The Role of Curiosity in Making Up Digital Content Promoting Cultural Heritage

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Abstract

This research assumes that there are psychological aspects taking role when a netizen sees a representation in a social media. Curiosity is a main factor encouraging him/her to engage with an object or a site. This research hypothesized that the message left by cultural heritage management in social media should raise some levels of curiosity, so that it attract visitor successfully. The result of this study showed the pivotal contribution of human’s curiosity dimension understanding in making up creative and participatory-induced representation models concerning cultural heritage in social media. Virtual reality should maintain a paradoxical message of “communicating” and at the same time “veiling” the cultural heritage.

Keywords: cultural heritage; virtual reality; curiosity; social media

1. Introduction

Several museums abroad have started using social media as a method for engaging museum visitor to art, culture, and archeology. The report on “Digital audiences: engagement with arts and culture online” by the Arts Council England stated that those who are involved in art and culture online are also involved offline (Pett, 2012). Pett was not elaborative enough in describing kinds of online involvement that will be followed by offline involvement. Online marketing of cultural heritage is successful if user of social media and virtual reality are motivated to visit the promoted cultural heritage at the physical site. It is most likely that an individual visiting a virtual reality online will not visit the cultural heritage site offline because they have experienced immersion from the virtual reality.

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Virtual Reality (VR) technology has become a trend, and its development is not exempted from the need of content creation. According to Pimental and Teixera (as cited in Brayton, 2003), there are two major features that must be possessed by a virtual reality, namely immersion and interaction. Immersion is defined as a physical sensation of being in a virtual space, whereas interaction is related to user’s ability in modifying the surrounding environment and getting feedback from the actions (Carrozzino & Bergamasco, 2010). The author argued that marketing cultural heritage is not the same as marketing of other products or services, in that immersion principle cannot be fully applied. The author believed that curiosity plays an important part in motivating user to visit a cultural heritage site.

Curiosity is an intrinsic motivation that encourages individuals to seek information. According to Zuckerman (as cited in Edelman, 1997), to fulfill curiosity, individuals are willing to take physical, social, legal, and financial risks in obtaining the desired information or experience. The subsequent question is, what kind of object is capable of eliciting curiosity? Berlyne (as cited in Borowske, 2005) stated that curiosity will emerge if the external stimulant possesses a complexity, novelty, uncertainty, and conflict. Virtual reality that is currently available is a complexity, since the immersion needs details, as well as, a novelty in that the technology is fairly new. Uncertainty, conflict and information contrary to ideas of individuals, will raise curiosity. Complexity and novelty will encourage curiosity so that individuals will find a way to reduce their curiosity by finding further information.

A person who is curious, will feel anxious, thus affecting the desire to obtain new knowledge and exploratory strategy to reduce his/her curiosity (Renner, 2006). The need to reduce curiosity for each is different due to trait and social context. For example, individuals with traits of Neuroticism, Extraversion, and Agreeableness tend to have a strong desire to reduce curiosity (Renner, 2006). Curiosity is also related to social desirability (Kashdan, Rose, & Fincham, 2004). In addition, Loewenstein (1994) added that to encourage curiosity, it is important to make individuals aware that they can satisfy their curiosity. Arnone et al. (2011) stated further that the existing interest in individuals, if it is not supported by discovery of the required information within a certain time frame and with minimal efforts, will result in the lost of interest, thus the expected engagement does not occur. Hence, in social media and virtual reality utilized by cultural heritage site, information must be provided so that individuals know how to satisfy their curiosity.

Berlyne (as cited in Collins, Litman, & Spielberger, 2004) conceptualized curiosity as reaction to novel stimuli that involves the feeling of attraction and uncertainty. Berlyne (as cited in Collins et al., 2004) divided curiosity into two dimensions, namely epistemic and perceptual, based on the emerging emotional state and behavior. Epistemic curiosity is encouraged by complex ideas related to scientific information, thus motivating question and hypothesis testing as part of knowledge retrieval. Perceptual curiosity, which is influenced by novel sensory stimuli, encourages personal behavior such as visual inspection for finding new information (Collins et al., 2004; Leonard & Harvey, 2007; Loewenstein, 1994; Renner, 2006; Rowson et al., 2012). Berlyne (Collins et al., 2004) also differentiated exploratory behavior from curiosity as diverse and specific. Diverse exploration occurs when individuals are in a situation with limited stimulation so that boredom eventually encourage diverse exploration to find novel and interesting matters from their environment (Collins et al., 2004; Leonard & Harvey, 2007; Loewenstein, 1994; Rowson et al., 2012). Specific exploration is motivated by epistemic and perceptual curiosity, and involves specific search regarding novel stimuli with the purpose of finding additional knowledge or perceptual information (Collins et al., 2004). In virtual reality, this type of exploration is expected from online visitors so that their motivation for visiting the cultural heritage site offline is more intense.

Complex and novel stimulus raises perceptual curiosity while uncertainty and conflict raise epistemic curiosity (see Fig. 1). Both will then raise specific curiosity because of the missing information so that individual exploratory behavior will emerge to find that information. The expected exploratory behavior from individual is the intention of visiting the museum offline. This explanation supports the author’s hypothesis that in marketing cultural heritage sites, the immersion principle in virtual reality can become a factor that prevents individuals from visiting a cultural heritage site. This view is in line with the marketing purpose of cultural heritage sites. By providing sufficient information, users will be aware of the cultural heritage site. However, with information that is not excessive, users will be curious thus finding further information regarding the cultural heritage site. This is the purpose targeted in this article, namely to create an offline engagement through online virtual reality.
1.1. Definitions

Cultural heritage (Cultural Heritage Act, 2002) is an artistic, architectural, historical, archeological, ethnographic, paleontological, and geological object that is movable or unmovable with cultural heritage values. According to UNESCO (2014), a cultural heritage site is not only tangible, but also intangible, such as an oral tradition, ritual, and art performance. Dan Zarekka (Aditya et al., 2013) defined social media as network technology that enables people to create and distribute their content. According to American Heritage Dictionary (Brayton, 2003), virtual reality is a computer simulation of a real or an imaginary system which enable users to perform operation in the simulation system and shows the effect in real time. Lenhart, Horrigan, and Fallows (2004) defined content creation as all matters covering the creation of website, inclusion of materials on website for work purposes, organization, inclusion of materials in blog or page both private or other people. Content creation also involves inclusion of pictures, artworks, writings, audio or video files, to the World Wide Web, a discussion forum, newsgroup, or media as a central hub for sharing with other users. Content marketing is a material publication designed to promote a certain brand, usually with a more subtle and indirect approach unlike traditional advertisements (Wynne, 2013). Curiosity (Litman, 2005) is the desire to know, see, and experience which motivates exploratory behavior to obtain new information.

1.2. Research Questions

The questions in this study are: (1) What type of content can motivate user to open cultural heritage site pages listed on advertising in social media? (2) How must virtual reality be designed to attract users to use virtual reality tour that is provided by the cultural heritage site as well as to motivate users to visit the cultural heritage site offline?

2. Research method

This study used a qualitative method, the namely analysis of interview results. The data collection technique was an in-depth interview with six samples of Psychology students at Bina Nusantara University, Jakarta, Indonesia. There were two sample groups: sample members with a high visiting frequency of cultural heritage sites (2-6 times a
year) and sample members with a low visiting frequency of cultural heritage sites (0-1 time a year). Data sampling was conducted on March 17, 2014 until April 4, 2014. In-depth interview was divided into two parts, namely prior to experiencing virtual reality tour and after experiencing virtual reality tour. The following is the appearance of the virtual reality tour shown to the samples (see Fig. 2: Smithsonian National Museum of Natural History, Source: http://www.mnh.si.edu/vtp/1-desktop/; and Fig. 3: Creation Museum, Source: http://creationmuseum.org/whats-here/photo-preview/).

The author introduced both virtual reality tours as First Museum for Smithsonian National Museum of Natural History and Second Museum for Creation Museum to prevent bias from the samples’ personal interest. Both museums were chosen because both are similar in appearance. They can be magnified, minimized, shifted to the right, left, up, or down. Those museums have visible differentiation to the eyes of ordinary people. The Creation Museum can be navigated using the provided list while the Smithsonian Museum uses arrows and maps. The Smithsonian Museum produces better images compared to Creation Museum.

Questions posed to samples during the first part of the interview were about the interest in visiting cultural heritage sites and its relation with activity on social media. In the second part, the author asked about the virtual reality episode that is experienced by samples and the attraction toward virtual realities in terms of technology and content.

Fig. 2. Smithsonian National Museum of Natural History virtual reality tour.

Fig. 3. Creation Museum virtual reality tour.
Furthermore, the author explored the type of curiosity experienced by samples by asking: (1) From both reality tour that have been shown, which one is the best in technology or content wise according to you? (2) Is the first virtual reality tour meets the expected nature of complexity, novelty, uncertainty, and conflict? Why? (3) Is the second virtual reality tour meets the expected nature of complexity, novelty, uncertainty, and conflict? Why? (4) From both virtual reality tours that have been shown, by only considering the virtual reality technology being presented, which museum would you visit offline? Why? Through the questions posed above, the author will elaborate the samples’ response with the type of curiosity according to Berlyne (1960).

3. Results

All samples accessed approximately 4-5 social media accounts every day. As many as four samples had seen posting that promote cultural heritage sites in social media. All of them were of the opinion that the presence of pictures becomes a motivating factor to find further information regarding the posting content. Three samples added the importance of unique and mysterious facts included in the post that had not been thoroughly described in it. So, for example, user had to click on the website to find the information. Unique and mysterious facts were curiosity arouser in the form of uncertainty, which is encouraging specific curiosity. User was curious because there was uncertain/incomplete information resulting in exploratory behavior for further information retrieval.

The example above (Fig. 4) is a tweet from The British Museum (http://twitter.com/britishmuseum), which contained unique facts, pictures, and websites that can be accessed. Pictures presented would attract user’s eyes to see. Unique facts with incomplete information would encourage user to find further information, and the website would be the first alternative utilized by user to complement the information.

Fig. 4. Example of social media posting that encourage specific curiosity.

Table 1. Virtual reality comparison of both museums based on the curiosity arouser type

| Curiosity Arouser | Smithsonian Museum of Natural History (freq.) | Creation Museum (freq.) |
|-------------------|---------------------------------------------|-------------------------|
| Complexity        | Better (6 samples)                          | Good (6 samples)        |
| Novelty           | Yes (6 samples)                             | Yes (6 samples)         |
| Uncertainty       | No (5 samples)                              | Yes (6 samples)         |
| Conflict          | No (6 samples)                              | No (6 samples)          |

Based on the virtual reality technology presented by both museums, all samples agreed that the Smithsonian Museum is superior in complexity, because of the more complex, clear, real, and detailed information (see Table 1). Both museums were considered to have an element of novelty because of the technology being presented was rather new. All samples agreed that the Creation Museum encouraged a feeling of uncertainty because, unlike Smithsonian Museum that used arrows to navigate, the Creation Museum asked users to click on the place they want to visit from the listed menu (see Fig. 2 and Fig. 3). The Smithsonian Museum also provided a map that could be seen as a location marker. In terms of complexity, the Smithsonian Museum produced clearer images than the Creation Museum in that samples felt that the Creation Museum encouraged specific curiosity. Samples could not experience the museum’s atmosphere as real and clear than that of Smithsonian Museum, hence, encouraging further information retrieval. There was incomplete information in that samples were motivated to reduce their curiosity by complementing the information.
Maps, which were not provided by the Creation Museum, raised uncertainty because samples thought: “How can I get to this place?”, and would promote further thinking: “Is there anything missing in the moving process from my previous location to my location now?” If the management of cultural heritage sites provides useful information to reduce user’s curiosity, the alternative that occurred to the user in finding further information is by visiting the museum offline. If no element of the content raises efficacy, the user will feel misled and hesitate to visit the cultural heritage site both online and offline. Nevertheless, one sample from the group, which frequently visits museums, felt more attracted to visit the Smithsonian Museum because he used virtual reality to find information prior to visiting a place.

According to all samples, element of conflict was nonexistent in both virtual realities because virtual reality was new to them, by which no expectation that might create discrepancy between their perception of reality. All samples that were taken had not experienced virtual reality prior to the sampling interview.

4. Conclusion and Recommendations

This study has found that the content that raises curiosity is the one having pictures and information with elements of uncertainty, such as unique and mysterious facts that cannot be seen directly from a social media posting. People experience specific curiosity from unique and mysterious facts that encourage further information retrieval. Information are looked after to acquire the knowledge that has not been completely obtained.

Virtual reality provided by cultural heritage sites aims to encourage user to visit those sites offline. Hence, content marketing must be designed to attract user into becoming offline visitor. The Smithsonian Museum is superior in terms of complexity while the Creation Museum is superior in terms of uncertainty. The majority of samples, namely 5 out of 6 people, were more attracted to visit the Creation Museum because of specific curiosity being experienced. They were not able to obtain detailed and complex information as it were provided by the Smithsonian Museum. Content creation that raises uncertainty is a factor that encourages user to find further information.

Social media post and virtual reality provided by cultural heritage sites eventually must motivate internet user to visit the physical sites. This study suggests that the management of cultural heritage sites should implement curiosity arousers in social media post and virtual reality in order to raise curiosity and intention to the physical visit. Virtual reality must be able to attract user to try the technology while simultaneously veil the information, in that user are willing to visit cultural heritage sites offline. The management should not forget including information that raise user’s efficacy, so that they can reduce their curiosity.

However, in this study, there is a limitation in terms of finding equally comparable content in cultural heritage virtual reality. This will influence user’s interest, and unconsciously, make it more difficult for the user to compare the virtual reality technology of both museums. For further study, it is recommended to use similar cultural heritage sites in terms of content but simultaneously have a clear differentiation in terms of technology, so that user’s opinion can be more objective. The technology being shown must also exhibit differentiation between curiosity arousers in the dimension of Conflict and Novelty, considering there are no apparent differences between samples’ responses in this study regarding both dimensions.

References

Aditya, A., Bevly, B., Haryanto, D., Yulwardian, E., Nasution, E., Rachman, F., et al. (2013). Social media nation. Jakarta: Prasetya Mulya Publishing.

Arnone et al., 2011 Arnone, M. P., Small, R. V., Chauncey, S. A., & Mckenna, H. P. (2011). Curiosity, interest and engagement in technology-pervasive learning environments: A new research agenda. Educational Technology Research and Development, 59 (2), 181-198. Available in http://dx.doi.org/10.1007/s11423-011-9190-9.

Berlyne, D. E. (1960). Conflict, arousal, and curiosity. New York: McGraw-Hill.

Brayton, J. 2003. The Meaning and Experience of Virtual Reality. Unpublished Ph.D. Dissertation. Dept of Sociology, University of New Brunswick, Fredericton, NB.

Borowske, 2005 Borowske, K. (2005) Curiosity and Motivation-to-Learn. ACRL Twelfth National Conference (pp. 346-350). Minneapolis: ACRL. Retrieved March 23, 2014, from http://three.umfglobal.org/resources/1976/curiosity_article.pdf.

Carrozzino, 2010 Carrozzino, M., & Bergamasco, M. (2010). Beyond virtual museum: Experiencing immersive virtual reality in real museums. Journal of Cultural Heritage, 11 (4), 452-458. Available in http://dx.doi.org/10.1016/j.culher.2010.04.001.
Collins, R. P., Litman, J. A., & Spielberger, C. D. (2004). The measurement of perceptual curiosity. *Personality and Individual Differences, 36*, 1127-1141. Available in http://dx.doi.org/10.1016/S0191-8869(03)00205-8.

Edelman, S. (1997). *Curiosity and exploration*. Northridge: California State University.

Kashdan, T. B., Rose, P., & Fincham, F. D. (2004). Curiosity and exploration: Facilitating positive subjective experiences and personal growth opportunities. *Journal of Personality Assessment, 82* (3), 291-305. Available in http://dx.doi.org/10.1207/s15327752jpa8203_05.

Lenhart, A., Horrigan, J., & Fallows, D. (2004). *Content creation online*. Washington, DC: Pew Internet and American Life Project.

Leonard, N. H., & Harvey, M. (2007). The trait curiosity as a predictor of emotional intelligence. *Journal of Applied Social Psychology, 37*(8), 1914-1929. Available in http://dx.doi.org/10.1111/j.1559-1816.2007.00226.x.

Litman, J. A. (2005). Curiosity and the pleasures of learning: Wanting and liking new information. *Cognition and Emotion, 19* (6), 793-814. Available in http://dx.doi.org/10.1080/02699930541000101.

Loewenstein, G. (1994). The psychology of curiosity: A review and reinterpretation. *Psychological Bulletin, 116* (1), 75-98. Available in http://dx.doi.org/10.1037/0033-2909.116.1.75.

Pett, D. (2012). *Use of social media within the British Museum and museum sector*. London: Archetype.

Renner, B. (2006). Curiosity about people: The development of a social curiosity measure in adult. *Journal of Personality Assessment, 87* (3), 305-316. Available in http://dx.doi.org/10.1207/s15327752jpa8703_11.

Wynne, R. (2013). Content marketing – The Real Story. Retrieved March 23, 2014, from http://www.forbes.com/sites/robertwynne/2013/07/08/content-marketing-the-real-story/.

UNESCO. (2014). What is meant by “cultural heritage”? Retrieved March 23, 2014, from http://www.unesco.org/new/en/culture/themes/illicit-trafficking-of-cultural-property/unesco-database-of-national-cultural-heritage-laws/frequently-asked-questions/definition-of-the-cultural-heritage/.