 2006). According to Wikipedia, a podcast (derived from the terms "iPod" and "broadcast") is a downloadable audio file that is meant for on-demand listening or viewing on a PC or a portable media device and is usually delivered to the device at periodic intervals on a free-subscription basis. Thus, podcasts can provide personalized on-demand-content in an easily accessible and cost-effective format.

In this study, it is argued that depending on technology-related personality characteristics, specifically innovativeness and technology experience, museum visitors exhibit different adoption behaviors and perceptions toward podcast-based museum tours. In particular, defined as the intention to try new things (Goldsmith & Hofacker, 1991), personal innovativeness is hypothesized to exhibit effects on the individual perceptions of a new information medium such as a podcast museum tour and its impacts on the museum experience. Consumer innovativeness refers to how fast and easily consumers accept new things, and the reason for the importance of consumer innovativeness is that it has a large influence on the adoption of new products, especially adoption speed (Midgley and Dowling, 1978; Hirschman, 1980). Past research has conceptualized consumer innovativeness in two primary ways. On the one hand, consumer innovativeness is defined as actualized or domain-specific by identifiable characteristics and actual acquisitions of new information, ideas, and products. On the other hand, consumer innovativeness is defined as consumers' unobservable innovative trait across product classes, often referred to as innate or general innovativeness (Hirschman, 1980). This study conceptualized innovativeness in the latter sense as a general personality trait.

While it is often assumed that podcast tours can enhance museum experiences and museums seem eager to adopt this new technology, no empirical studies have so far been conducted. The purpose of the study presented in this paper was to investigate museum visitors' perceptions of podcast tours and to examine whether differences exist based on varying levels of innovativeness.

RESEARCH METHODS

The George Bush Presidential Library and Museum in College Station, Texas was selected as the study site as it attracts a large number of visitors with various backgrounds and interests. The study involved a self-report questionnaire consisting of questions related to museum visit planning and behavior, perceptions and ownership of new technologies, experience of the Web site of the museum, opinions regarding audio tours, and demographic information.

The questionnaires were distributed by two researchers to visitors who had finished their museum visit and had agreed to participate in the study. A set of museum postcards were given to the participants as an incentive for survey participation. A total of 797 usable questionnaires were collected during four weekends in September 2006.

To measure consumer innovativeness, three items of the six items proposed by Goldsmith and Hofacker (1991) were used. The reliability test showed that the measurement scale is reliable (Cronbach Alpha = .88). A summative scale was constructed and respondents were divided into three categories (low, medium and high innovativeness) based on their summative score. ANOVA and Chi square statistics were used to test the effect of innovativeness on podcast-related variables.

FINDINGS

Descriptive analyses indicated there was adequate representation of both gender groups in the sample. About 54.3 percent of respondents were female. Approximately 30 percent of respondents were 45-54 years old and 21 percent 35-44 years. Approximately 57 percent of respondents represented income levels of over \$80,000.

With regard to technology ownership (Figure 1), the findings indicated that the most owned technology was a regular cell phone (87.4%) followed by MP3 (iPod) (28.7%).

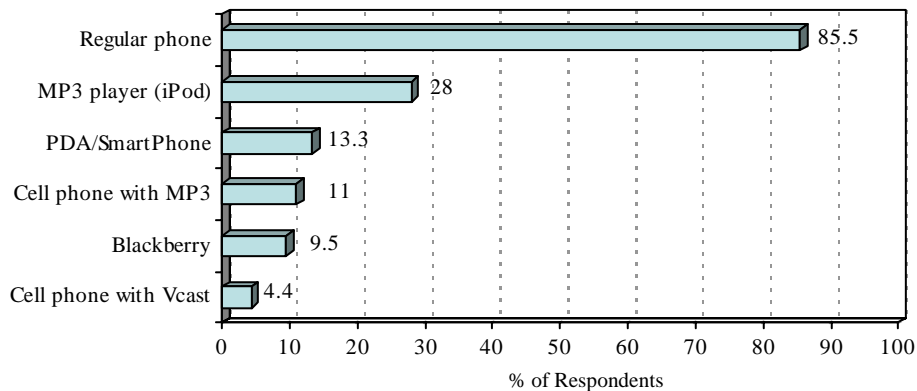


Figure 1. Technology Ownership

While a majority of respondents were familiar with the Internet (mean=3.82), only 23 percent visited the museum Web site before coming to the museum. Overall, the respondents were not familiar with new communication technologies such as podcasting, blog, and RSS feed. Over one third (36.6%) of the respondent indicated they were not at all familiar with the term podcasting. A majority of the respondents (67.5%) never listen to or download podcasts; only 8.7% of the respondents reported that they frequently or somewhat frequently listen to or download podcasts (Figure 2). Compared to the term podcasting, the term blog was more familiar to the respondents. Approximately 47 percent of the respondents were very familiar with the term blog. However, about 46 percent of the respondents never read blogs and about 94 percent of the respondents indicated that they currently do not write a blog. A majority of respondents (78.5%) stated that they were not familiar with the term RSS.

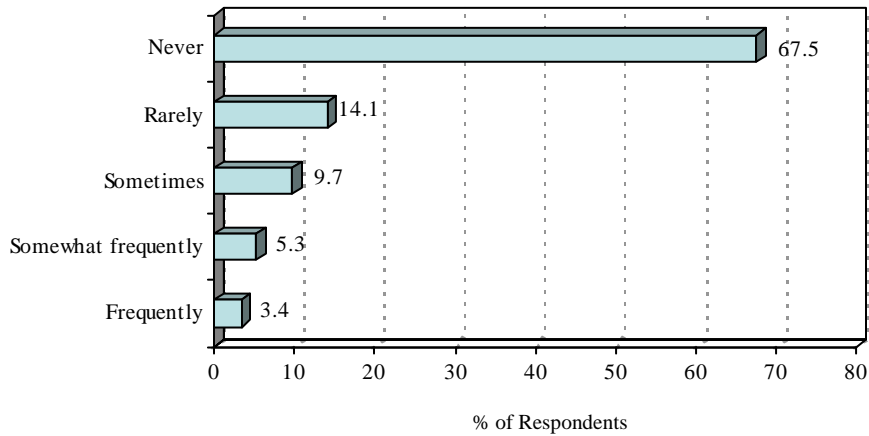


Figure 2. Frequency of Listening to/Downloading Podcast

Regarding their opinions with respect to museum podcast tours, approximately 44 percent answered that they were very or extremely interested in taking an audio tour in the museum (Figure 3). A majority of respondents (74.5%) wanted to listen to audio tours during the museum visit and, interestingly, about one fourth of respondents would enjoy an audio tour before the museum visit (Figure 4).

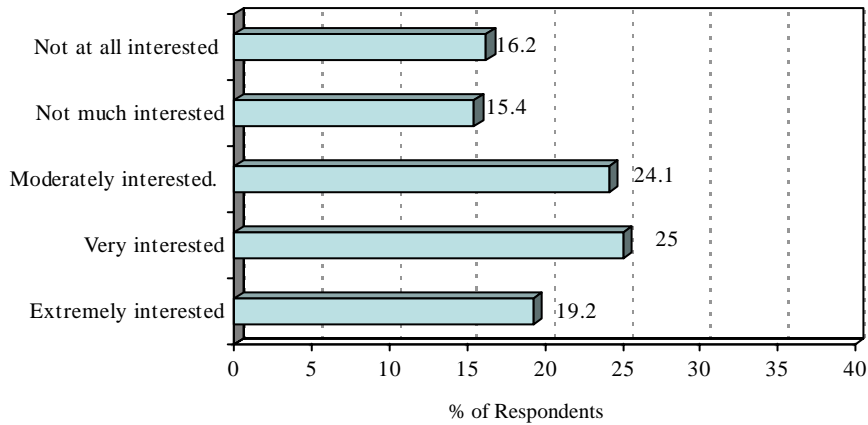


Figure 3. Interest in Taking an Audio Tour

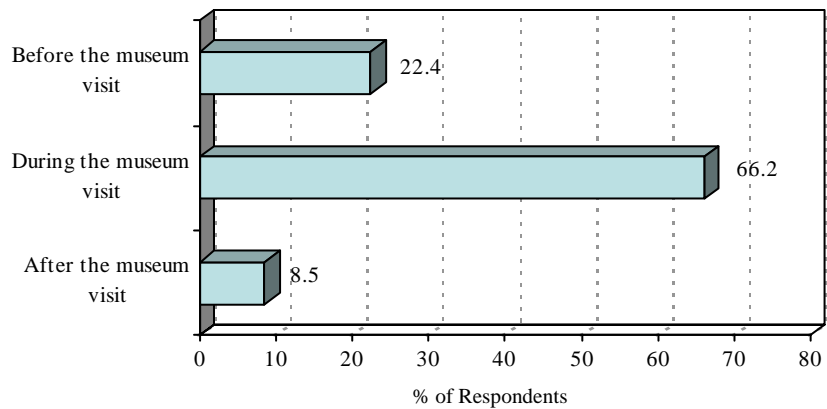


Figure 4. Time for Listening to Audio Tour

Downloading the audio tour on a rented device provided by the museum for a small fee was the most preferred option (42.5%); 23.5 percent opted for a free download to their own device at the museum and 22.5 percent would like to download podcasts from the museum Web site (Figure 5). Less than half of the respondents (46%) mentioned that they thought it was easy or somewhat easy to download audio tours from the museum Web site, indicating that lack of perceived ease of use might be an issue for podcast tour adoption if the podcasts are provided through the Web.

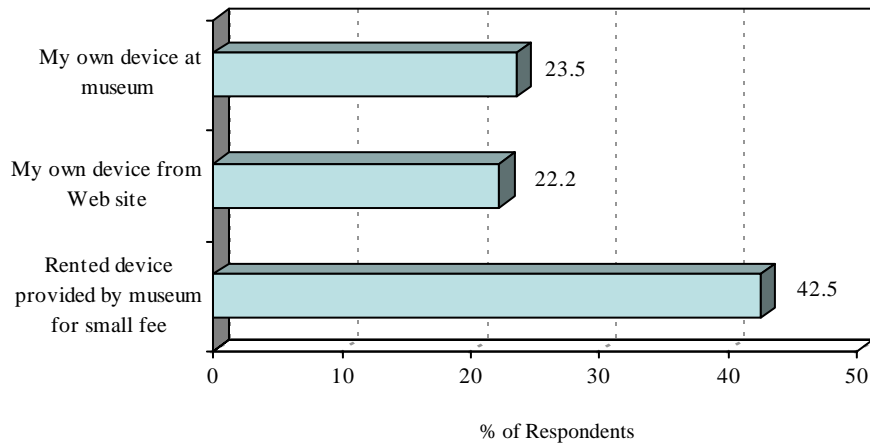


Figure 5. Preferred Devices for Downloading Audio Tour

Figure 6 shows that a majority of respondents agreed that special interest audio tours would enhance their museum experience (70.3%), help them retain more information from the visit (69.8%), make them pay more attention to the artifacts (67.6%), make the museum visit more enjoyable (66.5%), and would add a sense of personalness to their museum visit (62.9%). In addition, 52.5 percent of respondents indicated that the audio tour would make them spend more time inside the museum, over 33.4 percent indicated a personalized audio tour would encourage them to take others along, and 28.8 percent would visit the museum more often if it offered special interest audio tours.

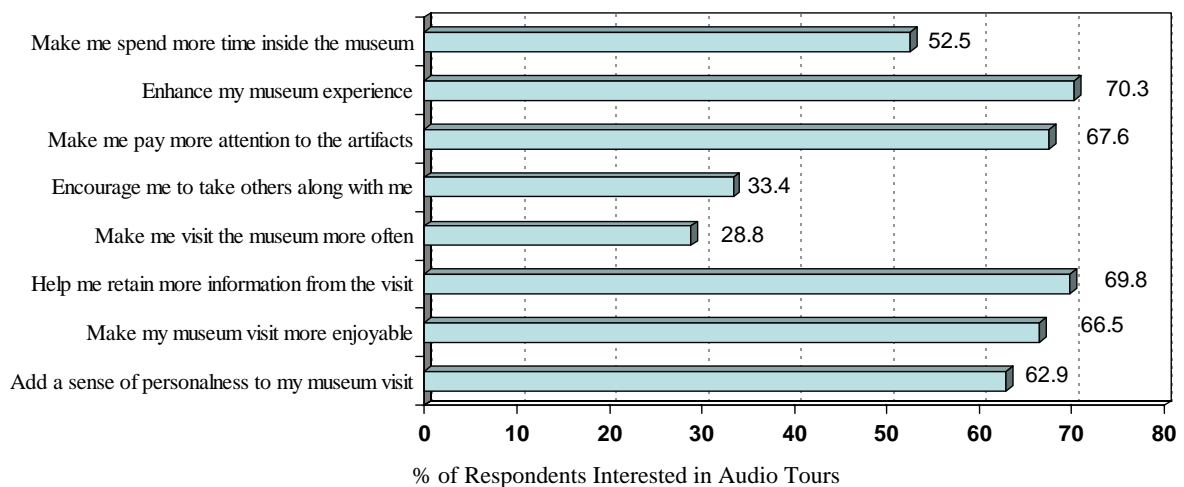


Figure 6. Perceived Influence of Audio Tours on Museum Experience

The summative innovativeness scale was divided into 3 equal increments. Respondents were assigned into the high innovativeness group if they had an innovativeness score of 3.67 or higher (32.8% of respondents), the medium innovativeness group if their score was between 2.33 and 3.66 (39.4%), and into the low innovativeness group if their score was below 2.33 (27.8%).

Table 1 shows the results of a Chi-Square Test conducted to examine differences in technology ownership by level of innovativeness. The results indicate significant differences. Respondents with a high level of innovativeness are more likely to own a regular cell phone, cell phone with Vcast and MP3, PDA/SmartPhone, Blackberry, and MP3 player than respondents in the medium and low innovativeness groups.

Table 1. Technology Ownership by Level of Innovativeness

	Innovativeness			Chi-square Test
	High	Medium	Low	
	(%)	(%)	(%)	
Regular Cellphone	77.4	89.4	95.7	
Cell phone with MP3	22.6	7.6	2.9	
Cell phone with Vcast	6.9	4.3	1.9	
PDA/Smart Phone	23.8	9.9	7.7	p=.000
Blackberry	18.1	7.6	3.8	
MP3 (or iPod)	44.4	26.5	15.8	

Analyses of variance were conducted to test the relationship between innovativeness and technology perceptions/usage as well as specific perceptions regarding museum audio tours. The ANOVA results (Table 2) indicate that there is a significant effect of innovativeness on familiarity with the terms podcasting, blog, and RSS. Higher innovativeness is also associated with greater usage of these technologies.

Table 2. Technology Perceptions and Usage by Level of Innovativeness

	Innovativeness			F-test
	High	Medium	Low	
Familiarity with the term podcasting	3.32	2.32	1.85	
Frequency of listening to/downloading podcasts	2.17	1.48	1.24	
Familiarity with the term blog	3.78	3.11	2.58	
Frequency of reading blogs	2.67	2.05	1.54	p=.000
Familiarity with the term RSS	2.12	1.29	1.07	
Interested in taking audio tours	3.54	2.94	3.00	
Ease of downloading audio tours from museum Web sites	3.82	3.26	2.69	

In addition, perceived ease of downloading audio tours at museum Web sites is influenced by personal innovativeness. The results indicate higher perceived ease for respondents

with high innovativeness (3.82) compared to respondents with low and medium innovativeness (2.69 and 3.26, respectively; $p=.00$). The effect of innovativeness on interest in audio tours was also significant ($p=.000$), suggesting that highly innovative consumers are more likely to show interest in taking an audio tour at a museum.

Museum visitors with higher levels of innovativeness are also more likely to want to download podcasts onto their own devices, especially if a download opportunity is provided at the museum. Similarly, highly innovative visitors are less likely to be willing to pay a small fee for a rented device which has the audio tour already uploaded (Table 3).

Table 3. Preference Regarding Tour Download by Level of Innovativeness

	Innovativeness			Chi-square Test
	High	Medium	Low	
	(%)	(%)	(%)	
Free download to own device at museum	30.5	24.9	17.4	$p=.021$
Free download to own device from Web site	25.9	20.4	20.8	$p=.346$
Rented device provided at museum for small fee	43.7	54.8	61.7	$p=.003$

Finally, the results (Table 4) suggest that the degree of innovativeness positively affects the perceived museum experience mediated by an audio tour in terms of expected affective, cognitive, and behavioral impacts. The ANOVA tests show that there is a significant effect of innovativeness on perceived outcomes in terms of cognitive experiences (respondents think audio tours would make them spend more time inside the museum, make them pay more attention to the artifacts, help them retain more information from the visit), affective experiences (enhance their museum experience, make the museum visit more enjoyable, and add a sense of personalness to their museum visit), and behavioral changes (encourage them to take others along, make them visit the museum more often).

Table 4. Perceived Impact of Podcast Audio Tours on Museum Experience by Level of Innovativeness

	Innovativeness			F-test
	High	Medium	Low	
Make me spend more time inside the museum	3.65	3.50	3.34	$p=.009$
Make me pay more attention to the artifacts	4.02	3.82	3.62	$p=.000$
Help me retain more information from the visit	4.04	3.86	3.77	$p=.016$
Enhance their museum experience	4.02	3.82	3.62	$p=.009$
Make the museum visit more enjoyable	3.99	3.75	3.71	$p=.007$
Add a sense of personalness to my museum visit	3.90	3.65	3.66	$p=.016$
Encourage me to take others along	3.25	2.99	2.89	$p=.000$
Make me visit the museum more often	3.13	2.93	2.82	$p=.004$

DISCUSSION

The objective of this study was to investigate visitors' interest in podcast museum tours and to identify determinants which influence perceptions of museum experiences facilitated through podcast tours. The results show that not many current museum visitors are familiar with new technologies such as podcasting, blog, and RSS and not all own a device which would support listening to podcast tours during a museum visit. However, the findings suggest that a majority of visitors is interested in taking an audio tour, in particular, during the museum visit but some also show interest in listening to tours before or after a visit. Compared to traditional museum audio tours, podcasts are unique in their ability to provide such extended experiences beyond the actual visit.

With regard to the perceived museum experience when using podcast tours, except for two items (encourage me to take others along, make me visit the museum more often), all the perceived experiences were highly rated by the respondents who were interested in taking audio tours. This result indicates that respondents think special interest audio tours provided through podcasts can enhance their museum experience and learning. Thus, audio tours via means of podcasts can foster cognitive effectiveness and increase affective experiences while visiting a museum. Research by Light (1994) showed similar results. Light (1994) evaluated three interpretative media at monuments in Wales (exhibits, outdoor panels, and stereo-audio tours) and concluded that interest and attention was greatest for the audio media and less for visual media. Even though this study did not compare podcast tours with other tours like visual exhibitions and brochures, the result suggests that visitors perceive clear benefits from audio tours. As tourists are becoming less likely to consume heritage simply by seeing and desire more engaging museum visits (Cunnell & Prentice, 2000; Urry, 1990; Moscardo, 1996), audio tours seem to be perceived as able to facilitate cognitively and affectively superior museum experiences. However, respondents did not think museum podcasts will change their visitation behavior in terms of frequency of visits.

Previous studies have found significant influences of innovativeness on a series of consumer behaviors (Im & Bayus, 2003; Flynn & Goldsmith, 1993). For example, Foxall (1995) showed that consumer innovativeness and new-product adoption behavior are positively related. Similarly, Midgely and Dowling's (1993) found that innovativeness is related to new-product adoption behavior in terms of purchase and adoption time. The current study confirms these findings by showing that innovativeness influences new technology ownership, familiarity with emerging technologies, technology use, and specifically the perceptions of and interest in museum podcasts. It thus contributes to the growing literature regarding consumer innovativeness and confirms that this personality trait is also of significance in a museum setting.

The study did not test actual impacts of podcast tours on visitor experiences but rather focused on museum visitors' perceptions of the technology and its potential benefits. Perceived ease of use and perceived usefulness have been identified as important drivers of technology adoption (Venkatesh & Davis, 2000). Thus, the findings provide useful insights regarding the willingness of museum visitors to adopt podcasts as tools to enhance their museum experiences.

APPLICATION OF RESULTS AND CONCLUSION

New media are transforming the way information can be presented at museums, thus they fundamentally affect visitor experiences and enjoyment. The findings of this study indicate that the majority of museum visitors are still unaware of emerging technologies such as podcasts. However, museum visitors clearly show interest in special audio tours and expect those to

enhance their museum experience. Since innovativeness drives these perceptions as well as actual technology ownership, offerings for visitors with different levels of innovativeness have to be designed (e.g. devices to be rented at the museum) in order to speed up the adoption process and to make podcast tours useable for the majority of visitors.

Although the study was conducted in a museum setting, it has implications for other areas of tourism as well. An increasing number of destination marketing organizations provide audio tours through their Web sites. This study emphasizes the importance of explaining technical terms and making downloads easy and maybe providing alternative download options or rentable devices and help at local visitor centers and attractions. Most importantly, the study results underscore the many potential positive impacts of podcast tours. Given the low cost of developing and distributing podcasts and the positive evaluations by consumers as indicated in this study, tourism destinations and attractions should consider the provision of specialized audio tours to enhance visitor experiences.

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