

Customer Insight in Tourism

Segments, Profiles and Personas

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The Case of Su Nuraxi

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Introduction

Virtual reality (VR) has been widely recognized as one of the most important innovations in the tourism industry (e.g. Guttentag, 2010; Lin et al., 2020), removing physical and distance barriers (tom Dieck et al., 2018), enhancing the whole visitors' experience and increasing accessibility and interest in remote and rural areas (Atzeni et al., 2022). The implementation of VR technologies (both immersive and non-immersive) in the context of cultural and heritage tourism adds new and fresh experiences, shaping visitors' satisfaction and positive behavioural intentions (e.g. Atzeni et al., 2022; Lin et al., 2020). This is specifically relevant for heritage sites in remote or rural areas and often poorly promoted in national and international tourism markets. For this reason, it is pivotal to deepen the knowledge around the main factors involved in VR tourism experiences, highlighting those that can directly and positively affect the consumer responses to the experience (i.e. satisfaction, memorability and behavioural intentions, particularly the intention to visit). In this vein, in the context of non-immersive VR heritage experiences, it has been widely recognized that authenticity affects visitors' satisfaction and behavioural intentions with regard to the heritage site (Atzeni et al., 2022). However, this has been proved in broader models where perceived authenticity has been demonstrated to exert an indirect effect on satisfaction and behavioural intentions through other variables. Therefore, further research is required to properly investigate whether this influence can also occur directly. Moreover, existing literature has neglected to investigate whether the perceived authenticity during a virtual-related visit to heritage sites might directly shape the memorability of the experience. In addition, most existing studies on tourism and VR have been focused on immersive VR technologies, with very few having focused on non-immersive technologies (e.g. Atzeni et al., 2022), which are easier to use and less costly compared to immersive gear (Pleyers & Poncin, 2020).

Therefore, this study was undertaken to explore, analyse and examine the overall VR non-immersive experiences in the cultural heritage sector, the specific role of authenticity in these kinds of experiences and to expand the existing

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literature testing how object-based and existential authenticity can predict perceptual dimensions of satisfaction, memorability and intention to visit as final outcomes of those experiences.

Literature Review

VR is usually described as a computer-generated environment that mirrors a real or artificial world (Guttentag, 2010), allowing individuals to engage in realistic situations and surroundings (Loureiro et al., 2020), with or without the need for wearable devices (Wei et al., 2019).

Since the 90s, VR technology has been adopted in the tourism sector, particularly in heritage and cultural attractions and destinations (Hudson et al., 2019), offering tourists unique and new experiences (Loureiro et al., 2020). This has given rise to a new form of tourism, known as “VR tourism”. VR tourism is defined as the “virtual representation of an actual attraction, destination, or visitor experience, designed either as an introduction to a visit or as an extension of a visitor’s previous experiences” (Kim et al., 2020, p. 70).

VR is widely recognized as a valuable tool that can enhance and enrich heritage experiences with new content; it is seen as complementary (rather than a replacement) to real-world travel (e.g. Mura et al., 2017). Recent academic research has explored the impact of VR technology on cultural tourists’ experiences (Atzeni et al., 2022; Kim et al., 2020), highlighting how it adds new value to these experiences (Errichiello et al., 2019). Furthermore, recent studies have emphasized the key role that VR plays in promoting cultural and heritage tourism products (Marasco et al., 2018; Tussyadiah et al., 2018), offering potential visitors detailed information that helps reduce uncertainties and informs their decision-making when planning in-person visits (Lee et al., 2020).

The existing literature on VR tourism highlights that tourists are more likely to use VR applications to explore museums or cultural attractions before their physical visit (e.g. Buhalis & Law, 2008; Lee et al., 2020).

Tourists today show a higher demand for authenticity in Industry 4.0 where technology-driven experiences rule the roost (e.g. VR) (Gao et al., 2022). Authenticity can be differentiated into objective and existential authenticity (Wang, 1999). To be more specific,

Objective authenticity refers to tourists’ perceptions valuing the genuineness or accurate representation of observable things such as architectural features, artifacts or rituals, while existential authenticity is related to tourists’ subjective feelings and a state of being which is activated from experiences that convey an enhanced sense of connection and self-expression.

(Atzeni et al., 2022, p. 3)

In this regard, existing VR-related tourism literature shows that the more individuals perceive the VR visit/experience as authentic, the more they are satisfied with it (Kim et al., 2017). However, this relationship has been primarily established

within broader conceptual models, in which perceived authenticity has been shown to influence satisfaction indirectly through the mediation of other variables (e.g. Atzeni et al., 2022; Tussyadiah et al., 2018; Wei et al., 2019). Therefore, there remains the need to further assess whether perceived authenticity significantly and directly influences satisfaction in the specific context of VR-related experience. This consideration forms the basis for the following hypotheses:

- H1: Object-based authenticity positively influences satisfaction.
- H2: Existential authenticity positively influences satisfaction.

Existing studies have also suggested that the higher the level of perceived authenticity in a VR-related tourism/heritage experience, the more likely the individual will be to make on-site visits (Atzeni et al., 2022). However, in the same vein, perceived authenticity was found to exert an effect on the intention to make an on-site visit both directly and indirectly, through the mediation of other variables (e.g. Atzeni et al., 2022; Kim et al., 2020; Tussyadiah et al., 2018; Wei et al., 2019). Hence, the need to further assess whether perceived authenticity significantly and directly influences the intention to make an on-site visit in the specific context of VR-related experience remains. On the basis of this, the following hypotheses are postulated:

- H3: Object-based authenticity positively influences the willingness to make an on-site visit.
- H4: Existential authenticity positively influences the willingness to make an on-site visit.

According to existing literature, offering memorable experiences is central to tourism, in which “the end goal of a tourist experience is to create lasting memories that a visitor will reminisce about and will share in respective social networks” (Andrades & Dimanche, 2014, p. 108). In this context, memorability can be conceptualized as the subjective evaluation of immediate and long-term memory effect, which is associated with the unforgettable or extraordinary aspects of the experience, while memory (a broader term when compared to memorability) can be quite ordinary or mundane (Sthapit et al., 2019). Nonetheless, memorability with a certain experience is relevant because it represents the most important personal source of information through which tourists decide whether to visit/revisit a place (Coudounaris & Sthapit, 2017). Broadly speaking, delivering memorable experiences is pivotal to building loyalty and stimulating positive online behaviour (Hung et al., 2014; Kim et al., 2010).

Recent studies highlighted that perceived authenticity could render an experience memorable. For example, in Yi et al. (2022) the existential authenticity triggered by the perceived authenticity of local cultural heritage resulted in being significantly associated with memorability. Yet, Lee et al. (2024) suggest that tourists have more memorable experiences when they perceive the site as more objectively authentic. However, whether higher levels of perceived authenticity lead to higher

memorability remains to be verified in the specific context of VR-related tourism and cultural experience, as recently pointed out (Atzeni et al., 2022). This forms the basis for the following hypotheses:

- H5: Object-based authenticity positively influences memorability.
 H6: Existential authenticity positively influences memorability.

Methodology

The “Su Nuraxi” site, located in the Barumini municipality in Sardinia (Italy), was selected as the research setting of this study. Recognized as a UNESCO World Heritage Site in 1997, it represents the most complete Nuraghe exemplar of the region. At the time of the data collection, the site could only be visited in a non-immersive VR platform, on the website: <http://virtualarchaeology.sardegna.cultura.it/index.php/it/>.

The survey instrument used for data collection was developed based on existing literature. First, respondents were asked to confirm that they had completed the VR tour guided by the Su Nuraxi site. Respondents were then asked to assess their level of agreement with a list of items used to measure the dimensions included in the analysis; their answers were captured by using a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree). The visitor’s perceived authenticity was determined through eight items: three measuring object-based authenticity and five measuring existential authenticity (Kolar & Zabkar, 2010). Visitors’ satisfaction was measured using three items (Kim & Ko, 2019; Wu et al., 2019), and the respondents’ intention to make an on-site visit was assessed through three items (Kim et al., 2020; Tussyadiah et al., 2018). Memorability was also measured using three items (Oh et al., 2007).

The survey was first developed in English language, back-translated in Italian and pretested on 20 Italians to guarantee accuracy and comprehensibility and to minimize language biases. The survey was administered online using a snowball sampling technique. According to the literature, this technique is used to easily identify and access respondents residing across different geographical areas (Wrenn et al., 2007). The snowball sampling procedure started by sending an email invitation to a list of 2,000 contacts of Italians. The email invitation suggested individuals first visit the website <http://virtualarchaeology.sardegna.cultura.it/index.php/it/> to make the non-immersive virtual visit of “Su Nuraxi”, and to then immediately fill in the online survey. The individuals were recommended to use large devices such as personal computers or laptops to experience the VR (Pleyers & Poncin, 2020).

Data collection was carried out in the period from February 2024 to March 2024 and allowed us to obtain 525 questionnaires, of which 500 were complete and usable for the statistical analysis. For the specific purpose of this study, a series of descriptive, multivariate and regression analyses were performed on data. Specifically, a set of explorative factor analyses, using principal component analysis and varimax rotation, was run for each group of items, to obtain a set of summarized scales to be used in ordinary least squares (OLS) analysis aimed at

verifying the research hypotheses. Descriptive and multivariate analyses were run using SPSS version 19.0; OLS analysis was conducted using STATA version 13.

Results

Overall, participants felt that the VR-related experience featured original and historical structures (M=6.11; SD=0.98), with most of them considering the cultural sites as original (M=6.05; SD=1.16) and genuine (M=6.21; SD=0.86) and able to provide them with a “deeper insight into local history and culture” (M=5.91; SD=1.05) and a sense of connection with the past (“I felt connected with human history and civilization”: M=5.26; SD=2.28) (Table 3.1). In general, participants

Table 3.1 Items by scores, means and standard deviation

ITEM	1-3	4	5-7	Mean	Standard deviation
	(%)	(%)	(%)		
The structures and objects I saw during the VR experience are original and from the past.	1.60	2.40	96.00	6.11	0.98
The cultural sites I visited in VR are original, not copies.	2.60	3.00	94.40	6.05	1.16
The cultural site I visited in VR is a real and genuine historical and cultural site.	0.80	1.80	97.40	6.21	0.86
This visit gave me a deeper insight into local history and culture.	2.00	5.00	93.00	5.91	1.05
During the visit, I felt the related history and culture of this place.	5.80	11.80	82.40	5.69	1.51
My visit enriched me as a person.	6.00	6.60	87.40	5.63	1.63
I liked the calm and peaceful atmosphere of this place.	3.00	10.80	86.20	5.78	1.38
I felt connected with human history and civilization.	13.60	16.60	69.80	5.26	2.28
I'm satisfied with my VR visit at this cultural site.	8.20	7.80	84.00	5.42	1.72
I am very happy to have had this experience in VR.	13.40	20.00	66.60	5.12	2.24
This VR experience has satisfied my expectations	8.40	8.40	83.20	5.44	1.85
I have wonderful memories of tourism experiences in VR.	15.20	24.60	60.20	4.85	2.33
I won't forget my tourism experiences in VR	14.00	9.40	76.60	5.14	2.33
I will remember my tourism experiences in VR	13.20	9.20	77.60	5.27	2.27
I am planning to visit the place that I observed in the tourism-related VR activity.	33.60	18.60	47.80	4.39	3.27
I intend to visit the place that I saw in the tourism-related VR activity in the near future.	9.60	15.40	75.00	5.28	2.19
I am willing to visit the place that I saw in the tourism-related VR activity soon.	43.80	16.20	40.00	3.99	3.81
I intend to invest money and time to visit the place that I observed in VR tourism.	9.40	10.00	80.60	5.35	2.13

were satisfied with their experience ($M=5.42$; $SD=1.72$) and considered it as something to be remembered over time ($M=5.27$; $SD=2.27$). Furthermore, respondents were reported to be likely to invest time and money in making an on-site visit ($M=5.35$; $SD=2.13$).

A series of exploratory factor analyses (EFAs) – more specifically, a principal components analysis (PCA) method with Varimax rotation – was conducted to reveal the underlying factors in the data and to prepare the data set for hypothesis testing. The aim was to identify latent constructs that could inform the subsequent regression models (OLS).

The Kaiser–Meyer–Olkin (KMO) indexes and Bartlett’s test of sphericity confirmed that the results are appropriate to explain the data (Table 3.2).

Overall, a total of five factors were identified: “Object-based authenticity”, “Existential-based authenticity”, “Satisfaction”, “Memorability” and “Intention to make an on-site visit”. Cronbach’s alpha was then calculated to test the reliability of the extracted factors; all values are higher than 0.8, thus suggesting that the factors are reliable (Table 3.2).

Object-based authenticity (79.77% of total variance; Kaiser–Meyer–Olkin = 0.74) includes three items devoted to measuring VR-tourists’ perceptions on genuineness and accurate representation of visible elements (architecture, structure, objects, artifacts, etc.). Existential-based authenticity (68.19% of total variance; Kaiser–Meyer–Olkin = 0.81) contains five items related to VR-tourists’ personal emotions and state of being triggered by the virtual-related visit, which fosters a deeper sense of connection and self-expression. Satisfaction (86.82% of total variance; Kaiser–Meyer–Olkin = 0.76) includes three items assessing the level of satisfaction with the virtual visit. Memorability (88.52% of total variance; Kaiser–Meyer–Olkin = 0.73) contains three items aimed at measuring how much the virtual visit contributed to shaping an experience that is likely to last over time in visitors’ minds. Finally, visit intention (73.01% of total variance; Kaiser–Meyer–Olkin = 0.76) comprised four items measuring the extent to which individuals are likely to make an on-site visit.

Having identified the different factors in the data, a series of regression analyses was carried out to empirically test the hypotheses formulated in this study. These models were designed to investigate whether the two dimensions (objective and existential) of perceived authenticity directly, positively and significantly influence satisfaction, memorability and intention to make an on-site visit. Several control variables were included in the OLS models to prevent any distorting effects of the independent variable. In particular, for each regression model, socio-demographic control variables (gender, age, place of residence, occupation and marital status) and variables related to the visitors’ prior experiences (with VR and previous visits to the site) were incorporated. All analyses were conducted using the robust option in Stata, which ensures that the calculated standard errors are robust to heteroscedasticity.

Table 3.3 provides the main results of the regression analyses and shows that statistics confirm all the hypotheses, thus proving that both objective- and

Table 3.2 Factor and item description

Objective authenticity

(79.77% of total variance; Kaiser–Meyer–Olkin = 0.74; Chi-squared: 765.24 – $p < 0.001$; Cronbach’s alpha = 0.872)

- OBJ1 The structures and objects I saw during the VR experience are original and from the past.
- OBJ2 The cultural sites I visited in VR are original, not copies.
- OBJ3 The cultural site I visited in VR is a real and genuine historical and cultural site.

Existential authenticity

(68.19% of total variance; Kaiser–Meyer–Olkin = 0.81; Chi-squared: 1,416.96 – $p < 0.001$; Cronbach’s alpha = 0.882)

- EXI1 This visit gave me a deeper insight into local history and culture.
- EXI2 During the visit, I felt the related history and culture of this place.
- EXI3 My visit enriched me as a person.
- EXI4 I liked the calm and peaceful atmosphere of this place.
- EXI5 I felt connected with human history and civilization.

Satisfaction

(86.82% of total variance; Kaiser–Meyer–Olkin = 0.76; Chi-squared: 1,151.97 – $p < 0.001$; Cronbach’s alpha = 0.923)

- SAT1 I’m satisfied with my visit to this cultural site.
- SAT2 I am very happy to have had this experience in VR.
- SAT3 This VR experience has satisfied my expectations.

Memorability

(88.52% of total variance; Kaiser–Meyer–Olkin = 0.73; Chi-squared: 1,368.91 – $p < 0.001$; Cronbach’s alpha = 0.935)

- MEM1 I have wonderful memories of tourism experiences in VR.
- MEM2 I won’t forget my tourism experiences in VR.
- MEM3 I will remember my tourism experiences in VR.

Intention to make an on-site visit

(73.01% of total variance; Kaiser–Meyer–Olkin = 0.77; Chi-squared: 1,200.88 – $p < 0.001$; Cronbach’s alpha = 0.877)

- VI1 I am planning to visit the place that I observed in the tourism-related VR activity.
- VI2 I intend to visit the place that I saw in the tourism-related VR activity in the near future.
- VI3 I am willing to visit the place that I saw in the tourism-related VR activity soon.
- VI4 I intend to invest money and time to visit the place that I observed in VR tourism.

Table 3.3 Ordinary Least Squares (OLS) results

<i>Independent V</i>	<i>Dependent Var</i>	<i>Coefficient</i>
Objective authenticity	Satisfaction	0.38102***
Objective authenticity	Memorability	0.25803***
Objective authenticity	Visiting intention	0.21799***
Existential authenticity	Satisfaction	0.66009***
Existential authenticity	Memorability	0.53277***
Existential authenticity	Visiting intention	0.39674***

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

experiential-based authenticity positively and significantly influence satisfaction, memorability and visit intention.

Conclusion and Managerial Implications

This study was conducted to examine the impact of objective-based and existential-based perceived authenticity within the context of a non-immersive VR experience at a cultural heritage site, namely the Su Nuraxi UNESCO site (Sardinia, Italy). More precisely, the aim was to analyse whether the two dimensions of authenticity can positively, significantly and directly influence satisfaction, memorability and the intention to make an on-site visit.

The results of the OLS analysis suggest that both object-based authenticity (i.e. the accuracy and realism of virtual representation) and existential authenticity (i.e. the personal meaning and emotional resonance of the experience) have a statistically significant, positive and direct impact on all the three dependent variables (satisfaction, memorability and intention to make an on-site visit).

These conclusions are significant for both researchers and practitioners. On the one hand, they reinforce existing research that underscores the central role of authenticity in shaping the visit experience at cultural heritage sites (Damjanov & Crouch, 2019; Jang et al., 2012; Kim et al., 2020), while on the other, they provide further insights into the scientific debate specifically devoted to proving this in the context of a non-immersive VR. Furthermore, our findings contribute to existing literature, indicating that both objective-based and existential authenticity can positively and directly influence memorability, a relationship that has been overlooked until now.

From a managerial perspective, this study provides useful insights for policymakers, destination marketers, site managers, and technology developers attempting to increase the effectiveness of marketing and promotion operations using VR. First, they should focus on creating virtual-related experiences that not only replicate tangible elements in a trustable manner (perceived objective authenticity) but also craft immersive and emotionally engaging narratives, helping users to create an intensive and emotional resonance and connection with the content (perceived existential authenticity). All of this can help to make the visitor's experience much more satisfying and memorable. More broadly, these virtual environments should be designed to convey authentic, cultural and historical features of the site and associated identity, heritage, artifacts, symbols and folklore, possibly leveraging on the effective use of sounds, images, interactive speeches, online games and residents as voice-overs. Hence, virtual tours could be used to build and maintain relationships with target markets and consolidate their intentions to make an on-site visit to both the heritage site and its location, thus confirming the power of VR as an effective destination marketing tool (Griffin et al., 2023). In this vein, virtual tourism could portray not only the heritage site, but also a wider array of local attractions and information about the "inner" identity and authenticity of the place. To achieve this, the most vigorous networking among heritage managers,

policymakers, destination marketers and tourism businesses should be created within the destination. Finally, this study provides practitioners with a measurement instrument which can systematically assess over time where and how the visitor experience delivered by non-immersive VR platforms can be enhanced to make the visit more satisfactory and long-lasting in the individual's mind and to encourage their willingness to make on-site visits.

Besides its theoretical contributions and managerial implications, several limitations warrant consideration and highlight areas for future research. First, the use of a convenience sample and the focus on a single heritage site restrict the generalizability of the findings. To strengthen the external validity of the results, future studies should attempt to use different and more accurate sampling strategies. Moreover, future studies should aim to replicate the data collection across different heritage contexts and geographical regions to cross-validate the findings and to check for their robustness.

Second, this study focused attention on objective and existential authenticity, thus not considering other types of authenticity (e.g. interpersonal, constructive) that were judged unsuitable for a VR context. Moreover, similarly to most of the existing VR-related literature, we measured objective and existential authenticity relying on the scales originally devoted to assessing authenticity in in-person experiences. Future studies might attempt to understand how authenticity is specifically defined and understood in the specific case of virtual settings (Gao et al., 2022).

Third, this study tested the direct influence of perceived authenticity over satisfaction, memorability and willingness to make an on-site visit, thus neglecting to consider/incorporate other variables (e.g. motivations, emotions, flow state, telepresence, involvement) that might have a moderating and/or mediating effect on the relationship between perceived authenticity and post-experience evaluations. Along these lines, for example, future studies could devote their attention to checking for a potential moderator effect that the geographical distance (i.e. distance between the place of residency and the geographical location of the heritage site) might have on the respondents' intention to make an on-site visit. Future studies might also consider models that incorporate other behavioural outcome measures (e.g. willingness to pay for a virtual tour, intention to recommend the experience to others, consumer intensification). Future studies might attempt to include these variables in expanded theoretical models, aiming to provide a more comprehensive understanding of the factors and dynamics that shape a virtual visit experience and the related consumer responses, thus providing further insights into how virtual experiences can drive meaningful and long-term benefits for cultural heritage sites and surrounding locations. Lastly, this study focused its attention on the use of non-immersive VR technology. Future research could aim to examine heritage sites that can be visited both with an immersive and non-immersive platform with the aim to cross-compare the effects that both types of VR technologies can generate in terms of consumer responses (i.e. perceived authenticity, memorability, behavioural responses).

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References

- Andrades, L., & Dimanche, F. (2014). Co-creation of experience value: A tourist behaviour approach. In M. Chen and J. Uysal (Eds.), *Creating experience value in tourism* (pp. 95–112). CABI.
- Atzeni, M., Del Chiappa, G., & Mei Pung, J. (2022). Enhancing visit intention in heritage tourism: The role of object-based and existential authenticity in non-immersive virtual reality heritage experiences. *International Journal of Tourism Research*, 24(2), 240–255. <https://doi.org/10.1002/jtr.2497>
- Buhalis, D., & Law, R. (2008). Progress in information technology and tourism management: 20 years on and 10 years after the internet: The state of eTourism research. *Tourism Management*, 29(4), 609–623.
- Coudounaris, D. N., & Sthapit, E. (2017). Antecedents of memorable tourism experience related to behavioral intentions. *Psychology & Marketing*, 34(12), 1084–1093.
- Damjanov, K., & Crouch, D. (2019). Virtual reality and space tourism. In *Space tourism* (Vol. 25, pp. 117–137). Emerald.
- Errichiello, L., Micera, R., Atzeni, M., & Del Chiappa, G. (2019). Exploring the implications of wearable virtual reality technology for museum visitors’ experience: A cluster analysis. *International Journal of Tourism Research*, 21(5), 590–605. <https://doi.org/10.1002/jtr.2283>
- Gao, B. W., Zhu, C., Song, H., & Dempsey, I. M. B. (2022). Interpreting the perceptions of authenticity in virtual reality tourism through postmodernist approach. *Information Technology & Tourism*, 24(1), 31–55.
- Griffin, T., Guttentag, D., Lee, S. H., Giberson, J., & Dimanche, F. (2023). Is VR always better for destination marketing? Comparing different media and styles. *Journal of Vacation Marketing*, 29(1), 119–140.
- Guttentag, D. A. (2010). Virtual reality: Applications and implications for tourism. *Tourism Management*, 31(5), 637–651. <https://doi.org/10.1016/j.tourman.2009.07.003>
- Hudson, S., Matson-Barkat, S., Pallamin, N., & Jegou, G. (2019). With or without you? Interaction and immersion in a virtual reality experience. *Journal of Business Research*, 100, 459–468.
- Hung, W.-L., Lee, Y.-J., & Huang, P.-H. (2014). Creative experiences, memorability and revisit intention in creative tourism. *Current Issues in Tourism*, 19(8), 763–770.
- Jang, S. S., Ha, J., & Park, K. (2012). Effects of ethnic authenticity: Investigating Korean restaurant customers in the US. *International Journal of Hospitality Management*, 31(3), 990–1003.
- Kim, D., & Ko, Y. J. (2019). The impact of virtual reality (VR) technology on sport spectators’ flow experience and satisfaction. *Computers in Human Behavior*, 93, 346–356.
- Kim, J. H., Ritchie, J. R. B., & McCormick, B. (2010). Development of a scale to measure memorable tourism experiences. *Journal of Travel Research*, 20(10), 1–14.

- Kim, M. J., Bonn, M., & Lee, C. K. (2017). Seniors' dual route of persuasive communications in mobile social media and the moderating role of discretionary time. *Asia Pacific Journal of Tourism Research, 22*(8), 799–818.
- Kim, M. J., Lee, C. K., & Jung, T. (2020). Exploring consumer behavior in virtual reality tourism using an extended stimulus-organism-response model. *Journal of Travel Research, 59*(1), 69–89.
- Kolar, T., & Zabkar, V. (2010). A consumer-based model of authenticity: An oxymoron or the foundation of cultural heritage marketing? *Tourism Management, 31*(5), 652–664.
- Lee, H., Jung, T. H., tom Dieck, M. C., & Chung, N. (2020). Experiencing immersive virtual reality in museums. *Information & Management, 57*(5), 103229.
- Lee, S., Kim, M., & Kim, H. (2024). Relationality of objective and constructive authenticities: Effects on existential authenticity, memorability, and satisfaction. *Journal of Travel Research, 63*(1), 195–214.
- Lin, L. P. L., Huang, S. C. L., & Ho, Y. C. (2020). Could virtual reality effectively market slow travel in a heritage destination? *Tourism Management, 78*, 104027.
- Loureiro, S. M. C., Guerreiro, J., & Ali, F. (2020). 20 years of research on virtual reality and augmented reality in tourism context: A text-mining approach. *Tourism Management, 77*, 104028.
- Marasco, A., Buonincontri, P., van Niekerk, M., Orłowski, M., & Okumus, F. (2018). Exploring the role of next-generation virtual technologies in destination marketing. *Journal of Destination Marketing & Management, 9*, 138–148.
- Mura, P., Tavakoli, R., & Pahlevan Sharif, S. (2017). 'Authentic but not too much': Exploring perceptions of authenticity of virtual tourism. *Information Technology & Tourism, 17*(2), 145–159.
- Oh, H., Fiore, A. M., & Jeong, M. (2007). Measuring experience economy concepts: Tourism applications. *Journal of Travel Research, 46*(2), 119–132.
- Pleyers, G., & Poncin, I. (2020). Non-immersive virtual reality technologies in real estate: How customer experience drives attitudes toward properties and the service provider. *Journal of Retailing and Consumer Services, 57*, 102175.
- Sthapit, E., Del Chiappa, G., Coudounaris, D. N., & Björk, P. (2019). Tourism experiences, memorability and behavioural intentions: A study of tourists in Sardinia, Italy. *Tourism Review, 75*(3), 533–558.
- tom Dieck, M. C., & Jung, T. (2018). A theoretical model of mobile augmented reality acceptance in urban heritage tourism. *Current Issues in Tourism, 21*(2), 154–174.
- Tussyadiah, I. P., Wang, D., Jung, T. H., & tom Dieck, M. C. (2018). Virtual reality, presence, and attitude change: Empirical evidence from tourism. *Tourism Management, 66*, 140–154.
- Wang, N. (1999). Rethinking authenticity in tourism experience. *Annals of Tourism Research, 26*(2), 349–370.
- Wei, W., Qi, R., & Zhang, L. (2019). Effects of virtual reality on theme park visitors' experience and behaviors: A presence perspective. *Tourism Management, 71*, 282–293.
- Wrenn, B., Stevens, R. E., & Loudon, D. L. (2007). *Marketing research. Text and cases*. Haworth Press.
- Wu, H. C., Ai, C. H., & Cheng, C. C. (2019). Virtual reality experiences, attachment and experiential outcomes in tourism. *Tourism Review, 75*(3), 481–495.
- Yi, X., Fu, X., Lin, V.S., & Xiao, H. (2022). Integrating authenticity, well-being, and memorability in heritage tourism: A two-site investigation. *Journal of Travel Research, 61*(2), 378–393.