The Use of Virtual Reality in Tourism Destinations as a Tool to Develop Tourist Behavior Perspective

Ionica Oncioiu 1,*, and Iustin Priescu 2

Abstract: The role of new technologies in tourism is changing rapidly, leading to the development of customer relationships through the use of virtual reality in the marketing of tourist destinations. In addition to focusing on the influence of travel intentions that has prevailed in practice so far, the use of VR is expected to have an impact on the travel experience on the spot. This exploratory research study was conducted with 824 respondents to identify the role of virtual reality in choosing a tourist destination, as well as the expectations of potential customers that could rekindle the tourism industry for a post-pandemic world. The results pointed out that highly used virtual reality applications for destination marketing aim to create a certain image for a tourist destination and to communicate this to the outside world in a consistent and coordinated manner. The findings also reinforce the importance of developing future scenarios for virtual reality as a decisive factor for strategic planning in the tourism sector.

Keywords: virtual reality tourism; tourist destination; digital transformation; consumer behavior

1. Introduction

The effects of the COVID-19 pandemic have had a lasting influence on tourism and will shape the travel and booking behavior for generations [1–3]. Undoubtedly, the desire to travel is uninterrupted, but financial and health fears and worries have made some people confused [2–4]. Some authors warn of drastic psychological damage, which will be manifested by precautionary thinking and a reluctance to buy a package tour [3,4]. However, every crisis can produce some positive outcomes, as difficulties stimulate new, innovative ideas. Such a need creates the courage to change and that may include trust in social media marketing and distance tourism [5]. As a result, tourists are more mobile than ever, and their information needs are constantly growing; almost no travel decision is made without prior virtual inspiration or internet research. In addition to the technical requirements of Web 2.0, there has been a change in the virtualization of social networks with much deeper consequences [6,7].

Against this background, the latest annual travel report by Euromonitor International—Accelerating Travel Innovation after Coronavirus [8]—examined innovative concepts designed to accelerate recovery as a way to survive, sharing best practices from the most technologically advanced to the simplest solutions, in four categories: (1) digital—virtual experiences, artificial intelligence and automation, biometrics and digital identification, and 5G; (2) sustainability—domestic tourism, social impact, own resources, transparency in terms of carbon emissions, and new sustainable business models; (3) health—people first, safety and hygiene, social distance, diversification, and data analysis; (4) guests—offers, real-time information, flexibility, personalization, and affordable luxury.
Given all this, in the tourism industry, this paradigm shift has also led to a structural change among market participants [9]. Service providers in tourist destinations or tour operators develop new models for addressing customers, invest in new sales channels, or reorganize their production processes for travel and leisure activities in the virtual environment. Thus, virtual tourism has not been a futuristic topic in industry forums for some time, and technology has helped the tourism industry to develop through travel booking websites and blogs [10]. Coincidently, digital tools and content (such as augmented, virtual, or mixed reality) create a frictionless user-friendly digital experience and build a positive perception of a travel destination that allows people to travel safely in a pandemic world [11,12].

As part of its extensive applications, an interactive online space can make a destination accessible to a visitor who can interact with people using video calling platforms, travel the streets of that location, and more [13–16]. This would allow tourism industry providers to interact and create their own digital and virtual offerings with potential customers [17–19].

At the same time, efforts for sustainable tourism have always been developed against the background of sustainable development concepts. In this context, the perspective of using virtual reality in tourism should be complemented by four other aspects: first, it seeks to reduce the impact on the social and ecological environment; secondly, it includes an ethic of behavior towards the natural environment; thirdly, virtual reality in tourism can be used as a method or tool for the conservation of nature and semi-natural spaces; and finally, the tourists have the opportunity to address the challenges of “overtourism” and help build a more sustainable economic model by safely exploring with a tour guide that leads them through a controlled online destination [20].

The above set of challenges encourages researchers to examine current issues related to the effects of virtual reality development on destination marketing as a whole [16,21]. In this context, tourist services are largely shaped by visual experiences and the transmission of emotions, as well as by prices and the availability of the tourist destination. For tourism stakeholders (hotel operators, tourism experts, hospitality operators, and logistics companies) and especially for potential customers, the following question arises: How will the decision to select a tourist destination influence the development of virtual reality with the potential uncertainties and speculation about these applications in the future? To bridge this gap in the literature, this study is dedicated to this question to present a broad picture of future developments as opinions, advice, and confidence in the pre-purchase phase play a special role in the decision-making process.

Supporting this view, the purpose of the study is to investigate the relevance of virtual reality (VR) in the destination marketing on tourist behavior perspective utilizing the Unified Theory of Acceptance and Use of Technology (UTAUT) model. The results of this research showed that, by allowing tourists to take a virtual look at holiday destination before booking a holiday trip, for example, virtual reality technologies could help reduce their perceived risk (purchase/booking). In addition, future scenarios for virtual reality in the tourism sector are presented, as well as starting points for further research in this field, which are equally important for the post-pandemic world. The results also suggest that virtual reality could be a suitable new model for the tourism industry and offers alternative ways of choosing a tourist destination.

This research is structured as follows. Section 2 presents the literature review and hypothesis development; Section 3 provides the research model and methodology; the next sections describe the empirical results and implications for the discussions; the conclusions of the study are outlined in the final section.

2. Literature Review and Hypothesis Development

2.1. Virtual Reality in Tourism—A New Level of Digital Evolution

In recent years, a number of technological advances have led to significant improvements in technology utilizing virtual reality because it is a technology and a term often used in tourism research and practice [22,23]. These developments are crucial due to the growing
interest of tourists in technology. Various authors have dealt with the similarities and differences between augmented and virtual reality, suggesting that VR is often described as a concept related to augmented reality [12,24–26]. Other authors have presented VR as a visualization technique in which the real environment disappears completely, and the client is immersed in a completely digital world [27,28]. Some authors have also discussed mixed reality (virtual reality and augmented reality), which describes the combination of a real environment with digital content with the help of technical devices and can vary from the real environment without the complete digital immersion [29–31].

In contrast, VR is a fully computer-generated 3D environment that users can navigate and interact with using one or more of the five senses [32]. In fact, the reinvention of virtual reality destinations has become popular [33–35]. Every VR system requires an input device so that the actions of the potential tourist can be interpreted and with which they can interact in the virtual environment. In complete isolation, the potential tourist is holistic in the VR world and has no interaction with the real world. Understandably, there is an additional need for research and development to include a sense of balance, which is important, e.g., for determining posture and orientation in the room or telepresence [36], i.e., inclusion of the characteristics of physical immersion and psychological presence [37–39].

Many applications used in VR offer tourists access to reliable and accurate information with a fraction of the cost, time, and effort, which allows for the elimination of elements of uncertainty related to the intangible nature of products and tourist destinations [40,41]. According to Guttentag [42], especially in tourism, sensor technology is very important, and VR applications are widely used in this industry to create and plan models. They offer the opportunity to observe the surroundings from countless perspectives. Equally, VR-based marketing and, especially, advertising applications are usually addressed to several sensory organs of tourists. Thus, it is easier for advertisers to arouse the desire to relax, adventure, or explore, and VR offers the future tourist better opportunities to experience and sample the holiday destination and is, therefore, more effective than traditional print advertising.

VR provides more accurate information about interesting places to visit, but these destinations are perceived subjectively and differently by each person because users have the opportunity to use their own spatial perception to explore the world of VR in a natural way [43–45]. Moreover, “overtourism” can be counteracted with the help of VR as a virtual copy of the original in the case where a destination gives the visitor the opportunity to explore freely. The use of new technologies in destination marketing can help break down physical barriers through the virtual experience of destinations inaccessible to certain people who have limited opportunities or are unable to travel due to the pandemic.

All these aspects combined will contribute to the creation of the profile of the tourist who uses VR, to their motivation for choosing a tourist destination in a virtual way, and to the strategic planning in the marketing of tourist destinations. At the same time, all those involved must account for a number of factors, as follows:

- Political factors relating to property rights;
- Economic factors involved in changing business models or their innovations and marketing activities;
- Sociocultural factors examining the behavior and market trends of consumers and tourists.

Another major aspect of VR technology in tourism is the potential change in tourism behavior and demand structure [46–48]. Specific market segments could consist of Generation Y and Generation Z—generations who prefer to use this technology to virtually select the destinations and accommodation providers they want to travel to directly from home [2]. However, for this target group, the integration of sensory perceptions (things that can be touched or felt) is one of the key aspects to fully develop the great potential of VR [49]. These generations also appreciate creating content for comprehensive physical immersion (animating a 3D environment or creating a 3D environment with the integration of photos and videos). Therefore, the use of VR technology in marketing strategy could
influence the decision in favor of a certain destination and should attract new tourists or encourage existing tourists to consume more.

This business model, which is based on the principle of experimenting virtually with VR technology and subsequently purchasing, could become the business model of the future for the tourism industry. Due to the attractiveness and high potential for destination marketing, travel organizations have begun to use virtual worlds as a marketing tool.

2.2. Factors of the Unified Theory of Acceptance and Use of Technology and Behavioral Intention Model

The study of tourist behavior is a fascinating journey into the world of human behavior [31]. The main advantage for which the authors used the Unified Theory of Acceptance and Use of Technology (UTAUT) model in this study lies in the fact that it allows for the investigation of the factors determining the adoption, acceptance, and use of new technologies and may also surprise the behavior of using that technology. Hence, the UTAUT model comprises many other theories such as the Theory of Planned Behavior (TPB), Technology Acceptance Model (TAM), Theory of Reasoned Action (TRA), Motivational Model (MM), Innovation Diffusion Theory (IDT), Model of PC Utilization (MPCU), Hybrid Model, and Social Cognitive Theory (SCT) and can be a valuable tool for examining the possible future of VR technology and its influence on destination marketing.

The UTAUT model used in this study was adjusted with the constructs set by previous researchers [50–52]. According to Venkatesh et al. [51], the four key constructs of UTAUT are social influence, effort expectation, performance expectation, and facilitating conditions. The expectation of performance is to ensure users’ increased competitiveness and tourism performance by adopting information technology. The waiting effort offered by the adoption of VR technology makes the choice of tourist destination more precise and faster for the realization of the targeted tourist activities. Social influence supports VR technology users to gain support in choosing tourist destinations with the help of social networks. The facilitation conditions speak about the assistance of current and potential tourists in using the VR infrastructure to carry out their visions on the selected tourist destinations more effectively. These constructs are motivated by behavioral intention to use VR technology and are moderated by the purchase intention of a tourist package, the (re)visit intention of a tourist destination, and usage interests’ VR technology as often as possible.

UTAUT factors (social influence, effort expectation, performance expectation, and facilitating conditions) could affect the behavioral intention of tourists to become aware of a tourist destination through VR technology. Thus, the use of VR by tourists is influenced by effort expectancy and performance expectancy. To make the VR experience as realistic as possible, it is necessary to ensure a real-world view. Videos or images are usually supplemented with additional computer-generated information or virtual objects by fading or overlapping.

2.2.1. Behavioral Intention

Since planning a vacation today cannot be imagined without quick access to information, to influence behavioral intent, tourism stakeholders should encourage their clients to adopt and use VR technology, providing knowledge about the benefits of using these tools by investing more resources in such technology and by developing incentive systems to motivate their adoption. However, few studies [21,38] have addressed the combined effects of VR marketing and social media presence on the (re)visit intentions of tourists in a destination marketing context. Moreover, many tourists evaluate their experience based on utilitarian and hedonic values, and these can help researchers understand tourism purchase behavior [53,54]. Thus, the tourist’s perceptions of value are characterized either by their hedonistic values or by their utilitarian values. The hedonic tourist appreciates the entertainment and emotional experience of the tourist destination, while the utilitarian tourist is rational, task-oriented, functional, and cognitive during VR experiences.
A number of studies investigating hedonic consumption behaviors in a virtual environment suggest that tourists consider meeting objectivity and subjective requirements, while utility tourists are more likely to consider the reality of a situation as a cognitive response [53,55]. Based on the above studies, this research operates in VR experiences related to tourism using concepts aimed at the behavioral intention to use this technology based on substructures, such as the intention to buy a tourist package, the intention to (re)visit the tourist destination, and interests in using VR technology as often as possible.

2.2.2. Social Influence

The abundance of online tourist data gives rise to new travel desires and needs, which, in turn, are (increasingly) bought or booked through the Internet [55,56]. The mobile site has become indispensable when it comes to traveling and travel planning, as smartphones can provide tourist information and knowledge from different destinations [57]. Therefore, social influence can have a vital influence on the user’s intention to accept and adopt technology in their life [58]. This is due to the fact that today, more and more people are very involved in social media and live their whole lives in the digital environment. Now, more and more tourism operators are using so-called “social influencers” to market their destinations directly on Facebook (based on the number of friends, photo tags, and wall posts), who are becoming active community multipliers for certain tourist destinations. As a result, social networks have a massive impact on the real world and, consequently, on tourism [59,60]. Social norms are included in this study since practicing these norms enables people to be recognized in groups [61]. The first hypothesis is proposed as follows:

**Hypothesis 1 (H1).** Social influence has a positive effect on VR technology adoption by tourists.

2.2.3. Effort Expectation

While communication between users on the Internet can take place frequently, briefly, and quickly, the provision of information through VR technology requires a greater effort on the part of the tourist. Previous research [62,63] suggest some aspects of effort expectancy: tourists should receive travel information in a friendly way, and in the next step, they should be given the opportunity to request additional information about the travel destination in real-time. The same researchers reveal that ease of use serves as a strong determinant of the acceptance of VR technology [64,65]. In this research, ease of use is defined as the possibility and frequency for the tourist to try or continue to use VR in the future when choosing a tourist destination. This includes not only the perceived ease of use, but also the complexity of interface design. The second research hypothesis reflects these arguments:

**Hypothesis 2 (H2).** Effort expectancy positively affects the adoption of VR technology by tourists.

2.2.4. Performance Expectation

Perceived usefulness is the extent to which the user believes in the gain or return that the technology in question provides [66]. Perceived usefulness is one of the initial determinants of the technology adoption process [67]. Regarding VR applications in tourism, the hope of performance offers rewarding aspects; the adequacy is substantial and plays a very important role in their use [68]. Thus, the performance expectation of using VR technology is a notable factor among tourists. They consider that the expectation of performance is one of the main reasons for the adoption and use of disruptive technologies. Destinations need to react and educate users. Other than personality traits, perceived usefulness also affects how much information is disclosed by a user on VR. More attention should be paid to the quality and less to the amount of VR content so as not to discourage potential users. Therefore, the following hypothesis is assumed:

**Hypothesis 3 (H3).** Performance expectation has a positive influence on VR technology adoption by tourists.
2.2.5. Facilitating Conditions

The facilitation condition has a substantial influence on usage behavior [68]. The perceived ease of use of technology, telepresence and interactivity, opportunity to explore a particular destination, and facilitation of conditions, such as a substitute for a real trip, have a significant relationship with the presentation environment of the tourist destination with the help of VR technology [69]. Moreover, technical support and resources are considered facilitative conditions and positively influence the behavioral intention to adopt this technology. Accordingly, the fourth hypothesis is proposed:

**Hypothesis 4 (H4).** Facilitating conditions have a significant relationship with VR technology adoption by tourists.

3. Research Methodology

Based on the previous hypotheses, Figure 1 includes the theoretical framework adaptation to the context of this study.

![Diagram](image)

**Figure 1.** Proposed research model.

This study was presented as an anonymous online survey using an online Google Forms questionnaire, which was distributed via Instagram and Facebook groups to 860 selected people on the TripsByTips travel portal [70], and the selection was made using simple random sampling. This quantitative exploratory research study was conducted between June 2021 and September 2021 and received complete responses from 824 international people, which represented a response rate of 96%. Regarding the sample, 44% were female and 56% were male, 68% were between 18 and 29 years old, 72% were university- and/or college-educated individuals, and 28% were students.

All respondents were chosen by sample selection, and they had more than four years of experience in the TripsByTips community and experienced VR technology. The reason for selecting the sample from TripsByTips is that over two million tourists have visited the portal so far with an inspiration for holiday planning, and this portal is an application that can be used as a marketing tool for tourist destinations. In addition, because the reasons for a trip using VR technology are very different, TripsByTips presents recommendations not only sorted by destination and type, but also according to lifestyle. This form of
presentation creates inspiration for all those who want to go on vacation, even virtually, but have not yet found the right destination.

The questions of this study are based on past-related literature, revised and appropriately adjusted to ensure the validity of research. Each question in the questionnaire resulted from the objectives and hypotheses of the research and supported different correlations that can be made between dependent and independent variables. For this study, the responses were assessed on 7-point Likert-type scales ranging from 1 = strongly disagree to 7 = strongly agree. Table 1 provides measurement items and descriptive statistics for all variables.

Table 1. Measurement items.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Item—Anchoring Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Influence</td>
<td>Social norm (SI1)—I like to travel with a friend or a group of friends</td>
</tr>
<tr>
<td></td>
<td>Image (SI2)—I choose a destination after an analysis of social media information</td>
</tr>
<tr>
<td></td>
<td>Engagement (SI3)—I am involved in the transmission of content for tourist destinations</td>
</tr>
<tr>
<td>Effort Expectation</td>
<td>Perceived ease of use (EE1)—Using the VR in choosing a tourist destination seemed to be relatively easy</td>
</tr>
<tr>
<td></td>
<td>Complexity of interface design (EE2)—Learning to operate the VR to start my travel plans is easy.</td>
</tr>
<tr>
<td></td>
<td>Ease of use (EE3)—The VR setting the intention to use the system to be away from everyday life</td>
</tr>
<tr>
<td>Performance Expectation</td>
<td>Perceived usefulness (PE1)—The VR technology is very effectiveness in searching for tourism destinations</td>
</tr>
<tr>
<td></td>
<td>Extrinsic motivation (PE2)—When I use VR there is an outside influence that has given pleasure to my senses.</td>
</tr>
<tr>
<td></td>
<td>Relative advantage (PE3)—I travel with VR because I want to explore destinations on my own</td>
</tr>
<tr>
<td></td>
<td>Enjoyment (PE4)—The VR technology was captivating and amusing.</td>
</tr>
<tr>
<td>Facilitating Conditions</td>
<td>Resources/facilities to use (FC1)—From a technical point of view VR technology provides good-quality information for the destination</td>
</tr>
<tr>
<td></td>
<td>Knowledge usage (FC2)—The VR technology made me felt a real learning experience.</td>
</tr>
<tr>
<td></td>
<td>Compatibility (FC3)—I think it can be a substitute for real travel experiences</td>
</tr>
<tr>
<td>Behavioral Intention</td>
<td>Purchase intention of a tourist package (BI1)—I would purchase a tourist package after using VR</td>
</tr>
<tr>
<td></td>
<td>(Re)visit intention of tourist destination (BI2)—I intend to (re)visit a tourist destination using VR in the near future.</td>
</tr>
<tr>
<td></td>
<td>Usage interests (BI3)—I usage interests VR technology as often as possible</td>
</tr>
</tbody>
</table>

This study used an analysis of variance to test the variable hypotheses, along with its main and interaction effects. Confirmatory factor analysis (CFA) and the average amount of variance extracted (AVE) were used to conduct the test of convergent validity. Convergent validity was obtained through the comparison of the AVE and the square of correlation coefficient between the dimensions to conduct the assessment. The structural model analysis was mainly to explore the analytical results of the paths between the assumptions.

4. Empirical Results

It is notable that the results of this online survey allowed for the evaluation of the relationships between the constructs of the research model by performing the analysis of the smallest partial squares (PLS). Two criteria were normally used for discriminant validity constructs for evaluation, which are the cross-loadings criterion and Fornell–Larcker criterion. The square root of the average (AVE), as shown in the below Table 2, demonstrates strong support for convergent validity. For each factor, Cronbach’s Alpha coefficient was calculated to measure the internal consistency, and the values were all above 0.835, indicating a good scale.
Table 2. Summary of measurement scales.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Constructs Items</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Factor Loading</th>
<th>Cronbach's α</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral Intention (BI)</td>
<td>BI1</td>
<td>4.09</td>
<td>1.09</td>
<td>0.78</td>
<td>0.889</td>
<td>0.75</td>
</tr>
<tr>
<td></td>
<td>BI2</td>
<td>4.08</td>
<td>1.15</td>
<td>0.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BI3</td>
<td>4.18</td>
<td>1.11</td>
<td>0.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Influence (SI)</td>
<td>SI1</td>
<td>4.21</td>
<td>0.96</td>
<td>0.83</td>
<td>0.872</td>
<td>0.77</td>
</tr>
<tr>
<td></td>
<td>SI2</td>
<td>4.19</td>
<td>1.19</td>
<td>0.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SI3</td>
<td>4.07</td>
<td>1.14</td>
<td>0.76</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effort Expectation (EE)</td>
<td>EE1</td>
<td>4.08</td>
<td>0.98</td>
<td>0.81</td>
<td>0.835</td>
<td>0.73</td>
</tr>
<tr>
<td></td>
<td>EE2</td>
<td>4.18</td>
<td>1.01</td>
<td>0.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EE3</td>
<td>4.11</td>
<td>0.89</td>
<td>0.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance Expectation (PE)</td>
<td>PE1</td>
<td>3.98</td>
<td>1.19</td>
<td>0.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PE2</td>
<td>4.02</td>
<td>1.18</td>
<td>0.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PE3</td>
<td>4.23</td>
<td>0.96</td>
<td>0.75</td>
<td>0.847</td>
<td>0.75</td>
</tr>
<tr>
<td></td>
<td>PE4</td>
<td>4.06</td>
<td>0.98</td>
<td>0.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facilitating Conditions (FC)</td>
<td>FC1</td>
<td>4.01</td>
<td>1.09</td>
<td>0.81</td>
<td>0.879</td>
<td>0.72</td>
</tr>
<tr>
<td></td>
<td>FC2</td>
<td>3.96</td>
<td>1.13</td>
<td>0.76</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FC3</td>
<td>4.06</td>
<td>0.88</td>
<td>0.79</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3 summarizes the correlations of the relevant variables and also indicates convergent and discriminant validity.

Table 3. Correlation’s matrix of variables.

<table>
<thead>
<tr>
<th></th>
<th>BI</th>
<th>SI</th>
<th>FC</th>
<th>PE</th>
<th>FC</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI</td>
<td>0.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SI</td>
<td>0.60</td>
<td>0.77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EE</td>
<td>0.55</td>
<td>0.55</td>
<td>0.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PE</td>
<td>0.58</td>
<td>0.56</td>
<td>0.53</td>
<td>0.75</td>
<td></td>
</tr>
<tr>
<td>FC</td>
<td>0.55</td>
<td>0.53</td>
<td>0.51</td>
<td>0.53</td>
<td>0.72</td>
</tr>
</tbody>
</table>

The structural model is assessed by way of $R^2$ for endogenous constructs. Evaluation of the model with PLS began by observing $R^2$ for the latent endogenous construct variable. The endogenous construct variable obtained an $R^2$ value of 0.598 (confirmed as a substantial value), and further showed that 59.8% of the variance in the behavioral intention of tourists can be designated by the four factors of UTAUT: social influence, effort expectation, performance expectation, and facilitating conditions. Initially, path coefficient estimates were computed; all four variables were significant. Findings associated with this test are presented in Figure 2.

The results revealed that all UTAUT variables were positively and significantly associated with behavioral intention of tourists (purchase intention of a tourist package and (re)visit intention of tourist destination). Table 4 summarizes the results of the hypotheses verification and the results indicated that all hypothesized relationships were significant.

A more detailed view in Table 4 and Figure 2 shows that, in the testing hypothesis, the $p$-value of the first independent variable—social influence ($p < 0.001$, $t = 4.991$)—is smaller than 0.05, confirming that social influence has a positive and significant impact on the (re)visit intention of tourist destination. Further, this confirms that the behavioral intention of tourists can be increased by using VR technology. This result is supported by Veasna et al. [79], who stated that social influence positively influences the choice of a tourist, which is affected by the pressure of the group. When individual activities in the group are consistent with the standards accepted by the public, it is known as conformity. It shows that the norm is the objective standard of conduct on the behalf of public views,
and the conformity is on behalf of the individual’s psychological tendencies. Therefore, it can be stated that social influence is perceived to engage tourists in a virtual context.

![Diagram](image)

**Figure 2.** Results of path analysis. Note: Significance levels: ***p < 0.001.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Path</th>
<th>Path Coefficient</th>
<th>T-Value</th>
<th>Testing Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>SI→BI</td>
<td>0.336</td>
<td>4.991***</td>
<td>Supported</td>
</tr>
<tr>
<td>H2</td>
<td>EE→BI</td>
<td>0.211</td>
<td>3.766***</td>
<td>Supported</td>
</tr>
<tr>
<td>H3</td>
<td>PE→BI</td>
<td>0.155</td>
<td>2.664***</td>
<td>Supported</td>
</tr>
<tr>
<td>H4</td>
<td>FC→BI</td>
<td>0.318</td>
<td>4.687***</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Note: Significance levels: ***p < 0.001.

In the test hypothesis, the value of the second independent variable, the effort expectancy ($p < 0.001$, $t = 3766$), is less than 0.05 and confirms that the effort expectancy has a positive and significant impact on the behavioral intention of tourists. This further confirms that the practice of VR technology efforts in tourism can facilitate the choice of a tourist destination. In addition, even if it requires great mental effort, VR is gradually increasing the number of tourists who demonstrate that virtual reality can play the strongest role in tourism for viewing tours and activities.

On the other hand, the $p$-value of the third independent variable, performance expectation ($p < 0.001$, $t = 2.964$), is less than 0.05 and confirms that performance expectation has a positive and significant impact on the behavioral intention of tourists. This confirms that performance expectation can be managed through the use of VR by tourists. However, great importance must be given to the honesty and traceability of the criteria that characterize the tourist destination. Basically, this can have a major impact on destinations because it fundamentally changes the value chain of the destination.

The value of the fourth independent variable, facilitating conditions ($p < 0.001$, $t = 4.687$), is less than 0.05 and confirms that the facilitating conditions have a positive
and significant impact on the behavioral intention of tourists (purchase intention of a tourist package and (re)visit intention of a tourist destination). Therefore, this confirms that tourism experts are equipped with technological infrastructure that can lead to the adoption of VR technology. Moreover, Jung et al. [80] considered that the behavioral intention and facilitation conditions have a positive impact on the tourist’s behavior. In addition, VR applications will be an important part of gathering information, both in hosting providers and in destinations.

5. Discussion

Today, VR is used by tourist destinations, for example, for virtual tours, where those who are interested or less able to move freely can learn more in a digital environment. Basically, virtual reality manages to fool the tourist’s senses into believing they are in a real world in their chosen destination. Through this reality, they can interact with fictional worlds that they could not explore in real life or with worlds that they could only visit with great effort (especially in the current pandemic context).

The validation of the model and the hypotheses also bring to light the fact that virtual reality will not alter the fundamental communication needs of tourists, but will certainly change their mode and context, which makes VR a key tool for professionals in tourism. Immersive technologies in tourism are gaining ground, but as VR becomes a community experience, acceptance will increase. Other issues relate to VR marketing compared with other marketing communication channels and sources of information to reach tourists. Tourism providers need to understand the content and the technology needed to deliver that content in an interconnected world.

This research considered the difference between virtual reality and other media platforms. Compared with traditional social media video content, VR experiences are much more engaging, memorable, and more persuasive and interactive. In response to tourist input, the VR system presents a view of the virtual environment and focuses on viewing the content (for example, fantasy or real landscapes), emphasizing hearing alongside sight. Thus, presence in the virtual world means the feeling and not the place where the user’s body is currently located. Such an environment is more interesting and much more attractive, and this is exactly what tourists are looking for so that they can decide on a tourist destination. In short, it offers the tourist an experience that will not be easily forgotten. This also affects the extent to which they need to adapt their advertising media to this environment.

The results suggest that the biggest barrier to mass adoption of VR technologies is facilitating conditions (costs, equipment requirements, and knowledge needed to use this technology). In this sense, the most important part of adopting such a technology is the impact it has on the strategic goals of the providers of tourist destinations. This will help the owners of resorts/hotels to create a positive effect and increase the number of tourists.

Along with previous studies [16,20,22,72], the results also trace the direction of determining the tourist’s antecedents of using VR technology from a socio-psychological point of view. Therefore, analysis of the attitudes and perceptions of tourists on the marketing of destinations in the post-pandemic world aims to understand the meaning that VR technology has from the moment of exposure to sensory stimuli.

In addition, in the context of the pressure chosen by the post-pandemic world, these results have determined an atypical consumer behavior for tourists. Thus, more and more tourism brands will invest in VR technology, in fast and easy navigation of tourist destinations, and in online support to answer the questions of tourists in real time. VR requires a combination of travel, fun, interaction, and communication; the idea of VR will never replace the experience of traveling in the real world, but it will certainly help in making decisions or informing us about travel destinations.

Last but not least, the authenticity of the VR content produced is one of the key success factors. In line with previous research [53,55], this study reinforces the idea that authentic experiences of tourism-related VR activities significantly influence the assumptions and
beliefs (cognitive response) and feelings and emotions (emotional response) of potential tourists. This is because the relationship between authentic experience and emotional response to VR content is stronger than the relationship between authentic experience and cognitive response. However, among other factors, the intention to visit the travel destination presented in VR is also influenced by the users’ attachment to such technologies.

6. Conclusions

Compared with print ads and TV commercials, VR apps are more capable of arousing emotions and triggering emotional reactions. Researchers believe that, unlike traditional forms of advertising, there is a strong sense of presence, which is why it is generally assumed that there is great potential for the use of VR in the tourism sector. Thus, with the deep global recession and the threat of new waves of the pandemic, the tourism industry is attempting to rebuild all over the world and VR can be the key vehicle to build a new travel and tourism industry.

From a theoretical perspective, this research has added to the literature by examining UTAUT variables (social influence, effort expectation, performance expectation, and facilitating conditions) and the behavioral intentions of tourists. Likewise, this might prove useful for travel providers and travel agencies, as the booking of accommodation by tourists through VR will be offered more and more in the future, especially on big travel portals. According to our findings, the future intention to use VR technology to choose a tourist destination is based on trust and the optimization of a positive experience, especially in the context of the post-COVID-19 pandemic. Instead of seeing a screen in front of them with the potential tourist destination or possible tourist routes, the tourist is introduced to virtual worlds where they can communicate, interact, or explore to determine if it is worthwhile purchasing the real trip or not.

The results obtained also suggest that the decision-making process of using virtual reality on destination marketing is shifting its orientation towards VR experiences. The imminent discovery in intuitive operating approaches that give up user interfaces and seek human–machine interaction through gestures, looks, and voices could be an indication that VR will be able to impose itself in the future. In the short term, the category of tourists who use smartphones or tablets as VR screens could also become users of VR technology. However, accessibility and facilitating conditions become extremely important attributes in the tourist’s decision-making process.

It should still be kept in mind that a significant amount of research would be beneficial for tourism providers and experts who should aim to develop specific marketing policies and include VR technology in their strategies. Moreover, for tourist destinations, this study provides a starting point for decision making in an area that is characterized by high levels of uncertainty. In the broadest sense, these are topics that include virtual travel inspiration, searching for travel information, and booking online; basically, the trip itself is discussed only from a virtual perspective.

Regardless of the results obtained in this research, it is recommended that travel agencies carefully study the results of this study before preparing destination marketing strategies. Particular attention should be paid to forecasts of the use of VR technology, which could have a major impact on future destinations and tourists. Tourist destinations will have to ask themselves which target group they should be served with virtual reality and what companies and organizations can help as partners in exploiting this potential. However, the targeted use of VR in online tourism communication is hampered by the large number of VR technologies with different properties and functions, as well as the lack of criteria for differentiating VR technologies.

Some limitations of this study, which also describe areas of future research, should be emphasized. Firstly, the study has not considered some moderation variables: segmentation of tourists, experience and desire to pay for a VR experience for tourists, or even the ability to compare the findings of tourists in different VR environments. Another limitation stems from the fact that, in principle, future technological and social developments will lead to
a change in priorities, such as the allocation of marketing budgets or consumer behavior. Travel destinations will need to be categorized based on which target group should be served with virtual reality and which companies and organizations can help as partners in exploiting this potential.

An increasing number of voices say that in 2025, every tourist will have an e-agent (travel friend) as part of the tour package that will personalize all their travel experiences, plan their itineraries, and act as a guide, informing them only about destinations that they may be interested in testing with VR technology. This way, tourists will be able to interact with the travel agency, and when they want to book a room at the hotel, they will be able to see employees preparing the room, walk around the hotel right at the time of booking, and much more. Therefore, VR technology will be a powerful tool for building trust between the tourist and the brand. Future studies should also focus on cultural differences in the assessment of VR technologies.

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