THE INFLUENCE OF AWE AND AUGMENTED REALITY (AR) FOR DRIVING TOURISTS' LOYALTY TOWARDS RELIGIOUS DESTINATIONS

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ABSTRACT

Religious tourism is one of the most important touristic segments globally. Yet, the cognitive and emotional processes shaping destination loyalty in this context, and the impacts of Augmented Reality (AR) technology were not fully investigated. This study takes a unique approach to examine how awe influences recommendation and revisiting intentions through the mediation of rational (e.g., authenticity) and affective (e.g., emotional) mechanisms. Furthermore, our research unveils the role of AR for reinforcing the future intentions of tourists towards a religious site.

Introduction

Heritage tourism sites are among the most visited (Chung et al., 2018), and represent an important reflection of history and culture. As technologies evolve, with an increasingly disruptive presence in tourism, they contribute towards the sector's sustainable development (UNWTO, 2022), and to meet its challenges, by promoting enhanced, more remarkable experiences (Del Vecchio et al., 2018). Technologies enable tourists to become more independent in planning, evaluating, and sharing activities, and are essential for engaging digital native millennials (Floros et al., 2021).

Experiences are enhanced by interactive technologies, particularly when using devices comprising augmented (AR) and virtual (VR) reality, location-based services, or artificial intelligence, which are emerging themes in literature (Del Vecchio et al., 2018; Duy et al., 2020; Nascimento & Loureiro, 2023). In particular, AR applications are becoming more common in heritage tourism papers, in varied settings such as traditional market squares, national forest parks and art galleries (tom Dieck et al., 2018). In post-pandemic times, the importance given to these technologies increased, due to concerns about the deterioration of heritage sites (Jiang et al., 2022). Scholars demonstrated how AR can enhance heritage touristic experiences (Jiang et al., 2022), by promoting an enjoyable learning environment and richer interactions (Graziano & Privitera, 2020; tom Dieck et al., 2018).

However, even though religion is one of the most important and representative motives for culture and heritage tourism, driven by a sense of awe about the religious experience, the mechanisms through which loyalty intentions are formed in religious tourism are

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understudied (Lu et al., 2017). Moreover, the effects of technology for amplifying (or diminishing) awe and other emotional states are not investigated yet (Yan & Jia, 2021). To that end, this study aims to examine (a) how awe can drive intentions to revisit and/or recommend a given destination, and (b) if AR can significantly influence such outcomes.

Background and Conceptual Model
The main purpose of a cultural tourist is to *consume* a destination's (in)tangible cultural attractions, which may include features related to local cuisine, cultural heritage, music, art, history, spiritual and religious beliefs (UNWTO, 2022). These experiences allow visitors to interact with places, artifacts, and activities that represent a destination's history, and can be transmitted either physically or digitally, onsite and offsite (Bec et al., 2019). But beyond the quest for cultural or historical knowledge, heritage religious sites, in particular, are visited to fulfill a desire for spiritual and religious experiences. Religionmotivated tourism is the oldest form of tourism (Zamani-Farahani & Eid, 2016), attracting crowds of pilgrims or secular tourists to religious sites (Yan & Jia, 2021). Some scholars mention a sense of Awe among visitors in religious settings (Lu et al., 2017), with such strong emotions arising from natural surroundings for some, whereas for others could be inspired by the religious ambiance. Considering that tourists using interactive technologies tend to develop more positive and satisfying impressions (Balakrishnan et al., 2021) and, consequently, increased destination loyalty (López et al., 2018), to which extent could technologies influence the outcomes of religious touristic experiences?

AR differs from VR due to the mixture of real and virtual environments, allowing users to perceive virtual elements overlaid with reality (Loureiro & Nascimento, 2021). As AR/VR allow people to fully emerge in the history and culture of destination sites (Chung et al., 2018), these technologies may alter the perceived quality and authenticity (Trunfio et al., 2022), increasing the memorability of the visit (Jiang et al., 2022). Yet, contrarily, some suggest that technology can negatively impact the touristic experience (Clark et al., 2022), as in religious sites, pilgrims are expected to focus on worship and spiritual substance. Facing *awe* is one of the most desirable experiences for tourists (Coghlan et al., 2012). It can be experienced under different situations, being central to religion, politics, nature, and arts (Keltner & Haidt, 2003), often linked to feelings like admiration, inspiration, and elevation. Described as a central part of the religious experiment (Lomax et al., 2011; Lu et al., 2017; Preston & Shin, 2017), awe emerges in literature describing the human-God relationship, leading people to embrace new life values (Keltner & Haidt, 2003).

The experience's intensity may vary according to the type of tourist and extent to which is involved - *cognitively* or *emotionally* - with its significance (Lindberg et al., 2019). It is necessary to assess how awe can induce altered perceptions and feelings among tourists. Concerning the cognitive effect of eliciting awe, a commonly assessed outcome is the perception of authenticity regarding touristic ambiances. Tourists experiencing awe feel a higher desire to embrace a destination's culture, with a more authentic experience (Cetin & Bilgihan, 2016). Authenticity is often represented by a bidimensional construct (Wang & Lyu, 2019): object-based (OA) and existential authenticity (EA). Kolar and Zabkar (2010) defined *object-based authenticity* as the desire to visit the true original sites or artifacts. *Existential authenticity* would be applicable if experiencing the original sites is unfeasible

(Wang & Lyu, 2019), referring to the need to get connected with one's true self and escape everyday life (Kolar & Zabkar, 2010).

Based on the above, the following is hypothesized (see Figure 1):
H1: The Awe experience has significant positive effects on tourists' object based (H1a) and existential (H1b) authenticity perceptions

Figure 1. Proposed model.
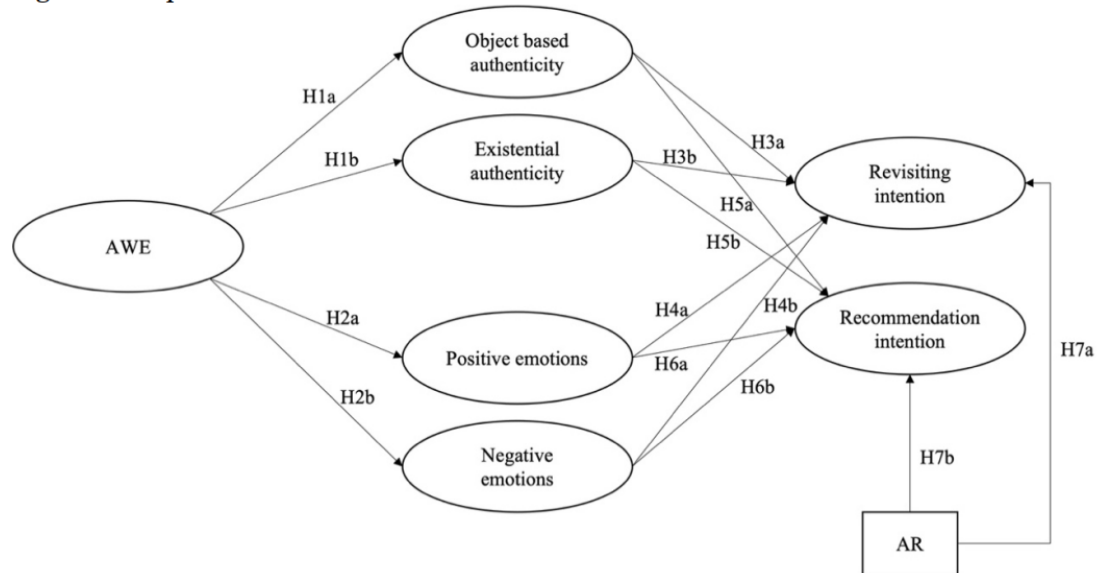
Awe is not provoked by an opportunity for a material reward, but instead by informationrich stimuli (Shiota et al., 2007), which can cause strong emotions. The arousal of altered emotional states is under-studied in marketing literature (Nascimento & Loureiro, 2022), and described as a result of awe, expressed in terms of submission (e.g., *to something more powerful*), confusion, surprise, wonder, amazement, admiration, inspiration, and vastness (Keltner & Haidt, 2003; Piff et al., 2015; Yaden et al., 2019). Overall, awe is characterized as an experience associated with positive emotions (Shiota et al., 2007; Stellar et al., 2017) and satisfaction (Lu et al., 2017). Conversely, it may also lead to negative emotions when people feel small, powerless or confused, in the need for accommodation (Keltner & Haidt, 2003). In this study, we focus on positive emotions (PE) as a derivative of awe. Contrarily, we hypothesize that negative emotions (NE) have a negative relation with awe:
H2: The Awe experience has, respectively, significant positive and negative effects on tourists' positive (H2a) and negative (H2b) emotions

Concerning the outcomes, loyalty is defined as the "willingness to continue patronizing a firm over the long term, purchasing and using its goods and services on a repeated and preferably exclusive basis, and voluntarily recommending the firm's products to friends and associates" (Lovelock, 2001, p. 151). Loyalty captures both revisiting and recommendation intentions in tourism (Lu et al., 2022; Zhang et al., 2018). Cognitive perceptions and affects are two major components of tourists' evaluations (Kim et al., 2012), as described for religious tourism. Furthermore, social and sensory dimensions of

cultural experiences are the ones exerting higher influence on tourist intentions (Stanovic et al. (2021). As authenticity is central to heritage and religious experiences and positively affects revisiting intentions (Yeoman et al., 2007; Zhou et al., 2022; Kolar & Zabkar, 2010), it is plausible to assume that authenticity and emotions mediate the effect of awe:

H3: Tourists' object based (H3a) and existential (H3b) authenticity perceptions have significant positive effects on their revisit intentions
H4: Tourists' positive (H4a) and negative (H4b) emotions have, respectively, significant positive and negative effects on their revisit intentions

The intention to recommend is also examined as a direct outcome of authenticity (Chen et al., 2020) and memorable touristic experiences (Kim, 2018), so we hypothesize that:

H5: Tourists' object based (H5a) and existential (H5b) authenticity perceptions have significant positive effects on their recommendation intentions
H6: Tourists' positive (H6a) and negative (H6b) emotions have, respectively, significant positive and negative effects on their recommendation intentions

Finally, assuming that AR experiences can magnify memorable experiences (Graziano & Privitera, 2020), we expect that higher intentions are observed for the AR-exposed group:

H7: AR-exposed tourists exhibit significantly greater revisiting (H7a) and recommendation intentions (H7b), compared to non-exposed tourists

Methodology

Data were collected in Fátima, Portugal, one of the top destination choices worldwide for religious tourism. After a famous apparition of the Virgin Mary in 1917, a shrine was built in the area, attracting almost 5 million pilgrims yearly (SF, 2023). Data were collected through an online survey distributed to visitors recruited at the shrine and at the 'O Milagre de Fátima' (*Fátima's miracle*) interactive museum, which is an innovative site where tourists experience Fátima's apparitions through a seamless immersive AR experience (visitPortugal, 2022). A total of 158 valid responses were obtained, 71 (45%) from tourists that were exposed to AR, and the others acting as a control group. The online questionnaire was distributed in English, pre-tested and evaluated by six native speakers and further verified by a certified English teacher. The items used five-point Likert scales, relying on empirically validated scales from literature [4] to measure Awe (Yaden et al., 2019), Authenticity (Kolar & Zabkar, 2010), Emotions (Perugini & Bagozzi, 2001), Revisiting (Zhang et al., 2018) and Recommendation (Olya et al., 2019) intentions.

Results

The model yielded an overall satisfactory fit[5]. The constructs' internal consistency was adequate with acceptable levels of reliability and validity. Composite reliability values were >.60 and all Cronbach alphas >.70. Convergent validity was ensured with significant loadings and item reliabilities >.70. Average variance extracted (AVE) was above .50 for all constructs. Discriminant validity was supported based on Fornell and Larcker's criterion, with the square root of each construct's AVE higher than the correlation coefficient with

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[4] Demographic data were collected and controlled for to verify the absence of bias in results.
[5] $\chi 2 = 102.473$; $\chi 2/DF < 3$; $CFI = 0.938$; $SRMR = 0.06$. Awe was treated as a second-order variable represented by sixdimensions: time, self-loss, connectedness, vastness, physiological and accommodation

any other construct. Results suggest that Awe exerted a significant positive influence on both OA (β = 0.791; t = 16.202; p<0.001) and EA (β = 0.615; t = 9.761; p<0.001), in support of H1. As expected in H2, Awe also significantly affected PE (β = 0.899; t = 25.732; p<0.001) and NE (β = -0.802; t = -16.816; p<0.001), respectively in a positive and negative way. With regards to predicting Revisiting Intention, EA (H3a: β = 0.734; t = 29.691; p<0.001) and PE (H4a: β = 0.408; t = 11.987; p<0.001) were confirmed as significant determinants, mediating the influence of Awe. However, the impacts of OA (β = -0.009) and NE (β = 0.074) were not significant (H3a and H4b not supported). Concerning the predictors of Recommendation Intention, results show that OA (β = 0.207; t = 5.967; p<0.001) and EA (β = 0.635; t= 22.12) exerted significant and positive impacts (p<0.001), in support of H5. NE also affected Recommendation Intention significantly and negatively (β = -0.207; t = -5.883; p<0.001), as hypothesized under H6b. However, contrarily to H6a, PE did not significantly affect Recommendation Intention (β = 0.062). A total of 90.6% and 93.6% of variance in, respectively, the intentions to recommend and revisit Fátima were accounted for.

About the impacts of AR (H7), significantly different values were observed, between exposed and non-exposed individuals, for some variables. The most relevant theoretically refer to outcome variables, both of which were affected by AR. Results confirmed that the exposed group displayed significantly higher intentions to revisit (β = 0.538; t = 2.997; p<0.01) and recommend (β = 0.428; t = 2.417; p<0.05) Fátima, demonstrating the potential of immersive technologies for affecting tourists' responses.

The empirical results obtained in this study present several theoretically important perspectives, which require further empirical investigation: (a) the influence of Awe on perceived authenticity and emotions, (b) the mediating effects of perceived authenticity and emotions, (c) the influence of AR over the outcome variables (e.g., loyalty).

Keywords: Religious tourism, Cultural tourism, Heritage tourism, Augmented reality, Awe, Authenticity

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