VR and Nostalgia: Using animation in theme parks to enhance visitor engagement

Jae-Eun Oh[a] and Anthony Kong[a]*

[a] School of Design, The Hong Kong Polytechnic University, Hong Kong (SAR)

* Correspondence: anthonykong@ieee.org

VR and Nostalgia: Using animation in theme parks to enhance visitor engagement

In the theme park industry, returning visits are often considered a measure of success. Numerous parks have incorporated virtual reality (VR) technology to encourage visitors to return. This paper aims to discuss how VR can work effectively in combination with nostalgic animation content to attract visitors and promote the parks. Through interviews, the research finds that adoption of new technology only generates first-time visits. In contrast, having sophisticated, narrative-driven, high-quality content that creates an emotional attachment appears more important to visitors when enjoying attractions than simply having high-end VR technology. The findings suggest that combining existing animation content with emotional attachment and VR attractions will allow visitors to experience stronger emotional connection, enhanced presence, and deeper immersion. Interviews with experts and visitors were conducted using convenience sampling and combined with archival research. This research aims to understand the effects of adding VR technology to Korean theme park attractions, and to examine how nostalgic attributes of animation content can enhance the immersive visitor experience. Finally, this paper proposes a VR immersive experience model for theme parks, ensuring that quality-driven VR content can evoke localized nostalgia and lead to returning visits.

Introduction

Recently, the theme park industry has experienced tremendous changes. Technology has advanced to appeal to a wider audience by providing an immersive experience, with virtual reality (VR) being one of the most highly adopted innovations. At theme parks, visitors enjoy virtually tailored attractions incorporating animation or movie content. With strong storytelling and content, the audience can be induced to conjure up strong individual memories and be influenced in their decision as to whether to revisit (Oh & Ma, 2018). Thus, the design of a VR attraction can have significant strategic implications (Uriely, 2005) for an industry that has long searched for ways to provide visitors with more memorable experiences (Christou et al., 2018) and to motivate them to visit specific destinations (Hsu, Cai & Wong, 2007; Yoon & Uysal, 2005) with nostalgic branding and packaging (Muehling & Pascal, 2012).

In order to evoke strong memories, software—theme and content—cannot be neglected to focus on hardware such as roller coasters (C. Yoshii, Vice President of AECOM Asia Pacific, Hong Kong, personal communication, 2017). Strong memories are evoked by a stimulus that not only provides a heightened immersive experience, but also has the nostalgic attributes of inducing feelings and promoting emotional connection (Oh, 2013). If the media content in a VR attraction is filled with these nostalgic components, the viewers will more likely become emotionally attached and interested in it. If, however, a park has no robust theme, and relies instead on simply enhancing old-fashioned attractions such as roller coasters and water rides with VR, no strong emotional connection can result (Oh & Ma, 2018; C. Yoshii, Vice President of AECOM Asia Pacific, Hong Kong, personal communication, 2017).

Animated films often have a nostalgic effect that can be amplified when their content is included in a theme park setting. Animation content creates and materializes fantasy; it provides a surreal effect and a non-reality that delights its audience (Oh, 2013). Such a capacity for creating a new reality connects to Umberto Eco's statement that theme parks are the perfect fake environment to recreate a perfect reality (Eco, 1990). Oh and Ma (2018) postulate that Eco's view of theme parks is associated with the ability of animation to realistically mimic reality. Jean Baudrillard (1994) adds that a theme park is also a place where people perceive the blurriness between reality and its representation, the world of hyper-reality and simulation. This paper aims to discuss how VR can work effectively in combination with nostalgic animation content to attract

visitors and promote the parks, how the VR experience journey is in theme parks, and what the essential elements can develop VR attractions in theme parks?

In the course of this research, expert interviews and archival research were conducted to explore how combining VR applications, quality animation content, and nostalgia can produce an enhanced and immersive audience experience and encourage returning visitors in a theme park setting. We are suggesting a VR immersive experience model, where nostalgia may ignite the flow intrinsically in the VR world.

Literature Review

The use of VR in theme park attractions

The theme park has been considered the predecessor of virtual reality through imagination (Baudrillard, 1996) since the first Disneyland opened in Anaheim, California in 1955. Disneyland theme parks started telling animation stories within their attractions through film techniques composed of sequences of full shots, medium shots, and close-up shots, much like the cinematography of a film (Hine, 1986). Parks have since adopted ride simulators, VR technology, and a variety of state-of-the-art attractions, ranging from dark rides such as Peter Pan's Flight to mechatronic puppets such as Animatronics (Levine, 2018). With these high-end technologies, theme parks are able to provide visitors with quality-oriented immersive experiences that tell stories more effectively than ever before (Clavé, 2007).

People visit theme parks to forget about their daily lives, to meet their favorite animation characters from childhood and interact with them within a specially designed space. These interactions evoke nostalgic memories and generate emotions; the memories can be rediscovered by the visitors themselves through fantasy (King & O'Boyle, 2010). VR technology can enrich a visitor's experience of materializing the fantasy when high-quality content is featured.

Theme parks that employ VR technology are attractive to both the industry and to guests who enjoy motion simulation rides that incorporate media content (Chang & Kim, 2018). Kim (2016) noted "the power of VR to easily create simulacra, stimulate various senses, increase the feeling of immersion, synchronize motion with storytelling, communicate interactively, change themes easily, provide physical stability, and save space" (p. 42). Simply speaking, VR enhances the experience of theme park attractions (Jerald, 2016). A virtual environment helps theme park visitors become immersed in the attractions, and the quality of the VR content (Hopf, Scholl, Neuhofer & Egger, 2020)

can create a heightened feeling of fantasy (Schwartzman, 1995), as well as an intensified sense of presence.

Animation and VR content to evoke nostalgia

The animation film is itself a virtual reality created by illusion and fantasy. Paul Wells (1998) notes that animation as a medium is completely fake because it has "no real camera to record reality but artificially creates and records its own" (p. 25). It creates many different characters and brings them to life by an illusion of movement (Wells, 1998), which is why memories of familiar animation characters from childhood persist into adulthood.

According to Alistair Swale (2015), nostalgia is about conjuring familiar personal events or historical events that have nothing to do with personal memories. Walden (2018) argues that animation helps reminiscing, and can represent dimensions of different types of memories, including nostalgia. In the meantime, Holak et al. (2008), Stern (1992) and Marchegiani and Phau (2010) correlate nostalgia and virtual reality because historical nostalgia is more similar to fantasy to the modern people. Animation, with its artistic style and story, can cause personal memory to become warmer and filled with longing, and also with the addition of historical memory; it is fantasy-like, with the accompanying imaginative art style and storytelling. Svetlana Boym (2001) points out that nostalgia is not only longing for a place, but also yearning for childhood. Animation, due to the nature of the medium, allows the audience to immerse themselves in personal and historical nostalgia through the animators' use of aesthetic elements. Employing animation content via a VR application in a theme park setting evokes personal nostalgia of childhood memories.

Theme parks began providing VR and surreal experiences via cinematic imageries on roller coasters at a very early stage (Levine, 2018). Thomas Hine (1986) states that Disneyland's The Magic Kingdom was not designed by architects, but by animators: not as a group of buildings, but as an immersive experience. It was "a movie that could be walked into" (Hine, 1986, p. 151). Animators were able to imagine and embed non-physical animation fantasy into physical attractions right from the initial planning stage (Clavé, 2007). Another special aspect of the theme park environment is that visitors interact with animation characters—who never grow old or die—and thereby experience a nostalgic trigger based on their own memories (Oh & Ma, 2018). With characters that are forever young, an audience can go back to an earlier time that is no longer

accessible to them in real life. The visitors' emotions and fantasies can be fulfilled and strengthened by themed attractions that are comprehensively and strategically designed and controlled. Recent technological advancements in the VR field, such as Head-Mounted Displays (HMD) with immersive environmental settings can be used to magnify feelings of nostalgia and create an enhanced visitor experience (Huang et al., 2020).

VR attractions at Korean theme parks

A selection of experts interviewed (C. Yoshii, Vice President of AECOM Asia Pacific, Hong Kong, personal communication, 2017; P. Pei, Former Executive Director for Sales & Marketing, Ocean Park, Hong Kong, personal communication, 2018; J.W. Park, Director of EVR Studio, Seoul, South Korea, personal communication, 2020) described that theme parks in Korea have invested in new attractions, new high-end technologies, and more events as strategies to attract visitors (Lee, 2019) and emphasized that creating emotional attachment with strong content was a priority. Jae-Wook Park, director of EVR Studio Seoul states that producing high-quality customized content for a VR attraction is critical, not only in Korean theme parks but also for other countries. Applying VR technology to theme parks in Korea, however, is especially challenging because the kind of robust content needed to provide a prolonged and heightened immersive visitor experience is still lacking (Oh & Ma, 2018). Additionally, Park stresses that merging existing motion-based systems with VR technology requires content that is designed to perfectly follow the motion (Nelson, 2016). However, it is challenging to create 1 to 2 minutes of computer-generated animation perfectly synchronized with an audience's field of vision and movement without risking to induce vertigo (Ma, 2017; J.W. Park, personal communication, 2020).

In 2016, the Lotte World Theme Park in Korea opened its VR roller coasters, 'French Revolution 2 VR', 'Gyro Drop 2 VR,' and 'Across Dark'. Seung-Yeon Lee, head of Lotte World's VR business team, explains that they introduced VR because it is easy, interactive, fast, flexible, effective, and low cost (Shim, 2017). Lee also believes that applying VR to existing attractions has, at least in a short term, the same impact as introducing entirely new attractions (Shim, 2017). However, a number of researchers have expressed concerns that simply adding new technology without solid content and storytelling will not attract visitors in the long term or guarantee returning visitors (Kim, 2016; Kim & Han, 2017; Chang & Kim, 2018). VR attractions in Korean theme parks

do not display any narrative strategies, which requires thorough planning and development. According to the Korean VR & AR Market Report from the Korea Institute of Intellectual Property (Yim, 2019), facilities that provide VR experience have not yet emerged as a market and thus still need funding support from the Korean government. The VR field in Korea is still in its infant stage, and it will require time and much effort to create high quality content that can mesh well with the technology in a Korean theme park context.

Conceptual background
Tourism Motivation
Further developed from tourism motivation, the rapid development of the theme park industry has been under the spotlight for the level of re-visitation, visitors' preference/satisfaction, facilities, and attractions with popular and rich media content. According to Park et al. (2009), tourists' motivations can be applied to identify the attributes to attract visitors to theme parks. It indicates what draws people to theme parks, and the motivation to visit these parks.

Positive motivation will influence visitors' attitude with the push and pull factors in terms of choosing the parks for their leisure time (Dan, 1977; Crompton, 1979). Visitors who are intrinsically motivated are prone to be more positive toward parks where they can enjoy a coherent theme and are able to demonstrate mise-en-scène (Chazaud, 1998) for an experience comparable to its cinematic counterpart.

Film and media programs have been positively triggering tourism for different locations and activities (Kim et al., 2019; Robinson, 2015) with the emotional and nostalgic memory that the audience experiences on screen.

Nostalgia is one of the key factors for tourists to determine visit locations (Christou et al., 2018). Recently, theme parks have become a destination to experience nostalgia in a contextualized symbolic and rooted cinematic world with high-end technology. Within the constructed themed environment settings, visitors' memory can be reanimated (Bazin, 2013), stimulated and triggered for the nostalgic values of the media content and the experience can be positively reinforced with the enhanced presence created by VR.

Flow in VR experience
Mihály Csíkszentmihályi (1975) coined the concept of the flow state that a person can experience when fully immersed into an activity where they have an absolute

concentration in performing a task. It is an optimal stage where the individual interacts with the environment and gets involved without concerns about loss of self-conscientiousness (Hernandez, 2011). In other words, once individuals experience the state of flow, they do not think about themselves or the situation they are in. Various studies about games, learning and advertising (Loveday & Burgess, 2017; Yang et al., 2019; Hernandez, 2011) discuss how to design those activities and services to better accommodate users. In experiencing virtual reality technology, users enjoy the activity with headsets that directs them to delve into deep absorption mode (Yang et al., 2019) as the headset provides a specifically designated context for better immersion and allows the users to feel the transformation in their sense of time. In this context, VR is used to demonstrate the highly achieved state of flow from the technologies that created presence and immersion (Tom Dieck et al., 2018). This flow allows visitors to enjoy the VR environment more naturally.

Storytelling, VR, and theme park

Several elements participate in constituting an effective storytelling environment. Unification provides coherence by using a consistent style of architecture and atmosphere throughout, in the attractions as well as in secondary locations such as food and retail outlets. Mise-en-scène encompasses all aspects of the general surroundings which makes visitors feel as if they were in the movie. Dépaysement is a component of Surrealism that can create a mysterious or strange encounter with a real object in an alienated place. These three elements, enhanced by VR, are external stimuli that support an immersive experience and a sense of presence that visitors are seeking.

Choi (2017) suggests that a unified design with a strong theme is the principal element and a vital attribute for storytelling in theme parks. He particularly highlights the 'theme' aspect of the message that the park designer wants to convey, as that message creates the park's distinctiveness. A unified structure helps the story express the theme more efficiently.

Chazaud (1998) argues that the theme must be rich enough to demonstrate mise-en-scène. A holistic design that gives the audience a cinematic experience is crucial to provide coherent and unified characteristics within the identity of the park. The theme must also be versatile for the visitors, media content (animation), and entertainment; it must cater to the visitors via scenic or dramatic stages. The contribution of mise-en-scène is to create key elements such as dépaysement, escapism, fantasy, imagination,

immersion, surrealism, verisimilitude, and nostalgia. Mise-en-scène is one of the most important factors in producing a distinct atmosphere for a theme park.

King (2007) writes that a "theme park is a social artwork designed as a four-dimensional symbolic landscape to evoke impressions of places and times, real or imaginary" (p. 837). King also emphasizes that a theme park should not simply include random rides, but that it needs to be planned thoroughly to secure its thematic integrity (King & O'Boyle, 2010). The theme must be coherent and consistent to provide visitors with complete fantasy. This echoes Coltier's definition (1985), which specifies the theme park as "a closed universe whose purpose is to succeed in the encounter between the dreamy atmosphere it creates and the visitor's desire for dépaysement" (p. 24). The biggest goal of visiting a theme park or any touristic destination is to detach visitors from their daily lives, in other words, to provide escapism (Huang, Wei & Leung, 2020).

Oh and Ma argues that using animation content in theme parks is an effective way to create dépaysement, as there are overlapping factors between the two media. The commonalities between theme park attractions and animation narratives are (1) fantasy; (2) immersion; and (3) verisimilitude (Oh & Ma, 2018). These attributes strengthen the original purpose of theme parks—escapism, imagination, and nostalgia—resulting in a stronger theme.

Cho (2012) describes a theme park as a sensational space where visitors can experience an exciting fantasy, and where animation characters can be a significant element in delivering the desired image of the space. There is an inseparable relationship between a theme park and its animation characters, with the characters manifesting their identity through the park.

Oh (2013) postulates that many global theme park attractions are successful because they have adopted animated content that generates emotion by evoking nostalgic memories of animation characters. This feeling of nostalgia is triggered by the narratives that the theme park provides and is based on each visitor's individual memories. In turn, media memory can be rediscovered by the audience themselves through fantasy (F. Barre, as cited in King & O'Boyle, 2010).

Wei, Qi, and Zhang (2019) posit that VR technology can enhance the feeling of distinctiveness by focusing on presence, which leads to a higher level of interest. Presence in an immersive environment allows visitors to experience something intangible with multi-sensory involvement and has been shown to lead to returning

visits.

Methodology

This study aims to investigate the importance of nostalgic animation content in immersive theme park environments that use VR applications for creating emotional engagement in their visitors. The study is focused on Korean theme parks that have added VR technology to their animation-based attractions. In the case studies, the animation content was specific for each attraction and did not involve existing content that would have been previously seen on TV or in theaters.

Preliminary interviews with theme park professionals Mr. Paul Pei: former Executive Director of Ocean Park, and Mr. Chris Yoshii: Vice President of AECOM Asia Pacific were conducted in Hong Kong during previous studies to gather insights on what makes theme parks efficient. An additional interview was conducted with Mr. Jae-Wook Park, Director of EVR Studio, Seoul, South Korea, and two other park professionals who preferred to remain anonymous, to describe the function of VR at Korean theme parks. The spread of Covid-19 did not allow additional in-person interviews, so email interviews were conducted using convenience samples of three experts from Lotte World Adventure and Everland, as well as ten theme parks visitors. The information gained from the interviews was supplemented with archival research consisting of news and interview articles, media reports, and books referring to Lotte World and Everland. In the email interviews, the same set of six open-ended questions were given to the experts, who are all former or current members of the theme park industry, and to the visitors. The interview questions were both descriptive and exploratory, and covered two dimensions: (1) How does each park develop strategies to attract more visitors? Do park professionals/designers consider nostalgia to be an important factor? How does virtual reality in particular work as an amplifier to attract more visitors to theme parks?; and (2) What kinds of virtual reality content have been adopted, and have these measures been successful?

Results

The interviews consisted of the following six questions:

Q1: What is the most important attribute for a VR attraction?

Q2: What are the problems encountered with VR attractions?

Q3: What are the return visitor numbers?

Q4: What are technical issues?

Q5: Are there any synch-in problems between media content and movement?

Q6: What kind of content are they using? Is it high-quality and able to evoke reminiscent memories?

Regarding the in-person and email interviews, the advantages and disadvantages of VR in the theme park are categorized in Table 1. In this study, headsets and new technology adoption were rewards accepted by experts. However, content quality, hygiene, and settings have appeared to be disadvantages from customers' comments.

Visitor's VR dimensions in the theme park are categorized in Table 2. Theme park customers care predominantly about (1) new technology adoption; (2) hygiene and settings; (3) Quality content; and (4) VR experience.

Table 1. The perceived advantages and disadvantages of VR in the theme park.

Category	Explanation of Category	Illustrative Comments
Advantages	Headsets	Expert 3: Using VR headset is the most convenient, fastest, and easiest way to attract visitors. It does not cost as much either, hence it is a smart strategy.
	New technology adoption	Expert 2: With VR, visitors will be able to experience something more magical and immersive. Developing good quality content costs a lot, but is worthwhile for the long term.
Disadvantages	Content quality	Customer 8: (...) the story plots are not engaging and not immersive enough.

		Customer 4: Did not understand the story and the ending was a bit abrupt.
	Hygiene	Customer 2: After the show, the staff cleaned the headset with simple wipes which made me feel insecure about hygiene.
	Settings	Customer 5: I will not come back again for this attraction. Once is good enough and I do not think I miss a lot. Content is just so-so.

Table 2. Customer's VR dimension in the theme park.

Category	Explanation of category	Illustrative comments
New technology adoption	Visitors enjoy the VR attraction	Customer 1: First time trying a new VR attraction. Seems like the park puts more effort to create a coherent themed atmosphere with the design of the main entrance of the attraction. Customer 3: Was curious about the VR attraction and it was thrilling but it has plenty of room for improvement. Waiting time is not so attractive.
Hygiene and Settings	Visitors concern about environment (settings) issues	Customer 2: I felt like headsets are not clean enough, even if the staff cleans each headset with a wipe after the show, it does not seem to work well. Also, the size of the headsets

	with VR attraction	varies but is not adjustable; one of my friends needed to hold the headset during the show because it was too big for her head. It kept slipping down. Customer 6: I felt slightly dizzy during the show and could not focus much. Not sure it was because of me or the content problems.
Quality content	Emotionally attached content	Customer 8: I do not know why they did not use any famous content for this attraction. The story plots were not engaging, and not immersive enough.
VR Experience	Limited resources and experience	Customer 1: I think that the park should spend more efficiently on R&D for a better experience with VR. Customer 5: I do not think I will come back. One-time experience is good enough unless they have a new attraction. Content is just so-so.

Discussions and implications

The main finding of this study is that VR experience can be divided into three stages: (1) Pre-VR experience; (2) During VR experience; and (3) Post-VR experience. VR experience factors have been identified among the three stages—see Table 3. VR technology provides a visit motivation, and its effect is a kind of new amusement attraction in the theme park. It is found that waiting time is an experience factor in pre-VR experience. When during-VR experience, the holistic factors of content quality, ease of control, hygiene, settings, and technological performance are critical to drive customers into a state of flow. This immersive experience could increase the degree of enjoyment and also generate intention for returning visits. On the other hand, if one of the factors cannot meet the customer's expectation, the immersive experience could fail. Finally, emotional attachment plays an important role in the post-VR experience. Without this factor in VR content, it will remain a mere sensory stimulation amusement experience.

The contribution of mise-en-scène is suggested to provide nostalgic memories content

in VR experience in Asian theme parks, for example Hong Kong and South Korea. The Asian theme park scale is relatively small and solely operated, compared to US-based Disneyland and Universal Studio chain theme parks. Nostalgia generates emotional attachment with local cultural elements that fit Asian theme parks' approaches, for instance, education and conservation. More precisely, education, conservation, and entertainment can be the vision and mission listed by Ocean Park Hong Kong (Ocean Park, 2020).

Table 3. VR Experience stage

VR experience factors		
• New technology anticipation • Waiting time	• Content quality • Ease of control • Hygiene • Settings • Technological performance	• Emotional attachment
Pre-VR experience	During-VR experience	Post-VR experience

Based on the findings from this study, we propose a VR immersive experience for theme parks—Figure 1. The model illustrates the factors of VR experience in different VR experience stages: pre-VR experience, during-VR experience, and post-VR experience. The eight VR experience factors are formulated into two measures: 1. Reality measure (physical reality and virtual reality); and 2. Degree of flow (high degree of flow and low degree of flow). The figure presents the tangible factors of VR experience in physical reality, headsets, and new technology that are adopted in a high degree of flow, but settings and hygiene are set in a low degree of flow. In virtual reality, emotionally attached content and high-quality content are in a high degree of flow, but technological performance is in a low degree of flow. Ease of control is in between physical and virtual reality as interface.

This VR immersive experience model could provide a better-quality overview for the development of VR theme parks, in order to create a good VR experience for the customers in a theme park.

Figure 1. VR immersive experience model.
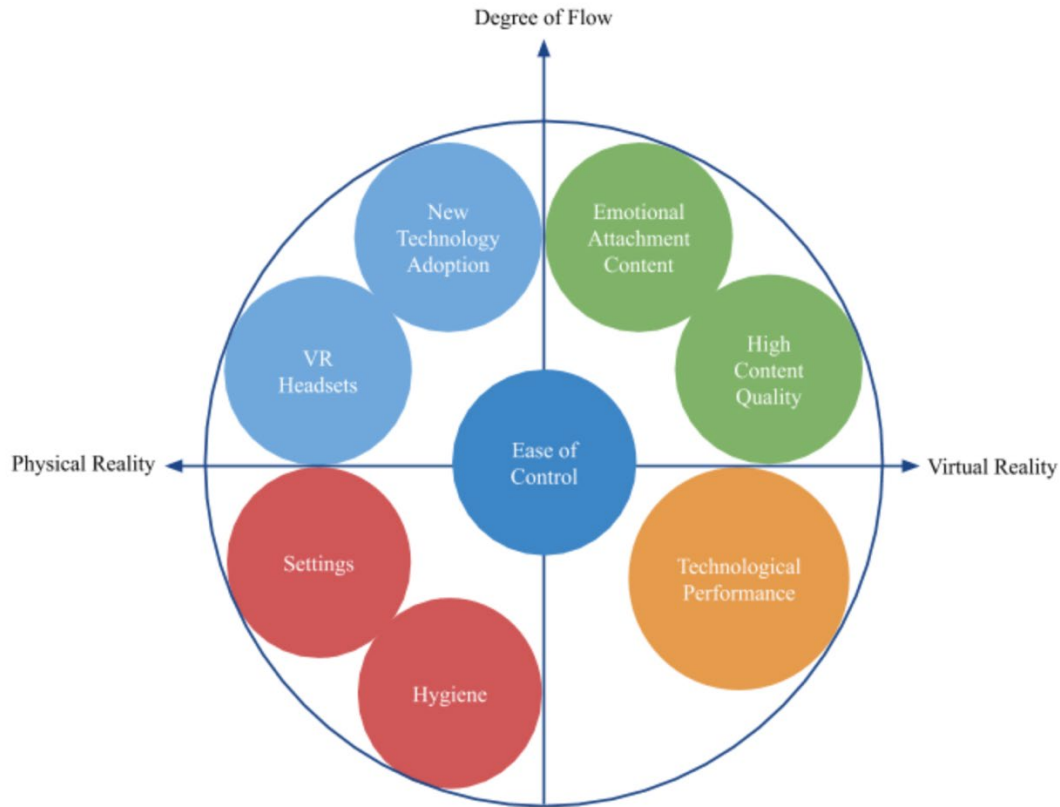
Our research has reinforced the understanding that satisfying visitor expectations and attracting return visitors only occur when theme parks deliver a solid holistic concept that integrates characters and technology while providing limitless imagination experience within the theme of the park (Lim, 2012). VR deepens the immersive experience when it is combined with quality-driven content because complete immersion does not solely depend on technology; it must also resonate with the cognitive psychology of the VR users and the sensory system. Unfortunately, while VR technology continues to advance and evolve, the quality of its content has not yet become a central focus (Kim & Han, 2017; Chang & Kim, 2018). Visitors who are already familiar with VR media at global theme park chains require higher quality content than is currently available in Korean theme parks.

Other findings from this study include the importance of the correct setting for a VR experience, whether it be roller coasters or theaters, and the need to reassure visitors as to the standards of hygiene being followed, especially concerning the headsets, which are not disposable and have to be used by many different people. A possible solution for hygiene reassurance might be providing disposable eye patches, which protect visitors from direct contact with the headset.

While this study does not cover the general perception of VR applications in theme parks, it does emphasize the ability of high-quality animation content to immerse its visitors into a fantastic, surreal, and immersive experience within a hyper-realistic space. For maximum immersion, a VR experience must appeal to the senses, imagination, and emotions. Animation can indeed offer this kind of fantastic experience, which embodies the viewer's emotional state (Huang et al., 2020). To achieve such experience, we recommend that theme parks build on the fundamentals of establishing coherent, recognizable themes using well-known animation characters to induce nostalgia and thus magnify each visitor's unique memories (Clavé, 2007; Christou et al., 2018).

Limitations and future research

The findings of this study are manifestly limited due to the current pandemic situation; the authors were only able to conduct email interviews and could include only a small number of interviewees. Although archival research supplemented the gap, participant demographics in future studies need to be wider in terms of nationality, occupation, ethnicity, age, and gender.

The limitation of this study is also due to the quality of VR content; most respondents cannot get into a flow state while enjoying VR attractions. Firstly, the findings of the study are based on the perception of managers and customers in a Korean park only. However, with the suggested VR model, a future study can be developed to further investigate other parks in Asia that share similar traits or characteristics such as sole operation and relatively smaller scale than global chains. Secondly, the theme park studied might not have a thorough understanding of VR in terms of both content development and technology adoption, therefore the VR under investigation was only a version of trial or early launch. Thus, it might generate an impression of incompletion or lacking resources to customers.

Future research on adopting VR in theme parks could further examine the connections between strong content in the context of an overall holistic approach to the immersive experience, and the psychological impact when this approach is supported by VR technology. For visitors to be immersed in the experience, theme park operators need to provide their customers with opportunities that engage their imagination; this requires appealing and clearly defined themes with a strong encircling and supporting narrative. In many cases, Korean theme park operators have yet to recognize the need for this

holistic approach.

Acknowledgments

References

Baudrillard, J. (1994). *Simulacra and simulation* (S.F. Glaser, Trans.). The University of Michigan Press.

Baudrillard, J. (1996). *Disneyworld Company* (F. Debrix, Trans.). Liberation, March 4. Ctheory.net. http://ctheory.net/ctheory_wp/disneyworld-company

Boym, S. (2001). *The Future of Nostalgia*. New York: Basic Books.

Chang, H. J., and Kim, Y. J. (2018). VR Theme Park Attraction VOLT Che Heom Yeongu [A study on VR theme park attraction VOLT experience]. *The Korean Journal of Animation*, 14(1), 132-147.

Chazaud, P. (1998). *Le Parc à Thème, Production touristique hors sol*. Cahier Espaces 58, 88-96, as cited in Clavé, S. A. (2007). *The global theme park industry*. Cabi.

Cho, J. H. (2012). Gong yeon jeonmun animation character park ui mirae [The future of performing arts specialized animation characters theme park]. *Journal of the Korea contents association*, 12(9), 146-155.

Choi, S.W. (2017). Theme park storytelling ui changjak bangbub ron yeongu [A study on the creative methodology of theme park storytelling: Focusing on Jeju Island theme park]. *Journal of the Korean Literary Creative Writing*, 16(2), 133-162.

Christou, P., Farmaki, A., & Evangelou, G. (2018). Nurturing nostalgia?: A response from rural tourism stakeholders. *Tourism Management*, 69, 42-51.

Clavé, S. A. (2007). *The global theme park industry*. Cabi.

Collmer, K. (n.d.). *Independent Animation and Memory Reconstruction*. Kimcollmer.com. http://www.kimcollmer.com/collmer_anim.pdf

Coltier, T. (1985). Les parcs à thèmes. *Espaces* 73,18-20, as cited in Clavé, S. A. (2007). *The global theme park industry*. Cabi.

Csikszentmihalyi, M. (1975). Play and intrinsic rewards. *Journal of Humanistic Psychology*, 15(3), 41-63.

Eco, U. (1990). *Travels in Hyper Reality: Essays*, (W. Weaver, Trans.). Harvest Book Series, Mariner Books; First edition.

Hernandez, M., D. (2011). A model of flow experience as determinant of positive attitudes toward online advergames. *Journal of Promotion Management*, 17(3), 315-326. https://doi.org/10.1080/10496491.2011.596761

Hine, T. (1986). *Populuxe*. Alfred a Knopf Incorporated.

Holak, S. L., Matveev, A. V., & Havlena, W. J. (2008). Nostalgia in post-socialist

Russia: Exploring applications to advertising strategy. *Journal of Business Research*, 61(2), 172–178.

Hopf, J., Scholl, M., Neuhofer, B., Egger, R. (2020) *Exploring the Impact of Multi-sensory VR on Travel Recommendation: A Presence Perspective*. ENTER 2020. In: Neidhardt, J. and Wörndl, W. (Eds.) Information and Communication Technologies in Tourism 2020, Surrey, UK. *Springer Verlag*, 169-180.

Hsu, C. H. C., Cai, L. A., & Wong, K. K. F. (2007). A model of senior tourism motivations—Anecdotes from Beijing and Shanghai. *Tourism Management*, 28(5), 1262-1273.

Huang, X. T., Wei, Z. D, and Leung X. Y. (2020). What you feel may not be what you experience: a psychophysiological study on flow in VR travel experience. *Asia Pacific Journal of Tourism Research, 1-12*. https://doi.org/10.1080/10941665.2019.1711141

Jerald, J. (2016). *The VR Book: Human-Centered Design for Virtual Reality*. ACM Books.

Kim, K. J., and Han, H. S. (2017). Gasang Hyunsil Gi Ban Contents-oe Ganuengseong-gwa Hangye—Theme Park reul Joongshiluero [Possibilities and limitations of virtual reality-based content—Focused on the theme park]. *Journal of Digital Convergence*, 15(5), 373-380.

Kim, Y. J. (2016). *Theme Park Attraction Yoohyeong Eh Ddarrun Gasang Hyunshil Doib-oe Jaesaengsan Yeongu [A study to announce the possibilities of virtual reality technologies and their integration into theme park rides and attractions]* [Master Dissertation, Department of Computer Engineering, Namseoul University]. Namseoul University Repository.

King, M. J. (1981). Disneyland and Walt Disney World: Traditional values in futuristic form. *Journal of Popular Culture*, 15(1), 116-140.

King, M. J., and O'Boyle, J. G. (2010). *The theme park: the art of space and time*. In K.M. Jackson & M. West (eds.), *Disneyland and culture*. McFarland, 5-18.

Lee, S. H. (2019). "Theme Park Content Soo Chool Woneyon Doelgut" [20 years of Lotte World Adventure… "It will become the first year of exporting the theme park content"]. ChosunBiz. https://biz.chosun.com/site/data/html_dir/2019/07/09/2019070900057.html

Levine, A. (2018). *Virtual reality: VR tech added to theme park rides*. USA Today. https://www.usatoday.com/story/travel/experience/america/theme-

parks/2018/06/20/virtual-reality-vr-tech-theme-park-rides-attractions/714563002

Lim, S. T. (2012). Theme Park Attraction ui Narrative gujowa pilyoseonge daehan yeongu [A Research on Necessity and Narrative Structure of Attractions in Theme Park—Focused on Comparison of Disney World]. *Korean Communication Design Study*, 40, 119-129.

Loveday, P.M., & Burgess, J. (2017). Flow and Pokémon GO: The Contribution of Game Level, Playing Alone, and Nostalgia to the Flow State. *E-Journal of Social & Behavioural Research in Business*, 8(2), 16-28.

Lotte World Adventure (2018). *Lotte World Adventure*. http://adventure.lotteworld.com/eng/main/index.do

Ma, S.E. (2017). *The growing number of VR rooms will become a one-time experience.* Tech M. https://www.techm.kr/news/articleView.html?idxno=3722

Marchegiani, C. & Phau, I. (2010). Away from "unified nostalgia": Conceptual differences of personal and historical nostalgia appeals in advertising. *Journal of Promotion Management*, 16, 80-95.

Muehling, D.D. & Pascal, V.J. (2012). An involvement explanation for nostalgia advertising effects. Journal of Promotion Management, 18(1), 100-118. https://doi.org/10.1080/10496491.2012.646222

Nelson, T. (2016). Impact of virtual and augmented reality on theme parks [Master Dissertation, Master of Digital Media, Ryerson University]. Ryerson University Digital Library. https://digital.library.ryerson.ca/islandora/object/RULA%3A5741/datastream/OBJ/download/Impact_of_virtual_and_augmented_reality_on_theme_parks.pdf

Oh, J. E. (2013). *A study on the characteristics of theme park attractions with applied animation content* [Doctoral Thesis, Sejong University]. Dbpia. https://www.dbpia.co.kr/journal/articleDetail?nodeId=NODE02224143

Oh, J. E. and Ma, H. (2018). Enhancing visitor experience of theme park attractions: Focusing on animation and narrative, *Journal of Advanced Research in Dynamical and Control System* (JARDCS), 04-Special Issue, 178-185.

Ocean Park (2020). *Vision and Mission*. https://www.oceanpark.com.hk/en/corporate-information/vision-and-mission

Shim, S. (2017). *Nueluh naneun VR bang, Ilheoseong Chehum Jang doena [Increasing VR rooms, would they be one-time experiences only?]*. Mobi Inside. https://www.mobiinside.co.kr/2017/03/10/shim-vr-vrlandmark

Stern, B. B. (1992). Historical and personal nostalgia in advertising text: The fin de siècle effect. *Journal of Advertising*, 21(4), 11–22.

Schwartzman, E. (1995). Main attractions. *Leisure Management*, 15 (9), 65-67.

Tom Dieck, D., Tom Dieck, M.C., Jung, T. & Moorhouse, N. (2018). Tourists' virtual reality adoption: an exploratory study from Lake District National Park. *Leisure Studies, 37(4), 371-383*. https://doi.org/10.1080/02614367.2018.1466905

Uriely, N. (2005). The tourist experience: Conceptual developments. *Annals of Tourism Research*, 32(1), 199-216.

Walden, V. G. (2018). Animation and Memory. *Animation Studies Reader*, 81-90.

Wei, W., Qi, R., & Zhang, L. (2019). Effects of virtual reality on theme park visitors' experience and behaviours: A presence perspective. *Tourism Management*, 71, 282-293.

Wells, P. (1998). *Understanding Animation*. London: Routledge. https://doi.org/10.4324/9781315004044

Yang, X., Cheng, P.-Y., Lin, L., Huang, Y. M., & Ren, Y. (2019). Can an Integrated System of Electroencephalography and Virtual Reality Further the Understanding of Relationships Between Attention, Meditation, Flow State, and Creativity? *Journal of Educational Computing Research*, 57(4), 846–876. https://doi.org/10.1177/0735633118770800

Yim, S. J. (2019). Woorinara Gasang Juengang Hyunsil Gisool Gyeongjangryeok Boonseok Mit Sisajeom [Analysis and implication of VR and AR technology competitiveness in Korea], *Korean Institute of Intellectual Property* (20).

Yoon, Y., & Uysal, M. (2005). An examination of the effects of motivation and satisfaction on destination loyalty: A structural model. *Tourism Management*, 26 (1), 45-56.