# Virtual Reality as a Travel Promotional Tool: Insights from a Consumer Travel Fair

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Abstract Although the potential of virtual reality (VR) as a technology in tourism has been recognised for more than twenty years, (Horan, Hosp Inf Technol Assoc-Electron J 1:1-7, 1996; Williams and Hobson, Tourism Manage 16:423-427, 1995), we have witnessed a renewed interest in both academic and business circles recently (Jung et al., Information and communication technologies in tourism 621–635, 2016). From a marketing perspective, VR offers the potential to build a sensory experience of a tourism destination or attraction, and can be used in sales contexts to complement, or indeed, supplant traditional promotional tools such as brochures. The immersive nature of the experience offers a deeper and more emotional assessment of the tourist offering from the consumer's perspective, and an opportunity to build imagery and influence the consumer decision-making process from the marketing communicator's viewpoint. Research was conducted into consumers' attitudes and experiences of 360-degree VR videos, which have been developed by Fáilte Ireland (Ireland's domestic marketing and product development agency) to showcase a number of activities along the Wild Atlantic Way. Using a quantitative research approach constructed along the dimensions of the Technology Acceptance Model (TAM) (Davis, MIS quarterly 319-335, 1989), 129 surveys were carried out at two consumer travel shows. Respondents' VR experience was rated positively across all demographic cohorts and against the selected dimensions of the TAM model. Using VR to promote the Wild Atlantic Way was found to greatly increase the likelihood of visiting the destination itself in the future. This offers very encouraging prospects for destination marketers. This research contributes to a deeper understanding of how VR can aid in destination marketing and promotion, and potential limitations to its wider deployment.

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### 1 Introduction

Information and communication technology (ICT) has been the subject of significant academic research in tourism, as the impacts of the shift to eTourism (Buhalis and Law 2008) have been felt since the Millennium (Kim et al. 2008; Liang et al. 2016). Coupled with the mobile internet influence, it is clear that much has changed in industry and user technology in the international tourism landscape, and that the ways tourism services are consumed and accessed have altered (Ukpabi and Karjaluoto 2016).

One emerging field of considerable interest is virtual reality (VR). In the general commercial arena, recent intense activity by major IT companies has seen massive investments in both hardware and software development, and acquisitions in the augmented reality (AR) and virtual reality (VR) space, with a projected market value of some  $\in$ 80bn. by 2025 (Goldman Sachs 2016).

Specific to tourism, a number of opportunities for virtual reality are now evident (Guttentag 2010), among which is the area of marketing and promotion. This is the primary lens through which the authors explored the use of VR in a tourism context. A structured self-completion survey, using convenience sampling, was administered to 129 respondents (attendees at Ireland's largest consumer travel show, Holiday World) subsequent to their trial of a VR experience. The VR experience showcased a range of 360-degree videos of Ireland's *Wild Atlantic Way*, developed by the agency charged with domestic marketing and product development, Fáilte Ireland.

Further, this study uses a conceptual framework developed by Davis (1989) known as the Technology Acceptance Model whereby determinants of user acceptance of technology were examined. Having previously been extensively validated in travel and tourism, TAM was deemed to offer suitable influential constructs. In particular, the dimensions of perceived usefulness and perceived ease of use, as well as behavioural intention were adopted by the authors to inform the study of the efficacy of VR in the context of the marketing and promotion of Ireland's *Wild Atlantic Way*. The behavioural intention dimension examined respondents' willingness to use VR again, and to recommend it to others. A key dimension of the research was to investigate the extent to which the VR experience enhanced likelihood to visit the featured region. Selected external variables were also examined, including demographics.

# 2 Overview of the Concept of Virtual Reality

Virtual reality is not a new phenomenon. Williams and Hobson (1995, p. 423) attribute the coining of the phrase to Myron Kruger in the mid-1970s. Its potential throughout many strands of society has been debated since, and particularly over the last 25 years, with Williams and Hobson (1995, p. 425) commenting that, even then, it had "the potential to revolutionalise the promotion and selling of tourism". But what is this technology, and how has it developed in tourism since then?

### 2.1 Definitions and Perspectives of VR

A myriad of definitions now exists of VR, based on a range of different technologies, concepts and theories. Guttentag (2010, p. 638) in exploring definitional challenges in his article, points to "navigation", "immersion" and "interaction" as key features of VR which are commonly included by various authors. Williams and Hobson (1995, p. 424) draw on the typology presented by Cruz-Neira et al. (1994) of the components of a VR experience, in purporting that visualisation components, immersion and interactivity are central. Expanding the criteria of immersion, Gutiérrez et al. (2008) define VR according to its characteristics of providing both physical immersion and psychological presence. In these contexts, the user is isolated from the real world to some degree, ranging from semi-immersion to full immersion, where there is no interaction with the outside world. Sanchez-Vives and Slater (2005, p. 333) tease out that presence entails having a sense of being inside the virtual environment, rather than where the user's body is actually physically located. To achieve this presence, various technologies are used, including head-mounted displays (HMDs) such as Samsung Gear, Oculus Rift and HTC Vive, or handheld controllers such as Oculus Touch.

Guttentag (2010, p. 638) proposes a definition of VR as "the use of a computer-generated 3D environment...that one can navigate and possibly interact with, resulting in real-time simulation of one or more of the user's five senses". He sees user-control as a key feature of VR. So, although definitions differ, there is a broad agreement that the ability to "navigate" and "interact with" the virtual environment is often deemed a crucial characteristic (Wiltshier and Clarke 2015, p. 5). Sherman and Craig (2003, p. 6) draw together these elements in describing the four key features that a VR experience consists of, namely, "a virtual world, immersion, sensory feedback (responding to user input), and interactivity".

Does this exclude those technologies where the user has no control over the VR experience? This is a growing point of debate, as technologies such as 360-degree video, the featured technology in this study, emerge in the hospitality and tourism arena. Guttentag (2010) asserts that this technology does not fulfil the necessary characteristics mentioned above to be considered true VR. Thus, it offers a more passive experience to the user than the classic definitions of VR.

However, 360-degree video does blur the line between interactive and passive VR, and furthermore, is an important early stage technology in the VR family, as it offers a gateway to more fully interactive VR (Stuart 2016; Jacobious 2016). These applications are now considered VR-type applications, demonstrating that there is a widening interest in the industry to use VR-based instruments to promote products and services.

Wiltshier and Clarke (2015) propose a more flexible interpretation of VR so that a wider array of technologies could be explored in their own study. For the research undertaken here, the authors adopted the same understanding.

## **3** Virtual Reality in Travel and Tourism Marketing

Guttentag's (2010, p. 640) exploration of the use of VR in tourism identifies six areas as presenting valuable potential: planning and management, entertainment, education, accessibility, heritage preservation and marketing. Although all these areas present worthy opportunities for research and a growing evidence base, the latter area is the lens through which the authors chose to explore the use of VR in a tourism context.

# 3.1 Past and Current VR Developments in Hospitality and Tourism

It has been established that tourism researchers and tourism professionals now have a keen interest in the phenomenon of VR as applied to the tourism sector (Cheong 1995; Sussmann and Vanhegan 2000; Williams and Hobson 1995). Guttentag (2010, p. 646) sees the opportunities that VR offers the tourism sector as quite significant. But this is a renewed interest, rather than a brand new interest, as we can point to Second Life as a communication and promotional tool which has been used in travel and tourism since its launch in 2003 (Mascho and Singh 2013). Indeed, VR simulators date back to 1962 with the Sensorama Simulator, a machine that presented the user with 3D images, smells, sounds, wind and vibrations (Spence and Gallace 2011). Currently, in line with the surge in general commercial interest, VR is becoming a popular choice for hotels, restaurants, travel agents and attractions, with many adding a virtual tour as a component of their promotional mix (Guerra et al. 2015). VR has recently been successfully used by Marriott as a part of their suite of developments in this arena. Beginning their journey to redevelop their brand promise, Travel Brilliantly, in 2014 with their Teleporter programme, they 'transported' their guests to different corners of the globe via a fully immersive, 4-D sensory experience (emarketer.com 2015). This was followed by their VR Postcards innovation, and the VRoom Service programme. That VR has worked for Marriott as smart brand-building, and a very realistic opportunity to play and win, is evident in coverage by brand analysts (Adamson 2015).

The focus of this research was on a series of 360-degree videos, a format growing rapidly in popularity in tourism promotion. Similarly to Fáilte Ireland, Visit Scotland has embraced VR through an app that allows prospective tourists to 'visit' 26 attractions without leaving home. ScotlandVR recreates the country using a mix of 360-degree video, and animated maps, menus and photos. The Chief Executive of Visit Scotland comments that "far from being a fad or gimmick, VR is revolutionising the way people choose the destinations they might visit, by allowing them to 'try before they buy' and learn more about the country in a unique and interactive way" (Roughhead 2017).

The Tourism Authority of Thailand, has also released four 360-degree videos, including imagery of an elephant sanctuary, as have Tourism Australia, whose videos depict aquatic and coastal travel experiences, including snorkelling in the Great Barrier Reef (Levere 2017).

# 3.2 VR's Potential Role in the Consumer Decision-Making Process

A number of authors have previously examined VR's potential as a promotion and marketing aid in tourism. Cheong (1995) explored the early days of VR use in the travel industry from both the developer's planning aspect and the sceptic's angle. But it is the role of VR in the decision-making process, and specifically the activities around information-searching that have received the most attention.

Gretzel and Fesenmaier (2003) promoted the benefits of using immersive virtual reality technologies to build a sensory experience into marketing communication strategies, with a particular aim of supporting the information-searching and decision-making process for the consumer. In anticipation of their visit to a destination, tourists develop an image of a destination that is made up of previous experiences, word of mouth, press articles, different advertising measures and common beliefs (Baloglu and Brinberg 1997, as cited in Buhalis 2000). It is the "experiential" source (Kotler et al. 2017, p. 156) which offers the most scope in terms of examining and using the product (destination) in advance. For services such as a destination or holiday choice, this presents a compelling case. The long-standing acceptance of fundamental service characteristics of tourism include the understanding that production and consumption are simultaneous (Kotler et al. 2017), so that any ability to try out the product (destination) in advance is nulled. In essence, VR allows the user or tourist to experience a sample of the destination (Sussmann and Vanhegan 2000; Giordimaina 2008). Guttentag (2010) also points to the key role of information in decision-making, the positive role played by VR in the information-setting process, and its advantages in terms of creating destination imagery and information which is both realistic and experiential.

Wiltshier and Clarke (2015, p. 4) pinpoint a number of distinct stages in consuming a tourism product—pre-experience activities, engagement in the experience through value sources, and post-experience outcomes. Providing sensory information at the pre-experience stage could be deemed especially valuable in promotion activities, in contrast to the limits presented by descriptive information (Gratzer et al. 2004). This need to consider both the cognitive and affective aspects of image-building (Hyun and O'Keeffe 2012, p. 30) was deemed central to this study.

## 3.3 VR's Advantages in Building Image and Experience

Creating a compelling and distinctive image in the competitive tourism marketplace has always been a challenge. Berger et al. (2007) cited the benefits of using VR in terms of the realism of the experience, and the three-dimensional representations of the destination. The experience model proposed by Pine and Gilmore (1999) pinpointed the central roles of the customer (user) in experience creation, and considering their work is a reminder of the importance of the customer in experiences. Wiltshier and Clarke (2015, p. 2) also state that an experience occurs "whenever companies intentionally construct it to engage customers".

The concept of destination image is extensively examined by Hyun and O'Keeffe (2012) in their exploration of a telepresence model. A variety of aspects of image are considered, and in asserting the link between users feeling present in a virtual destination, and a positive influence on conation ("directed effort by the user to directly engage with the destination") (p. 30), they highlight the potential for VR in image-building. Further, they point to evidence that virtual conation can translate into actual purchase (p. 34) presenting clear opportunities for VR.

In the era of a growing need for information to be experiential (Stamboulis and Skayannis 2003), by implementing VR into their promotional strategies, destination management organisations (DMOs) have the possibility to influence customers immensely in their travel destination choice.

Despite this attention and activity, research around VR in tourism remains a long way from maturity. Cabello et al. (2011, p. 1) comment that "using virtual world technologies as a new means of information for potential tourists is a big challenge where the methods, goals and needs still need to be exactly identified". Some years on, this remains the case. Significant potential exists, but practices using VR are varied and many commercial forays into the area are still early-stage.

As examples of VR in tourism and hospitality grow, it becomes more important to differentiate practices between industry sectors. What works for DMOs will not necessarily be effective for hotels. Wan et al. (2007) advise that it is critical to consider the characteristics of the targets (theme parks/destinations/hotels) when using VR as an advertising or promotion tool, as results differ. Thus, a 'one-size-fits-all' approach should be avoided.

#### 4 Technology Acceptance Model

Users adopt emerging technologies in a variety of ways. Many studies have set out to explain these patterns of behaviour, and construct models and frameworks to convey such adoption patterns

The Technology Acceptance Model (TAM) was used by the authors to inform the study. TAM was originally developed by Davis (1989) as a means of studying and, indeed, predicting, user acceptance of information technology. Two main constructs were hypothesised—"perceived usefulness" and "perceived ease of use" (Davis 1989, p. 319), which are theorised to be fundamental determinants of user adoption of information technology. Kim et al. (2008) also describe perceived usefulness and perceived ease of use as "influential determinants" (p. 393). Davis describes a system high in "perceived usefulness" as one for which a user "believes in the existence of a positive use-performance relationship", and "perceived ease of use" as "the degree to which a person believes that using a particular system would be free of effort" (p. 320).

Other theories have also attempted to examine and predict the various determinants of user technology acceptance. The Diffusion of Innovation theory (Rogers 1995) takes a multi-disciplinary approach in examining five key characteristics that may affect adoption of technologies—relative advantage, complexity, compatibility, trialability and observability (Kim et al. p. 396). Through these constructs, innovation adoption is viewed as a process of uncertainty reduction and information gathering (Wang and Qualls 2007). The Theory of Reasoned Action (TRA) (Ajzen and Fishbein 1980) further attempts to explain the relationship between user beliefs, attitudes and system use (technology adoption), and is itself the foundation of the TAM.

The TAM model has since been built upon extensively from multiple disciplinary vantage points and has received widespread empirical support (Kim et al. 2008), through studies such as adoption of mobile technology, (Kim et al. 2008), online games (Hsu and Lu 2004) and virtual worlds (Huang et al. 2013).

# 4.1 Technology Acceptance Model in Travel and Tourism

In the context of travel and tourism, the notion that TAM is a useful and practical framework for understanding consumers' acceptance of ICT has been validated on many occasions. Ukpabi and Karjaluoto (2016) in their synthesis of the theories, frameworks, models and antecedents of applications of ICT in tourism, found that TAM was the most commonly used model, either as a sole research framework, or in combination with other models (p. 6). They also remind us that adoption is a critical success factor for the deployment of ICTs in tourism, and due to the dynamism of the industry, the literature requires constant updating (p. 2). Understanding tourists' use of virtual worlds has been validated by Huang et al.

(2013, p. 498) using TAM in their study of Second Life. Exploring user acceptance of 3D virtual worlds in travel and tourism marketing, they found positive and significant impacts between perceived ease of use and perceived usefulness on the experience of enjoyment. Wang and Qualls (2007) used the TAM at an organisational level to consider hospitality organisations' adoption of technology, enhancing the theoretical foundation provided by TAM by adding organisational constructs.

Although the determinants proposed by TAM are not the only variables which might be of interest, "they do appear likely to play a central role" (Davis 1989, p. 323). Coupled with the convergence among a wide range of studies (Ku and Chen 2015; Sahli and Legoherel 2015; Lin 2010; Ku 2011), the authors deemed these suitable and valuable paradigms for this study.

Despite an extensive literature search on TAM in the specific context of VR, this area remains almost wholly unexamined.

#### 5 Methodology

Travel trade and consumer shows are long established as part of the tourism promotion mix. In 1990, Pizam pointed to their role in encouraging attendees to buy tourism products and visit tourist destinations. Both trade and consumer exhibitions are major sales promotions opportunities for travel and tourism firms, from state tourism agencies to small independent operators.

Despite the acknowledged economic contribution and popularity of trade and consumer exhibitions as a key component of the MICE sector, research on such shows and exhibitions has been sporadic at best. It seems that as consumer purchasing has moved more towards digital channels, many aspects of exhibitions have become notably under-researched (Mair 2010). Trialing VR at a consumer show therefore offered the authors both a very convenient platform to investigate VR as a destination promotional tool, and an opportunity to gather insights from the consumer show.

Holiday World Show is Ireland's leading consumer travel show. Founded in 1989, the show runs in two locations annually and attracts over 1,000 travel professionals and over 50,000 visitors. It could be described as a "vertical show"..."organised to promote a single or related industry category to a particular audience" (Motwani et al. 1992, p. 39).

## 5.1 Research Approach

This research was carried out at both the Belfast and Dublin Holiday World shows from 20–22 January 2017 (Belfast) and 27–29 January 2017 (Dublin). Using convenience sampling, respondents were administered a self-completion survey

after they had tried the VR experience. A total sample of 129 responses was obtained over the six days of sampling.

The *Wild Atlantic Way* is a touring route encompassing over 2,500 km of spectacular scenery, much of it inaccessible or environmentally sensitive. Fáilte Ireland, who have responsibility for domestic marketing and product development in the Republic of Ireland, recently commissioned a series of four 360-degree films showcasing four separate tourist activities and destinations on the *Wild Atlantic Way*.

This VR technology was piloted by Fáilte Ireland in 2016 as a potential sales tool at ITB Berlin (Fáilte Ireland 2016). The cutting-edge views of the *Wild Atlantic Way* were then made available across all *Wild Atlantic Way* digital platforms as well as across social media channels. Anglim (2016) points out that by using this innovative technology to bring almost life-like experiences to visitors as they research and book their holidays, it is hoped that Ireland can stand out in a crowded marketplace. The four videos depict activities in four seaboard counties in Ireland, including horse-riding, cycling through the Burren, surfing through the Cliffs of Moher and sea stack climbing. Participants were free to choose which video they would watch, and could select more than one.

This research was supported by Fáilte Ireland who supplied the technologies and support staff required in both locations. A promotional stand was erected in a dedicated area, and Samsung Gear VR headsets and headphones were provided. An audio element was deemed important so that users could experience a greater sense of immersion. This is supported by Guttentag (2010, p. 639) who comments that audio is "important for the creation of realistic VEs". Reinhard's (2010) thinking on "sense-making in virtual worlds" informed the creation of the questionnaire from the perspectives of "being entertained" and "desiring to engage". The self-completion questionnaire administered to respondents addressed several themes deriving from the TAM model, using a Likert Scale to assess their attitude to three key components—usefulness, ease of use, and overall behavioural intent.

Other themes were explored in the research, but not reported here, such as VR's potential to substitute for visiting the destination, and the extent to which the VR experience contributed to attendees' enjoyment of the travel show.

Unsurprisingly, there was no difficulty in encouraging attendees to try out the VR experience. Indeed, it was observed that VR added greatly to the "attraction efficacy" (Gopalakrisna and Lilien 1995, cited in Milner 2009, p. 6) of the Fáilte Ireland stand.

# 6 Findings and Discussion

The sample obtained represented a broad cross-section of the attendance at the Holiday World Show, and is reflective of the older age-bias of attendees of the event. Good practice in research and DIT's own research ethics practices precluded any respondents under the age of 18 from participating in the survey Table 1.

A recent Priceline study (2016) states that "almost half of Millennials would use a VR headset to preview a destination they are planning to travel to". The authors wished to see if there was any indication of a relationship between respondent age and their evaluations of VR along key predictive user acceptance measures. A Chi-Square analysis was conducted to establish any significant associations between a number of the study's key variables and age of respondent.

Interestingly, the relationship between age category and prior use of VR was found not to be significant (p = 0.25). This shows that in addition to the appeal of this technology to 'digital natives' (Margaryan et al. 2011), VR technology adoption was evenly spread across age cohorts.

Some 26.8% of all respondents had tried a virtual reality experience before; of these exactly 50% had tried a travel-related virtual related experience. As Table 2 shows, no significant differences (p < 0.05), were observed within the age cohorts surveyed. Reinhard's (2010) contention that exposure to media technologies is affected by respondent age would appear to be challenged in the case of VR, according to these findings.

Table 3 outlines findings from the Likert-scale measurement of users' acceptance of the VR technology along the dimensions of Usefulness and Perceived Ease of Use as described by Davis (1989). As the TAM model was developed in the context of worker performance as the dependent variable, the authors sought to develop a more appropriate construct for travel. The extent to which the technology would encourage likelihood to visit the promoted region was of particular interest to the Fáilte Ireland organisation, and so was included in the set of measurement constructs.

Across all dimensions there was a high degree of agreement that the VR technology had positive impact. The highest rating for the technology was for its entertainment value. This is an important validation as it reflects current commentary on the critical importance of developing compelling content in VR experiences. Among a small minority of respondents, there was a sense that the disadvantages of the technology outweighed the advantages. This finding may partly explain the lower mean score for the extent to which some respondents felt that the technology needed expert help to be used. In relation to the impact of VR

Table 1 Demographic   profile of respondents (n = 129)	Age of respondents	%	
	18–25	11.2	
	26–45	33.6	
	46–64	41.6	
	65+	13.6	
Table 2 Chi square analysis   —age relationship with key variables		p	
	Prior use of virtual reality	0.25	
	Ease of use of technology	0.56	
	Usefulness of technology	0.09	

Table 3 TAM criteria (n = 129)	Criteria	Mean	s.t.d.
	Usefulness	Max 5	
	A useful technology	4.41	0.929
	Creates a realistic sense of destination	4.45	0.941
	Advantages outweigh disadvantages	4.27	0.982
	An entertaining technology	4.52	0.894
	Ease of Use		
	Possible to use without expert help	4.07	1.11
	Is clear and understandable	4.30	0.925
	Overall is easy to use	4.41	0.936
	Intentions		
	Like the idea of using VR	4.38	0.965
	Probably will use VR again	4.38	1.036
	Would recommend VR to other people	4.47	0.955
	More likely to visit Wild Atlantic Way	4.24	0.731

on respondents' future intentions of use, and likelihood to recommend, the findings offer much encouragement for travel marketers. The extent to which trial of the VR experience would enhance likelihood to visit the *Wild Atlantic Way* was particularly noteworthy. A chi-square analysis was performed to see if there was any relationship between levels of prior awareness of *Wild Atlantic Way* and the extent to which VR led respondents to feel more likely to visit the area. This was not proven (p = 0.66), and points to a picture of a technology that can work in terms of both brand awareness and brand affinity. This dimension of the technology is one that warrants further investigative work. From the perspective of a destination marketing organization such as Fáilte Ireland, the return-on-investment from VR is something that continues to be a concern. This study indicated that VR can become a strong element in the broader range of integrated marketing communication (IMC) tools.

#### 7 Conclusions

Liang et al. (2016, p. 1) point to the "technological superstorm" in ICT in tourism. This has been observed in the literature review for this research, and in the ever-emerging examples of technology-enhanced tourism developments. In 1995, Williams and Hobson (p. 425) commented that the "VR revolution has yet to happen". In 2017, the revolution has still not taken force, but momentum is growing very quickly.

The authors have examined and uncovered a number of theoretical impacts of VR, through the lens of destination marketing and promotion, via their primary research on VR as a promotional tool for Ireland's *Wild Atlantic Way*. This work, whilst investigative, adds useful consumer-related findings, highlighted by

Liang et al. (2016, p. 13) as lacking in tourism research. They also point, in their specific study on m-tourism, to the absence of empirical data in many existing studies, and the subjectivity of "a very large proportion". These concerns are transferable to additional aspects of tourism technology research.

Moderating factors may have an influence on the relationship between a user's perception of VR and their adoption behaviour, and it is difficult to reflect this dynamism in the research. Various push and pull factors and motivations could be investigated further. For example, Guttentag (2010 p. 645) points out that tourists seeking risk and novelty may look for different sensations in a VR environment to those looking for business travel opportunities.

This study did not include any tactile sensations. Research in this area is growing, with a move towards 'haptic devices' in the form of gloves or more substantial suits which cover an entire body (Gutiérrez et al., 2008). In time, such additional technologies will be most worthy of investigation.

Practical and ethical implications of developments around VR are more difficult to predict, and have not been dealt with by this study.

Using the Technology Adoption Model yielded a range of useful findings, reinforcing the potential of VR in destination image-building, and providing information at the pre-experience stage of the consumer decision making process. Overall, the research showed that VR is a useful tool in the marketing communications mix, offering DMOs the possibility to influence customers in their travel destination choice. Irrespective of the demographic cohort, VR is a technology which was deemed easy to use, useful and enjoyable. Respondents were strongly of the view that VR increased their likelihood to visit the *Wild Atlantic Way*. This offers exciting prospects for destination marketers in a turbulent and competitive tourism landscape.

The lens adopted by the authors focused exclusively on the marketing dimension of Guttentag's (2010) six areas of potential for VR examination. However, VR certainly has a much broader application in tourism. In future research, the authors intend to pursue study of VR's role in destination substitution, which was only nominally addressed in this study. Providing evidence that virtual conation can be translated into actual purchase will be an important aspect of proving the efficacy of VR to travel and tourism marketing, and to the speed of its future acceptance.

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