

Technology and Religious Tourism

ENTREPRENEURSHIP AND TECHNOLOGY IN TOURISM AND HOSPITALITY

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Technology and Religious Tourism: Emerging Trends, Cases and Futuristic Perspectives

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Preface

In an era where technological advancements continually reshape various facets of our lives, the intersection of technology and religious tourism emerges as a particularly compelling field of study. This book, *Technology and Religious Tourism*, delves into the evolving relationship between these two dynamic domains, offering a comprehensive exploration of how digital innovations are transforming religious travel and pilgrimage experiences.

The confluence of technology and religious tourism is not merely a trend but a profound shift that is altering how people experience the sacred and the spiritual. As we navigate through the chapters of this book, we will uncover a tapestry of insights that reveal the transformative impact of technology on religious practices and tourism.

Chapter 1, 'Virtual Reality and Pilgrimage Tourism: An Exploratory Study,' sets the stage by examining how virtual reality (VR) can offer digital pilgrimage experiences. This chapter explores the dual nature of VR pilgrimages, where virtual interactions may either serve as preliminary steps to physical journeys or stand alone as profound spiritual experiences. By analysing the potential and limitations of VR in pilgrimage tourism, this chapter provides a foundation for understanding how immersive technologies might redefine the essence of sacred travels.

Following this, Chapter 2, 'Divine Realms in Digital Space: Exploring Augmented Reality as a Catalyst for Religious Heritage Management,' investigates the role of augmented reality (AR) in preserving and enhancing religious heritage. This chapter highlights how AR can superimpose digital information onto real-world religious sites, enriching visitor engagement and supporting the conservation of these invaluable cultural assets.

In Chapter 3, 'Role of Technology for Sustainable Growth of Religious Tourism,' the focus shifts to the role of technology in fostering sustainability within the religious tourism sector. This chapter discusses how technological interventions can mitigate the adverse effects of tourism while promoting sustainable practices that benefit both the environment and local communities.

Chapter 4, 'Transforming Visitors' Experiences and Site Management: Role of Technology in Enhancing Services at Religious Tourism Destinations,' explores how digital tools can enhance visitor experiences and improve site management. By examining various technological solutions, such as mobile apps and crowd management systems, this chapter provides practical insights into optimising religious tourism operations and ensuring a sustainable visitor experience.

The role of AR in enhancing visitor engagement and experiential management at religious heritage sites is further examined in Chapter 5, 'Augmented Reality's Impact on Visitor Engagement and Experiential Management in Religious Heritage Sites'. This chapter demonstrates how AR can offer immersive and interactive experiences that deepen visitors' understanding of religious and historical significance.

Chapter 6, 'Digital Pilgrimage: Navigating the Intersection of Technology and Sacred Journeys,' offers a broader perspective on how digital platforms and technologies are reshaping religious travel. By analysing current trends and ethical considerations, this chapter provides a critical look at how technology influences pilgrimage planning and execution.

In Chapter 7, 'Smart Technology Integration in Religious Tourism Destinations: Enhancing Visitor Experiences and Destination Management,' the focus is on smart technologies and their impact on enhancing authenticity and accessibility at religious tourism sites. This chapter offers a comprehensive review of how these technologies can improve destination management practices and visitor experiences.

The bibliometric analysis presented in Chapter 8, 'A Study on Sustainability Concerns in Religious and Spiritual Tourism and the Intervening Role of ICT: A Bibliometric Review,' sheds light on the evolving trends in sustainability and the role of information and communication technology (ICT) in this field. By analysing extensive research data, this chapter provides valuable insights into the intersection of sustainability and digital technology in religious tourism.

Chapter 9, 'Faith in the Digital Age: Exploring the Changing Diaspora of Religious Tourism', investigates the multifaceted impact of technology on religious tourism destinations. This chapter explores how emerging technologies, including VR, AR, and blockchain, are reshaping spiritual journeys and cultural exchanges.

In Chapter 10, 'Cyber Sanctuaries: Exploring the Intersection of Virtual Reality and Spiritual Experience', the focus is on the ethical implications and potential of VR to create digital spaces for spiritual experiences. This chapter discusses the benefits and challenges of integrating VR into religious practices and the broader implications for digital spirituality.

Chapter 11, 'The Role of Social Media as a Promotional Tool in Developing Religious Tourism in Odisha', examines how social media influences the promotion and growth of religious tourism. By analysing case studies and frameworks for effective social media marketing, this chapter highlights the potential of online platforms to enhance the visibility and appeal of religious destinations.

The integration of AR in cultural interpretation and visitor engagement at religious heritage sites is further explored in Chapter 12, 'Analysing the Role of Augmented Reality in Enhancing Cultural Interpretation and Visitor Engagement at Religious Heritage Sites'. This chapter provides a detailed analysis of how AR technology can enrich the visitor experience and contribute to cultural preservation efforts.

Chapter 13, 'E-Tourism and Religion: Online Platforms and Religious Tourism Marketing,' investigates how e-tourism and ICT are revolutionising the

marketing and planning of religious travel. This chapter explores the transformative impact of online platforms on pilgrimage planning and the ethical considerations associated with digital advancements.

Finally, Chapter 14, 'Tourists' Experiences of Pilgrimage Tourism at Velankanni, Tamil Nadu: A Netnographic Analysis,' offers a detailed examination of tourist experiences at a prominent pilgrimage site. By analysing online reviews and feedback, this chapter provides insights into the strengths and challenges of the destination from a tourist perspective.

Chapter 15, 'Harnessing Digital Technologies for Cultural Heritage Revival: Analysing Ayodhya's Cultural and Religious Landscape in the Post-Temple Construction Era,' explores how digital technologies are revitalising cultural heritage in Ayodhya. This chapter assesses the role of virtual tools and digital innovations in enhancing public engagement and understanding of Ayodhya's religious and cultural significance.

Lastly, Chapter 16, 'Promoting a Buddhist Temple: Harnessing Online Platforms for Religious Tourism – The Case of Maha Vihara Buddha Maitreya Bali, Denpasar,' examines the potential of digital information technology in promoting religious tourism for Buddhist temples in Bali. This chapter assesses the effectiveness of online platforms in increasing tourist visits and enhancing the visibility of religious sites.

Together, these chapters offer a rich and diverse examination of how technology is intersecting with and transforming religious tourism. This book aims to provide scholars, practitioners, and policymakers with valuable insights into the dynamic relationship between technology and sacred travel, helping to navigate the opportunities and challenges of this evolving field.

We hope this compilation serves as a valuable resource for understanding and harnessing the power of technology to enrich and sustain religious tourism experiences around the world.

Pankaj Kumar Tyagi
Neha Sharma
Pramendra Singh
and
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Chapter 1

Virtual Reality and Pilgrimage Tourism: An Exploratory Study

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Abstract

Virtual reality (VR) pilgrimages can be undertaken for many different reasons, ranging from idle curiosity to the need for psychological or informational preparation for a ‘real’ (earthly) pilgrimage. Depending on the circumstances and individual motivations, these experiences can be profoundly transformative, enlightening, and rewarding, both emotionally and spiritually. This chapter seeks to explore what VR pilgrimage tourism can involve, in addition to examining its pros and cons. An exploratory study was developed to expand the scope of the discussion and provide new insights into the use of VR in pilgrimage tourism, offering new interpretations and perspectives. This reflexive work employs diverse approaches and meanings with the objective of defining conceptual analytic dimensions and producing a framework for potential use in future studies. This chapter discusses how VR, digital tools, and immersive technologies might impact religion and pilgrimage tourism practices, recognizing that, for many, religion serves as a keystone of psychological well-being and an essential aspect of social identity. Understanding the implications of immersive technologies is

essential, as they may significantly disrupt conventional tourism practices. Finally, insights are offered into major debates and questions surrounding the authenticity of VR-based experiences in this context.

Keywords: Virtual reality; pilgrimage tourism; religious tourism; virtual experience; immersive technologies

Introduction

This chapter aims to present the applications and the value of virtual reality (VR) in the development of Pilgrimage Tourism. This is a relatively new trend that was enhanced during COVID-19 pandemic lockdown. Moreover, it seems clear that we are on the verge of a ‘new era’ where people experience themselves spiritually with the help of digital gadgets. ‘Such experiences can be perceived as more self-mediated and, thus, more individualised, liberated and radical than terrestrial experiences of a similar sort’ (Hill-Smith, 2011, p. 236).

Therefore, the main objective is to expand the scope of the discussion and bring new insights into the use of VR in pilgrimage tourism, suggesting new interpretations and perspectives.

Currently, several solutions have been contributing to religious tourism and pilgrimages also having experiences based on VR, which allow religious practice without limitations of time and physical travel (Ameli, 2009).

The use of VR can be especially relevant in the management and planning of pilgrimages by pilgrims, as religious heritage goes far beyond sacred sites and built heritage of a religious nature, such as religious music and various works of art (Chatzopoulou, 2022) and itineraries. In this sense, managers of religious tourism destinations need to think about the strategies they should adopt and adopt a model for applying VR to pilgrimages.

Research Methodology

As an exploratory study, the objective of this chapter is to develop a discussion on the use of VR for pilgrimage. According to Mollick (2014), one should go far from hypothesis formal testing and seek to analyse the key issues around the core concepts that we are addressing, in this chapter, VR, pilgrimage and tourism and their links to the theory. Therefore, the aim of this study is to provide an extended view of VR and pilgrimage tourism and with it broaden the discussion around this theme. Concretely, in this study, we used a semi-systematic secondary research method based on the existent literature, according to the approach to literature reviews developed by Snyder (2019). However, several disadvantages exist when we conduct an exploratory study because being an interpretation regarding a novel reality, we only have the possibility of advancing with some hypothesis without the chance of testing them. In essence, this is a reflexive work, one that uses diverse approaches and meanings with the objective of defining

conceptual analytic dimensions and consequently producing a framework that could be used later in other studies (Martins et al., 2023). Thus, the idea is that this framework can serve as a guide and support to future research (Ravitch & Riggan, 2016).

Technology and Cultural Tourism

An advantage of VR applied to tourism is achieving a greater preservation of cultural and natural heritage that according to Parry (2007) potentialises the application of Digital Heritage (DH). Technologies can be used to digitalise cultural expression archives but can also go further beyond and allow cultural transmission, education, and local community development. It is true that technology cannot replace human interaction, but it can nevertheless support innovative ways of cultural transmission (Alivizatou-Barakou et al., 2018).

The digital technological advances in recent years related to the cultural heritage field has led to the creation of an intelligent research field, one that makes possible the enhancement of the tourists experience through the provision of interactive and personalised user experiences, personalisation techniques, recommender systems (RS) and cultural users eXperience (CUX). The RS is a software that helps cultural visitors (while digital users) to explore, compare and choose destinations that fit their preferences after a through and through analysis of how users have interacted in the past with the places they visited along with explicit preferences (Konstantakis et al., 2020). Meanwhile, and according to Konstantakis et al. (2022), CUX is a user interface (UI) design approach for creating digital cultural products that provide meaningful and relevant cultural experiences to users and is growing into a vital component of human-computer interaction (HCI). The last studies about CUX have shown that visitors tend to bring their own cultural features and preferences while visiting cultural destinations, and therefore, obtaining a unique virtual experience (de Souza & Bernardes, 2016; Konstantakis et al., 2022). These are only some of the examples on how technology is evolving and impacting cultural tourism. Nevertheless, as far as we know, excluding VR (developed in the next point), the use of the other technologies here described is still very incipient in the religious tourism segment; incipient but not completely absent.

Religious Tourism and Pilgrimage

Religion encloses structured systems of beliefs, practices, rituals, and symbols directed to connect individuals with the sacred or transcendent. On the other hand, religiousness belongs to motivations towards a supernatural power, going from organisational established beliefs to self-experiences (Sobihah Abdul Halim et al., 2021).

Tourism and religion have long been linked, with travel being undertaken with religious motivations (Collins-Kreiner, 2020b), and religious tourism is one of the segments in the world's tourism market that has grown faster in the 21st century in comparison to many others (Tabash et al., 2023). Diversely from other tourism

products that may degrade over time (Korov & Šostar, 2024), religious beliefs and practices continue to be resilient and sustainable, having even a considerable impact on rural development (Lin et al., 2021). In literature, religious tourism is often compared to pilgrimage and spiritual tourism, nevertheless, religious tourism has a much broader significance (Iliev, 2020). Thus, religious tourism can be defined as displacements to tourist places where visitors have the chance to experience religious events or sites, or the products they embedded in them, such as art, traditions, and architecture (Heydari Chianeh et al., 2018).

On the other hand, the concept of pilgrimage has its roots in the late Middle Ages. Pilgrimage is a facet of any religious practice, and it involves journeys to sacred places, however, research shows that there is a wide range of motivations that explain this displacement far from just spiritual enrichment and/or divine blessings (Iliev, 2020). Fedele (2012) came forward with the concept of ‘new pilgrims’, i.e. spiritual tourists, those who visit shrines for reasons that are diverse from those of traditional religious pilgrims. Kujawa (2017, p. 193) went further and expressed that ‘spiritual tourism is prompted more by a desire for a spiritual experience and personal growth, rather than the devotional aspects prescribed by traditional religions and their motives for pilgrimages’. As we can see there are many possible perspectives for defining pilgrimage, nevertheless, under a contemporary view, pilgrimage can be defined according with King (2023, pp. 8–9) as

a personal but relational process, involves an intentional setting out on a journey to very particular places, deemed sacred, special or holy; and while there, or on route there, or both, embodying significant physical endurance and participating in a spectrum of non-ordinary, bodily gestures. In such places, this combination of movement and ritual, for many pilgrims, and including explicitly religious ritual for some, alone and with others, facilitates the pilgrim to become more attuned in their bodily selves, more rooted to the ground beneath their feet, yet simultaneously more alive to others and to the firmament of transcendence.

We must enhance, that in the present times, pilgrimage centres have become important destinations. But ‘despite their global importance and growing popularity, there is still a lack of the knowledge about the complexity, multidimensionality, and diversity of journeys to pilgrimage centres’ (Liro, 2021, p. 79). It seems that pilgrimage is nowadays in a rejuvenation phase, it is losing its religious attributes that since its origin characterised it. At the same time, it is developing new identities, such as secular pilgrimage, spiritual tourism, religious tourism, church tourism, dark tourism, and transformational tourism (Collins-Kreiner, 2020a; Kiely, 2013).

VR and Religious Tourism

According to Lee and Kim (2021), the global market size of VR in the tourism sector has reached a staggering amount of 74.6 million USD in 2018 and was

estimated to reach USD 304.4 million by 2023, with a compound annual growth rate (CAGR) of 32.5%. The size of the market and its potential growth have then contributed to turning VR in tourism into one of the most interesting and challenging topics of research.

Although the interest in applying VR in tourism dates mainly from the 1990s (*see* Cheong, 1995; Hobson & Williams, 1995; Musil & Pigel, 1994). The most common definition of VR was presented by Guttentag (2010, p. 638) and describes the concept ‘virtual reality’ as ‘the use of computer-generated 3D environment [...] that one can navigate and possibly interact with, resulting in a real-time simulation of one or more of the user’s five senses’. The author considers that the possibility to move around is mandatory, but interaction in itself can be facultative.

Technology has deeply transformed the tourist industry since they affect how destinations perceive and consume (Lee & Kim, 2021). The present times trend emphasises the realism and the social characteristics of the virtual experience. VR system has the ability ‘to create the illusion that the user is inhabiting the virtual environment with someone else’ (Sterna & Zibrek, 2021, p. 1) – an illusion of non-mediation (Thomas et al., 2024). Moreover, when considering only VR, researchers that have done studies only considering the tourist’s point of view showed that this sort of technology brings many benefits such as: accessibility, heritage preservation, entertainment, images and information availability, education, and an enhancement of the tourism experience (Merckx & Nawijn, 2021).

VR Pilgrimage – Conceptualising the Framework

Conceptually, the tourism experiences can be interpreted in multiple ways (Knobloch et al., 2014), and Decroly (2015, p. 6) goes further saying that ‘the notion of experience’ can be compared to ‘holding of a potluck dinner whose content researchers define according to their wants’.

Virtual pilgrimage is emerging as an alternative to the physical pilgrimage. VR is not a novel thing but its entrance into the sacred realm is relatively new. The virtual world created with the help of technology is beginning to affect how people approach pilgrimages, and the impact will always be perceived as positive or negative depending on each one’s perspective (Dwivedi & Narula, 2020). This virtual simulation of pilgrimages allows great freedom to the pilgrims by customising spaces according to their needs. ‘The virtual space overcomes the limitation of time and place, and makes parallel interaction possible, since religiosity in different places and times comes true for religious people, and the noted limitation would be minimized or removed’ (Ameli, 2009, p. 221).

The model that one proposes (Fig. 1) seeks to synthesise all the main ideas here debated. In it, it is evident that management, marketing, and technology expertise are essential tools for the success of any pilgrimage centre destination, at least, for those that want to develop and implement the VR. It is also possible to see that for us, centralisation is also key for the development and implementation strategy.

The Pilgrimage Centre (Destination) Management Organisation – The pilgrimage management organisation is the ‘place’ where everything is analysed,

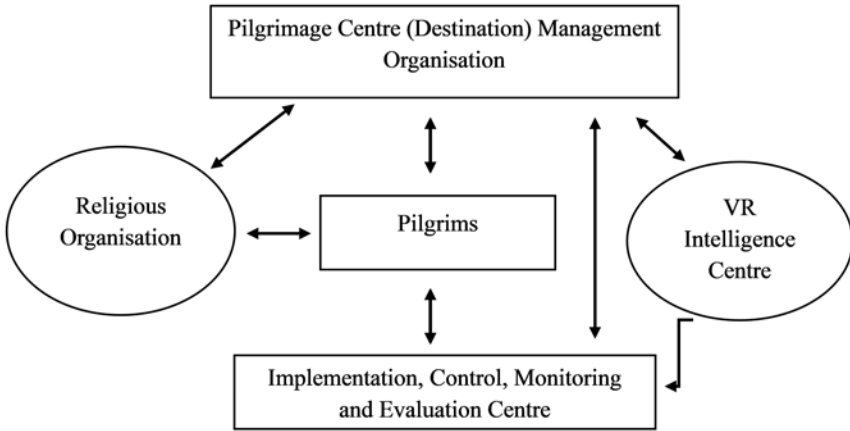


Fig. 1. Developing VR in a Pilgrimage Context. *Source:* Authors' work.

planned, and decided about the VR platform and its development – everything that has to do with the intended digital transformation. The interest of this destination's organisation is reaching their target audience, which will be enabled by the platform. It will be responsible for communicating constantly with the intelligence centre and with the implementation, control, monitoring, and evaluation centre, with the VR intelligence centre and with the religious organisation that supervises the pilgrimage centre so that the maintenance and development of the VR platform be made through evidence-based decisions.

The VR Intelligence Centre – It will be responsible for researching and creating sustainable products/services that further on will be enabled in the platform by the implementation centre. Furthermore, it will also study and create marketing and educational strategies that after implemented will ensure that pilgrims will seek to have sustainable practices in the virtual, and hopefully in the real world too. It will also develop tools that will allow us to collect data based on the activities of pilgrims both in virtual and physical worlds.

Implementation, Control, Monitoring and Evaluation Centre – This centre will develop (with the assistance of the intelligence centre), the VR platform. It will also monitor the satisfaction of pilgrims to optimise the impacts on the environment and consequently will work to increase the benefits to local communities. On the other hand, this is a key department because destinations need data to thrive in the virtual world with success, as Peceny et al. (2019, p. 9) say, 'it allows for the provision of evidence-based decisions and the development and analysis of future scenarios'.

Religious Organisation – This will develop with the pilgrimage destination management those that can be considered the most iconic services/products in the destination. In there, the pilgrim will then have the chance to decide if they will visit and/or experiment immersively with these in the VR or if they want to experiment with the services/products in their actual framing and/or other local

services/products. Being in close contact with the pilgrims they also can be an important source of data.

Pilgrims – Pilgrims are those who will use the platform and enjoy the services/products offered in the VR. Furthermore, this digital world allows all pilgrims to have a different experience. The idea is that they will enjoy the experience so much that they feel the need to experiment it in the ‘real’ world.

As a conclusion for this section, we can say that developing VR, in a pilgrimage context, according to [Beck et al. \(2019, p. 591\)](#)

creates a virtual environment (VE) by the provision of synthetic or 360-degree real life captured content with a capable VR system, enabling virtual experiences that stimulate the visual sense and potentially additional other senses of the user for the purpose of planning, management, marketing, information exchange, entertainment, education, accessibility or heritage preservation, either prior to, during or after travel.

An Analysis of ‘Best’ Practices

The Shrine of Our Lady of Walsingham during the pandemic promoted pilgrimage and had a lot of acceptance, so during the pandemic it was clear that there was acceptance of virtual pilgrimage and the desire to experience pilgrimage. This is possible through applications, live broadcasts, among other solutions ([Dunn-Hensley, 2020](#)).

On the other hand, virtual pilgrimage highlights that it is vital that religious tourism and pilgrimages become accessible ([Chatzopoulou, 2022](#); [Dunn-Hensley, 2020](#)). In such a way that Notre-Dame de Paris (France), the Cathedral Church of Saint Peter in Exeter (England) and the Cathedral of Santa María de la Sede in Seville (Spain) offer visitors an experience that allows them to have access to the inaccessible, but also doing things that would otherwise be impossible. But they also have an educational and sacred experience, using VR, sometimes combined with artificial intelligence, so virtual cathedrals give the illusion of being a real visit ([Allal-Chérif, 2022](#)).

In Romania, the Bihor360° website was created, which allows visits to various tourist attractions, as well as wooden churches. This project demonstrated that the use of 3D models, panoramic images, the use of audio, and photographs to create VR which requires greater awareness among the population and local authorities about this type of religious heritage ([Caciora et al., 2021](#)).

In Jordan, the possibility of creating virtual museums of a religious nature, whether Islamic or Christian, was studied. The results demonstrated that their creation allows access to places that would otherwise be difficult to access, thus overcoming obstacles related to religious privacy, but they would also be a tourist promotion strategy for religious events ([Al-Makhadmah, 2020](#)).

[Mahadevan et al. \(2023\)](#) agree that VR allows ancient temples or pilgrimage centres to be enhanced and valued through the interpretation of these places.

In the same sense, [Taher Tolou Del et al. \(2022\)](#) consider that VR can promote historical sites and at a religious level the IMAM Khomeini Mosque (Tehran), especially when combined with storytelling. Other examples around the world support the same vision, such as the Shulin Ji'an temple (Taiwan) ([Lo et al., 2021](#)).

Results and Discussion

In this chapter, we tried to understand how VR and religious tourism are understood by different authors. Therefore, on the one hand, it appears that technology does not replace human interaction, on the other hand, it can support innovative forms of transmission as indicated by [Alivizatou-Barakou et al. \(2018\)](#). In this sense, [Ameli \(2009\)](#) advocates that religiosity in different places and times is realised for religious people, and limitations on pilgrimage, for example, would be minimised or eliminated. Thus, VR was used to promote sanctuaries and make them accessible as nominated by [Chatzopoulou \(2022\)](#) and [Dunn-Hensley \(2020\)](#).

For [Caciora et al. \(2021\)](#), the use of VR combined with religious tourism can enhance religious heritage. Therefore, the proposed model in [Fig. 1](#) seeks to relate the different aspects mentioned as a way of developing a better experience of using VR by pilgrims.

But, although we can pinpoint numerous reasons for experimenting VR, the truth is that this digital tool has also a dark side. Hence, the potential of VR to cause harm to its users is well established, with negative collateral effects having been reported since in the early 1990s ([Lavoie et al., 2021](#); [Sherman & Judkins, 1992](#)). Perhaps the most well-documented and prevalent negative consequences linked to the utilisation of VR are vertigo, nausea, or dizziness, but other negative symptoms also exist and include, disorientation, tiredness, headaches, sweating, and eyestrain ([Davis et al., 2015](#)). These side effects according to the literature fall under the umbrella concept of cybersickness or simulator sickness ([Mittelstaedt et al., 2019](#)).

As a result, although the immersive nature of VR improves experiences in many circumstances, some researchers highlight the need to comprehend the potential negative emotional aftermath that can result from the use of this technology ([Chang et al., 2020](#)). Some research as the one of [Lavoie et al. \(2021\)](#) call for an ethical concern related to VR use.

Conclusion

VR has been used in religious tourism over the last few years, and it was during COVID-19 that this implementation peaked. However, it is mainly used as a form of virtual visitation to religious spaces, but also as a form of pilgrimage. On the other hand, there is still no defined model for implementing VR in religious tourism to enhance destinations, although there are several locations that have implemented this technology in their spaces. As well as the processing of data on the use of VR, as a way of better understanding the behaviour of this pilgrim. Future research related to VR in the tourism sector still needs to address more in-depth issues like the position and orientation in the room and telepresence, i.e.