

Boosting the pre-purchase experience through virtual reality. Insights from the cruise industry

Michele Simoni, Annarita Sorrentino, Daniele Leone and
Andrea Caporuscio

*Department of Management and Quantitative Studies,
University of Naples Parthenope, Napoli, Italy*

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Abstract

Purpose – This study aims to provide an exploratory analysis of the role of virtual reality (VR) in the cruise context as a contribution to the limited literature on this topic. In particular, the research investigates immersive VR as a critical touchpoint at the pre-purchase stage of the customer journey.

Design/methodology/approach – To achieve the research aims, the authors use a case study approach by analysing the “immersive configurator” (essentially a virtual catalogue) implemented by the Mediterranean Shipping Company (MSC).

Findings – Three innovative functions emerged from the study of the MSC’s virtual catalogue. First, it improves the customer experience and engagement through its interactivity. Second, it allows customization of the prospective cruise experience by selecting and changing types of ship, the level of service, the position of the cabin and much more. Third, it becomes a new digital marketing system endowed with large amounts of data.

Research limitations/implications – This study advances the current state of knowledge by presenting an empirical case study on the role of immersive VR at the pre-purchase stage of the customer journey. Second, it offers interesting implications for managers who want to take advantage of the opportunities offered by VR.

Originality/value – The present study analyses the pre-purchase stage in tourism marketing focused on the use of VR in the tourist experience at the time of service delivery. Second, it enriches the tourism literature by integrating supply-side and demand-side perspectives. Third, from a methodological point of view, this paper offers an in-depth qualitative study in a context where scholars have mostly applied quantitative methods.

Keywords Virtual reality (VR), Customer experience management (CEM), Pre-purchase stage

Paper type Research paper

摘要

通过虚拟现实来提高预购体验：洞悉游轮产业

摘要 – 研究目的 – 以邮轮产业为背景，鉴于少量的相关文献，本研究对虚拟现实提供了初步研究。本论文以侵入式虚拟现实作为顾客购买前关键体验点进行了探索。

研究设计/方法/途径 – 为实现研究目的，本论文运用了案例研究来分析地中海航运公司MSC目前使用的“侵入式配置程序”（尤其作为虚拟目录）。

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研究结果 – 通过对MSC虚拟目录的研究, 我们发现了其三大创新功能。第一, 可有效的通过互动来提高顾客体验和参与。第二, 可允许对预期的游轮体验通过选择游轮种类, 服务等级, 船舱的位置等, 来进行量身定制。第三, 基于大量数据积累, 可作为数字营销系统。

理论贡献 – 通过实证案例研究, 本论文对侵入式虚拟现实在顾客预购体验中的研究文献进行了有效推进。其二, 本研究为期望运用虚拟现实的从业人员提供了新颖的实践知识。

研究原创性/价值 – 本研究在聚焦在虚拟现实技术运用在旅游营销中的前期游客体验。第二, 本研究整合了供给和需求两方面的视角。第三, 从研究方法的角度, 本研究在普遍运用定量研究的领域提供了深入的定性研究。

关键词: 顾客体验管理, 虚拟现实, 预购

1. Introduction

As customer experience management (CEM) has become a priority for companies (Holmlund *et al.*, 2020; Klink *et al.*, 2020; Gartner, 2019), there is a need to identify the crucial touchpoints at which customers can be engaged in a more positive relationship with the firm or brand, from their first interaction onwards. In this context, emerging innovative technologies (e.g. virtual reality [VR]) are changing the way products and services can be experienced (Hoyer *et al.*, 2020; Flavián *et al.*, 2019). VR is a good example of how customers can be attracted and engaged because of the three-dimensional (3D) environment, which offers full immersion in a digital experience (Wei, 2019; Pizzi *et al.*, 2019; Guttentag, 2010). Several authors (Perry Hobson and Williams, 1995; Ijsselsteijn and Riva, 2003; Desai *et al.*, 2014; Wei, 2019) have emphasized the role of VR in the creation of symbolic experiences simply through the wearing of a helmet that still allows free movement (e.g. Samsung's Oculus Gear VR). Moreover, the Covid-19 pandemic has underlined how digital technologies can give people remote access to consumer experiences.

Tourist products are among the most complicated to provide marketing information for, as they comprise many heterogeneous elements and the value of the product cannot be entirely objectively determined because that value is largely determined subjectively by customers (Prebensen and Foss, 2011; Sugathan and Ranjan, 2019). A cruise vacation, for example, is a hedonic product by its nature and the traditional paper catalogue is limited in its ability to describe the experiential value of a cruise; indeed, the focus tends to be more on the functional elements (e.g. itinerary and price).

Against this backdrop, 4.0 technologies are helping to redefine the customer experience (CE) and are able to communicate symbolic values through a more direct consumer engagement (Trunfio *et al.*, 2020). Among these, VR is particularly effective for anticipating the tourist experience in the pre-purchase stage because of an immersive and customized interaction (Flavián *et al.*, 2019, 2020). This research is innovative and noteworthy because it explores the role of VR as a critical touchpoint at the pre-purchase stage of the customer journey; moreover, it does so empirically and in an interesting but underdeveloped field of tourism. Indeed, there is a lack of studies on VR as a critical touchpoint at the pre-purchase stage (Sharples, 2019), especially in the cruise context and yet it is well suited to such an investigation, being a complex and hedonic service.

To bridge this gap, this study analyses the role of immersive VR as an innovative touchpoint at the pre-purchase stage. In particular, this research analyses the benefits of an immersive virtual catalogue. The research question is: “how can customers and cruise companies benefit from the implementation of immersive VR technology at the pre-purchase stage of the cruise experience”? Specifically, we investigate the Mediterranean Shipping Company (MSC) using a case study methodology. MSC is presently experimenting with a VR catalogue for potential customers in the form of its MSC Immersive Configurator. The study triangulates multiple sources of evidence: online documentation, in-depth interviews, the physical artefact and a non-probability convenience sample of the customers of travel

agencies and tour operators who were using the immersive catalogue at the pre-purchase stage. We conducted our data analysis based on the principles developed by Gioia *et al.* (2013) to ensure rigour and connection with the theoretical framing and research question.

The findings reveal the potentially enormously beneficial role of VR in the pre-purchase experience because of the implementation of a *fully immersive* catalogue, that is, the MSC Immersive Configurator. Specifically, the catalogue analysed creates benefits for customers and cruise companies at three levels. Firstly, it improves the CE and engagement through its interactivity (*physical participation*). Secondly, it allows potential customers to customize the experience by selecting and changing the type of ship, the level of service, the position of the cabin and much more (*configurability of the catalogue*). Then, thirdly, it becomes a new digital marketing system endowed with large amounts of data (*productization*).

This contribution offers insights into the role of VR in CEM in the specific context of the cruise industry. Managerial implications emerge that support the cruise companies in terms of the attraction of new targets, retention of existing ones and growth of brand reputation.

2. Theoretical background

2.1 Customer experience management in tourism and hospitality

CEM is not new (Schmitt, 2010); however, it has recently begun to assume increasing importance in the tourism and hospitality field as a means to increase companies' competitiveness (Kandampully *et al.*, 2018; Sharples, 2019; Godovykh and Tasci, 2020). CEM has traditionally referred to the strategic process of managing a customer's entire experience with a company or brand, including not only experiential marketing (Schmitt, 2010) but also the entire strategic management of the firm (e.g. employee engagement and resources management). Given the hedonic nature of the experience delivered, tourism and hospitality are among the most interesting settings in which to observe CEM (Bharwani and Jauhari, 2013; Kandampully *et al.*, 2015, 2018) and yet few studies have done so (Johnson *et al.*, 2009; So and King, 2010). Most of the literature is fragmented and limited to conceptualizations of the "tourist experience" (Uriely, 2005; Volo, 2009), its antecedents and consequences (Prebensen *et al.*, 2013) and its application in different contexts such as events (Morgan, 2008; Kaplanidou and Vogt, 2010; Sorrentino *et al.*, 2020), cruises (Huang and Hsu, 2010; Andriotis and Agiomirgianakis, 2010) and museums (Radder and Han, 2015; Elgammal *et al.*, 2020).

The cited studies in the tourism and hospitality field are limited to analysing the experiential responses and feelings when a customer interacts with environmental stimuli (Pine and Gilmore, 1998; Chen and Chen, 2010; Adhikari and Bhattacharya, 2016). Moreover, most of them focused on the measurement of the construct after tourists had interacted with the service (Oh *et al.*, 2007; Kim *et al.*, 2012; Lyu *et al.*, 2018). The concept of CEM can be widened to consider the consumer experience in terms of people's sensorial, affective, cognitive, relational and behavioural responses to stimuli, encapsulated as a journey through touchpoints in the pre-purchase, purchase and post-purchase stages (Lemon and Verhoef, 2016; Homburg *et al.*, 2017). Currently, in the tourism and hospitality field, this approach is in its early phases (Kandampully *et al.*, 2018; Godovykh and Tasci, 2020) and remains theoretical.

Therefore, the present study aims to investigate the theme of CEM in tourism with an innovative approach both in the framework and in the methodology. The research investigates the effects of a digital touchpoint at the pre-purchase stage, which is a strategic phase of the journey to attract and engage consumers through to the purchase decision. The phenomenon is explored from both the supply-side perspective and the demand-side perspective.

The following sections provide a summary of the few studies that explicitly address touchpoint management and immersive VR in the tourism hospitality sector. Due to the scarcity of studies in the field, the review also draws on general studies of CEM.

2.2 Touchpoint management in the creation of the customer experience

CE has been conceptualized in different ways both in academia and in practice. According to the Gartner glossary, CE refers to the “customer’s perceptions and related feelings caused by the one-off and cumulative effect of interactions with a supplier’s employees, systems, channels or products” (www.gartner.com), whilst Forrester defines it as “How customers perceive their interactions with your company” (www.forrester.com). In academic studies, recent definitions seem to converge on the following definition: “the cognitive, emotional, behavioural, sensorial and social responses during the entire journey” (Lemon and Verhoef, 2016; Homburg *et al.*, 2017), so it begins with the first interaction with the firm and seamlessly continues through to the period after consumption.

From these definitions, it is evident that there is a coordinated series of stages and tools that connect a firm with the consumer. If emotions are induced by the firm’s stimuli and managed along the customer journey, there is a series of key touchpoints at which customers experience the firm in an emotional way (Brakus *et al.*, 2009; Zomerdijk and Voss, 2010). In their attempt to deepen understanding of the CE through the customer journey, Lemon and Verhoef (2016) mapped the main stages of the consumer decision-making process: the pre-purchase, purchase and post-purchase stages. They went on to identify four categories of touchpoints to use at each stage: *brand-owned* touchpoints, which include all the tools used and supplied by the firm (e.g. advertising and website); *partner-owned* touchpoints, which are designed and managed by the firm’s partners (e.g. those developing the firm’s app or VR marketing tools); *customer-based* touchpoints, which are the tools that firms cannot totally control because they are managed spontaneously by customers (e.g. word of mouth, forum and blog); and finally *social* touchpoints, chiefly the external review platforms (e.g. Tripadvisor and Booking.com), which have the power to influence customer decisions at each stage. Payne *et al.* (2017) suggested a categorization of touchpoints based on the presence (or absence) of a human component by distinguishing personal (e.g. in-store interactions) and non-personal (e.g. chatbot) touchpoints. More recently, Ieva and Ziliani (2018, p. 446) defined touchpoints as verbal and non-verbal incidents a person perceives and consciously relates to a given firm to underline a role that goes beyond the channel or media used (e.g. website, chatbot and store).

Homburg *et al.* (2017) and Holmlund *et al.* (2020) emphasized the importance of strategic management of the CE and, consequently, a coherent touchpoint plan, designed with specific goals for each stage of the journey. In the tourism field, although the CE has been widely investigated, few studies have used the customer journey and touchpoint management approach to empirically analyse the implementation of a successful CE (Yachin, 2018). The context of the cruise experience is particularly well suited to such an investigation as the cruise vacation is a complex hedonic service. A first attempt to cover this gap was made by Sharples (2019), who mapped the cruiser journey by focusing on the pre-consumption stage as crucial for marketing managers to activate the desire to experience the cruise. In doing so, modern technologies, for example, VR, can be effective touchpoints to engage users in an immersive way and stimulate the desire to purchase. In line with this discussion, the present work presents a case study within the cruise industry of a company, which has implemented VR as a crucial touchpoint at the pre-purchase stage of the journey.

2.3 Immersive virtual reality in tourism and hospitality

VR is a computer-generated 3D environment that simulates full immersion in a digital experience (Wei, 2019; Pizzi *et al.*, 2019; Guttentag, 2010). It can simulate real situations (Diemer *et al.*, 2015) and can allow the user to feel completely engaged. Several authors (Perry Hobson and Williams, 1995; Ijsselsteijn and Riva, 2003; Desai *et al.*, 2014; Wei, 2019) have emphasized the role of VR in the creation of symbolic experiences generated simply by the use of a VR viewer or in the form of online virtual tours.

VR is capable of transmitting the experience of escapism to users. That is, VR not only enables users to escape from their everyday life but also stimulates their senses and provides opportunities for virtual interaction (Guttentag, 2010). Importantly, a multi-sensory experience provides for more complete absorption, thereby increasing the delight and the value perceived in the stimulus (e.g. a museum tour or shopping at an up-market store). From a marketing perspective, VR can allow for a “try before you buy” experience (Han *et al.*, 2019; tom Dieck *et al.*, 2018) and can have important implications in terms of behavioural intentions. For example, a customer who can experience a hotel in a dynamic 3D virtual tour (instead of seeing merely static pictures) is likely to be more willing to book a room.

Because of such features, VR has been widely implemented and investigated within tourism and hospitality. In particular, because VR can overcome customers’ inherent distance from the products or services offered, it is an opportunity to enlarge the target audience.

Beck *et al.* (2019, p. 591) have provided the following definition of VR in tourism:

VR [...] creates a virtual environment (VE) by the provision of a synthetic or 360-degree real-life captured content with a capable non-, semi- or fully-immersive VR system, enabling virtual touristic 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.

From this definition, it is possible to define three types of VR based on their level of immersion.

Non-immersive VR refers to the presentation of 360-degree content on a traditional computer screen, which stimulates visual attention but limits interaction to movements on the screen (e.g. the Vatican museum virtual tours at: www.museivaticani.va/content/museivaticani/en/collezioni/musei/tour-virtuali-elenco.html).

Semi-immersive VR refers to 360-degree content projected onto the walls or floor combined with sound and video to engage people in a whole new media format. A good example is SENSORY4™, which is a modern exhibition technology. Driven by a suite of powerful computers, a bespoke software system controls up to 40 high-definition projectors and a digital surround-sound system. In Italy, this system has been used for many temporary exhibitions such as the Van Gogh Alive experience, the Leonardo da Vinci exhibition and the Klimt experience (Risitano *et al.*, 2017).

Finally, *fully immersive* VR refers to 360-degree real-life captured content delivered through a headset, which engages the user in a holistic experience. In marketing, it is used to stimulate the desire to have that product (or service) in real life.

The cruise industry offers good opportunities to gain from the use of VR. It could be a crucial touchpoint in the pre-purchase experience that helps cruise companies to attract new customers or penetrate new market segments, perhaps, especially technology-sensitive potential customers (e.g. millennials) who might otherwise consider the cruise as a vacation for seniors. Compared with the traditional paper catalogue, VR offers a better way to explore a ship and to give detailed information. It can also be used to reinforce brand image.

3. Methodology

To tackle the research question, we use a qualitative case study approach (Yin, 2017) by exploring the case of MSC, which is presently experimenting with an immersive VR catalogue, in the form of the MSC Immersive Configurator 2019/2020 (produced in collaboration with Samsung and developed by Axed Group). This is the first immersive VR configurator to be used in the industry. The immersive MSC catalogue can be used with Samsung's Oculus Gear VR after downloading the MSC 360vr APP.

The case has chosen accords with the principles of the "extreme" case method (Seawright and Gerring, 2008), using an inductive and iterative approach. Inductive theory was structured on the qualitative information gathered, which is important in an area in which there is little prior work (Bansal *et al.*, 2018). The case study method is useful for an exploratory study which "focuses on understanding the dynamics present within single settings" (Eisenhardt, 1989, p. 534) and addresses a "how" research question. Our research aim is to understand how VR can be used at the pre-purchase stage of the customer journey.

MSC (www.msccruises.com/en-gl/Homepage.aspx) is the largest private-capital cruise company in the world and one of the biggest cruise brands operating in Europe (as of 2019). Its market share increased by 800% from 2004 to 2019, with a total of 2.37 million passengers worldwide in 2018 (Statista, 2020). In recent years the company has invested heavily to improve the passenger experience by replacing the traditional touchpoints (e.g. paper daily schedule, TV and telephone marketing, paper catalogue) with a series of cutting-edge touchpoints (e.g. app and virtual assistant and virtual catalogue) especially at the on board and pre-purchase stages. In relation to the on board stage, the company has recently implemented on some new ships (Meraviglia, Bellissima, Seaview and Seaside) an application whereby passengers can log in with a booking code and, through the wifi, be connected for free via chat with other passengers (friends, family or crew) or can order any of the services offered. On these experimental ships, called *smart ships*, MSC has also implemented in each cabin a virtual assistant called ZOE, who can support guests directly in their cabin.

This investment is needed to implement the company's customer-centric strategic plan to design and manage the cruisers' experience at all stages of their journey. Regarding the pre-purchase stage, MSC has launched the Immersive Configurator 2019/2020 (Figure 1). It allows the customer to virtually enter the MSC store and configure their cruise with movements of the hands via a holographic screen. This innovative tool is extremely functional and allows travel agencies and customers to immerse themselves in the world of cruising; they can explore itineraries and travel options, look at destinations and choose their preferred cabin. The experience ends with the booking of the cruise and the receipt by e-mail of a personalized video tailor-made quote.

3.1 Research design

To answer the research question, data were collected and triangulated (Yin, 2017) from multiple sources of evidence:

- annual reports, official websites, specialist trade press and interviews published in online newspapers,
- the physical artefact (i.e. the MSC Immersive Configurator 2019/2020), to explore its key technical characteristics and the range of services offered,
- seven in-depth interviews conducted with MSC managers (the Italian Marketing Manager and his staff) and the MSC Brand Ambassador and
- a non-random convenience sample of consumers (Etikan *et al.*, 2016).

After the analysis of the online documentation and physical artefact, the case was approached in two main steps aimed at exploring the phenomenon from the supply side and the demand side.

In the first step, we tried to understand why and how a cruise company can achieve a competitive advantage through the use of a VR touchpoint. A semi-structured questionnaire was used in the interviews to help capture the benefits of an immersive catalogue in the cruise industry. Each interview took around 40 min. All were audio-recorded and then transcribed verbatim and anonymized. Notes were taken during the interviews. We structured the questions around the impact of VR on customer choice. We asked about the typologies of touchpoints implemented in the customer journey and the suggested reasons for each touchpoint. Moreover, we asked why the company had invested in the VR technology and what results in it expected from the use of this touchpoint at the pre-purchase stage.

In the second step, we collected a *non-random convenience sample of consumers* (Etikan *et al.*, 2016). Participants were selected in the south of Italy, from travel agencies and tour operators, on the basis of accessibility, geographical proximity and availability to support our research.

Triangulation of data made our analysis more robust (Yin, 2009).

3.2 Data structure and analysis

We applied Gioia *et al.*'s (2013) method to ensure rigour in qualitative data analysis and to connect the theoretical framework (set out above) to the research question and study methodology.

Thus, qualitative data analysis was structured. To triangulate the data, some additional elements were examined (i.e. secondary data from the company website, newspaper articles and company documents). For better data triangulation, we exploited the above-mentioned other sources of evidence such as online documentation and official archival records of the MSC. Starting from various rounds of open coding, data and information were analysed using WordStat software to recognize the aggregate dimensions manually extracted and customized for our investigation. Further details are presented in Figure 2, which shows the word cloud and the doughnut chart based on the distribution of keywords (frequency). We detail the technique for data analysis and data visualization below. We structure the results in accordance with the main dimensions that emerged using the WordStat software: i.e. customer, catalogue and product (Figure 2).

Because argument modelling can lead to some phrases being related to more than one second-order theme, we grouped the emerging themes (Gioia *et al.*, 2013) and linked them to the three identified aggregate dimensions:

- (1) physical participation of the customer,
- (2) configurability of the virtual catalogue; and
- (3) productization.



Source: tomshw.it

Figure 1.
The MSC
configurator

These three dimensions were also validated from the point of view of the seven key informants interviewed (Table 1).

4. Results

In the following, we highlight the most interesting innovations in the application of VR technology to the MSC catalogue. Specifically, we discuss how the cruise company has reconceptualized the customer pre-purchase journey. We divide our analysis into three subsections that categorize the most significant dimensions of VR.

Firstly, we explore how VR technology has added physical and sensorial customer participation to the pre-purchase journey. Secondly, we underline how the VR catalogue has greatly enlarged the flexibility of the pre-purchase journey, by endowing the customer with a new, much more configurable way to select and test different aspects of a cruise vacation. Thirdly, technological innovation recombines the traditional elements of the product. Figure 3 shows the link analysis of the data and information analysed and elaborated using WordStat software. This allows the visualization of the connections among keywords through a network graph. Our aim is to link the various empirical results generated through WordStat in co-occurrences. The thickness of the lines represents the strength of these relations (e.g. catalogue and configuration, participation and customer, product and configurator). The link analysis assesses the relationships between elements and highlights the strengths of the different associations. Further details of these relations are described in the following subsections.

4.1 Physical participation of the customer

The stimulation of prospective customers during the VR experience is recorded in the aggregated frequencies of groups of words such as cruise, travel, ship or participation and experience (Figure 2). Our in-depth qualitative investigation revealed how VR is able to introduce bodily involvement into the pre-purchase journey. Indeed, physical participation is the aspect of marketing that is wholly new with VR.

By way of example, the results of the analysis of a first-order quote from the Marketing Director of MSC, during the interview, are shown in Table 1. The Marketing Director had affirmed that the VR catalogue:

Allows you to live fully and be immersed in our offer, in our product and therefore in our beautiful ships and destinations. . . the customer can select an option by touching an oleographic screen with their hands.

We codified such quotations to extrapolate second-order themes, like the different kinds of customer stimulations. The most significant second-order themes referred to two main



Figure 2.
Word Cloud and
Donut chart
elaborated from
WordStat

Source: Authors' elaboration

Example of 1 st order quotes	2 nd order themes	Aggregate dimensions
“... allow you to live fully and be immersed in our offer, in our product, and therefore in our beautiful ships and destinations”	New product and service development	Physical participation of the customer
“... the customer can select an option by touching with hands an oleographic screen”	Customer experience	
“... the same time the MSC VR catalogue enables you to have a real tool of choice, for configuring your next cruise by electing everything: the destination, the ship and the cabin where you will stay or with how many passengers and having all information updated in real-time”	Maturity of technologies	Configurability of catalogue
“... we would create a completely innovative tool, never seen before in cruise industry. It is also useful for travel agents, who can take advantage of additional support to talk about the cruise and give information, especially if the customer has never done one previously”	Customer demand insight	
“... our touchpoint experience strategy, aimed at creating a unique and personalized experience with our customers, starting from the first point of contact”	Touchpoint marketing	Productization
“... It is possible thanks to digital technologies, which nowadays, in addition to being a powerful enabler, become more and more a product itself”	Maturity of technologies	

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Source: Authors' elaboration

Table 1.
Data structure and analysis from Gioia *et al.* (2013) method

issues: new product and service development. These two themes can be interpreted from the firm perspective, as the firm aims to improve its performance and CE and from the customer perspective, in terms of satisfaction.

At the end of the process of analysis, we found that an aggregate dimension identified in our qualitative study is the physical stimulation of the customer. Indeed, the interviews confirmed how the physical, tactile and more generally the sensorial aspects supported by VR technology can immerse the customer in the cruise atmosphere; before VR, that would be possible only with a real, in-person tour of the ship. VR has also enriched the pre-purchase stage by giving customers a new set of possibilities for interacting. Potential customers are stimulated by the Configurator as if they were on board the ship. The VR technology provides them with the feeling of walking around and opening doors, entering cabins, etc. Through the use of fingers and hands, customers can interact by selecting different sets of configurable options. All of these concepts are captured from the link analysis shown in Figure 4, where some of the strongest relations involve “participation”. Also, the link between “catalogue” and “experience” gets a high-intensity rating, demonstrating once again a new source of customer stimulation.

4.2 Configurability of the virtual reality catalogue

According to Figure 2, which shows the distribution of keywords in terms of frequency, at the top of the ranking are listed the words “product” and “customer”. Given that we are analysing a virtual catalogue, this might be expected. On the other hand, if the frequencies of the words “configurator” and “configuration” are summed, they top the ranking, which is a first-order signal of how configurability is a key point. Configurability concerns a new way of arranging a pre-purchase exploration with greater freedom in setting features. The customer can be stimulated by a wide array of options. The data analysis presented in

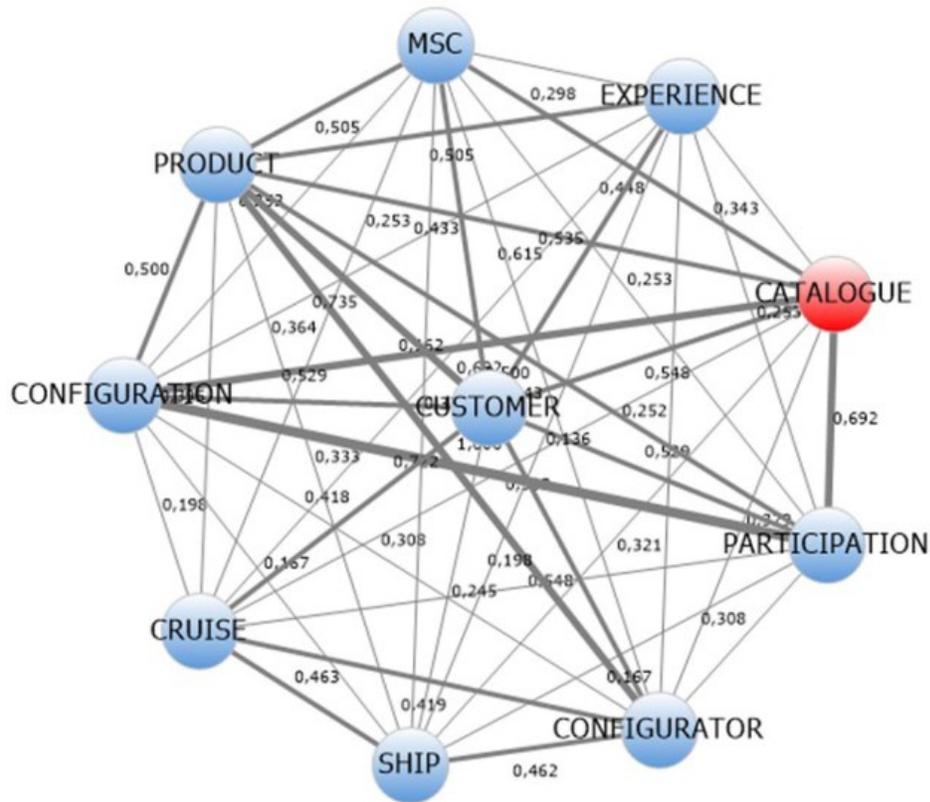


Figure 3.
Link analysis
elaborated from
WordStat

Source: Authors' elaboration

Figure 3 uses the example of the first-order quote from the interview with MSC's Marketing Director, which reveals the significant changes achieved by the VR catalogue in terms of flexibility and configurability:

... the MSC VR catalogue enables you to have a real tool of choice, for configuring your next cruise by selecting everything: the destination, the ship and the cabin where you will stay or with how many passengers and having all information updated in real-time.

The great innovation with the VR technology is the capacity for the catalogue to act as a configurator, unlike the traditional printed catalogue. Through the observation of CEs, we found that VR not only potentiates the contents in favour of the customer but also provides the chance for them to set and personalize the VR experience. According to the MSC Marketing Director:

Once the vision is finished in VR, the configurator will automatically send an email containing a summary of the selected cruise, in the form of a personalized video showing the itinerary with the main destinations, in the style of "video storytelling" told by a human voiceover, able to address the customer directly, by name.

Indeed, customers have the ability to select and change, at the pre-purchase stage, the types of ship, the level of service, the position of the cabin and many other cruise features. Again, according to the MSC Marketing Director: "We would create a completely innovative tool, never seen before in the cruise industry. It is also useful for travel agents, who can take

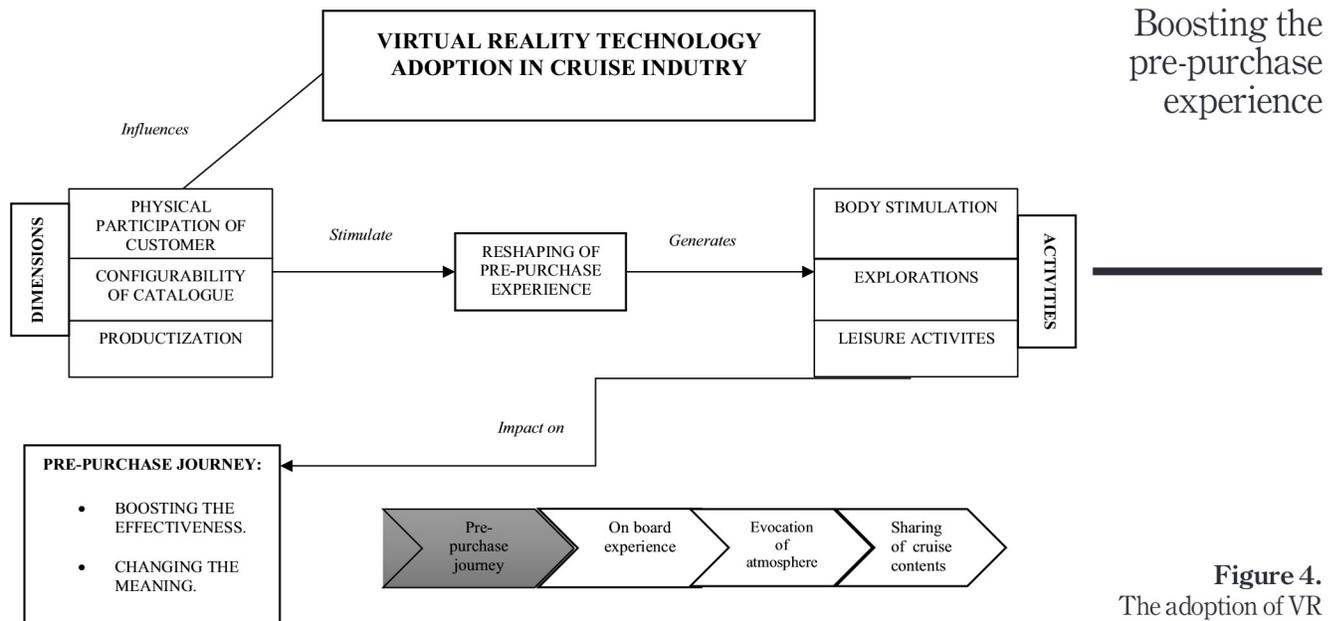


Figure 4.
The adoption of VR
in the cruise
industrySource:
Authors' elaboration.

Source: Authors' elaboration

advantage of additional support to tell people about the cruise and give information, especially if the customer has never done one previously". The VR MSC catalogue supports the work of travel agencies by providing a direct overview of most customer vacation options.

The analysis of the first-order quotes generated the second-order themes, which concern the maturity of the technology in providing configurability and insights into customer demand as a very effective way for the company to achieve a broad customer analysis. These are tied to the link analysis in Figure 4, which shows a strong link between the word bubbles "configuration", "customer" and "catalogue".

4.3 Productization

The word cloud and doughnut chart (Figure 2) rank at the top the word "product". Given the object of analysis in the present study, this is not surprising. Exploiting the link analysis in Figure 4, much more interesting ties emerge, however. For example, it shows how customers enjoy the VR catalogue as if it were itself the product (rather than the cruise). In fact, the word "product" has a higher connection index than words such as "participation", "configuration" and "customer". It puts emphasis on the catalogue and its ability to satisfy and engage participants. The VR catalogue has the capacity to be perceived as an individual product or service in its own right. This phenomenon has been termed "productization". The MSC case reinforces the idea of the VR catalogue as an individual product or service. The first-order quotes supported this conceptualization. Some extracts from interviews had a very high degree of coherence with the idea of productization.

For instance, one interviewee stated:

Our touchpoint experience strategy is aimed at creating a unique and personalized experience with our customers, starting from the first point of contact. It is possible thanks to digital

technologies, which nowadays, in addition to being a powerful enabler, become more and more products themselves.

In other words, the VR catalogue, as well as being an efficient interconnected digital marketing tool, is an individual and autonomous high-level customer service. Our results regarding second-order themes (Table 1) shed light on two main aspects in tight coherence with the quantitative data elaboration. The crucial topics are the VR catalogue as a marketing touchpoint, in the sense that it has the capacity to stand alone in the company marketing strategy; and the maturity of technology, in terms of it now being able to fully satisfy customers, even in the pre-purchase stage.

5. Discussion and conclusions

5.1 Conclusion

Recent technological innovations are revolutionizing the way products and services can be experienced at all stages of the customer journey (Hoyer *et al.*, 2020; Flavián *et al.*, 2019). What has changed most of all is the capacity to stimulate, involve and persuade customers. Technology like VR can enrich the way customers discover, select and purchase products or services (Desai *et al.*, 2014; Wei, 2019). It is a powerful marketing tool for a company, which can thereby reconfigure the entire customer journey (Lemon and Verhoef, 2016). VR technology has been able to upset the traditional marketing approach by introducing a wider range of marketing tools (Yachin, 2018). The possibility of reshaping the customer journey, from the pre-purchase stage to the post-consumption stage, is especially pertinent to a cruise company because of the formidable difficulties in explaining and showing a very complicated, fragmented and heterogeneous range of services (i.e. vacation tour, type of ship and level of onboard service). The case of the MSC VR catalogue reveals the potential impact of such technology on the customer journey, as well as the mechanisms and dimensions that are activated by a fully immersive VR technology.

The case study sets out the significant advantages for both companies and customers. We have scrutinized interviews, then the codification. We have restricted the realm of dimensions to just three overarching categories: physical participation; configurability; and productization. MSC boosts customer attention by stimulating parts of the body that are traditionally not used in marketing (or are used in a different manner), like hands. The dimension of configurability has radically transformed the pre-purchase stage from a moment for getting information into an experience for exploring, discovering and configuring a vacation. Finally, MSC has shifted the role of the promotional catalogue from a simple enabler or activator of purchasing into a moment of leisure and curiosity in its own right. Another fundamental innovation is the meaning of the catalogue for a customer: it is traditionally associated with information supply, but the VR catalogue is able not only to anticipate and provide some experience of the cruise before purchase but also to offer a way to remember and relive the cruise after the actual experience.

5.2 Theoretical implications

This paper advances the theoretical literature in several ways. Firstly, within the field of CE, whilst most previous studies analyse the customer's perceptions after the consumption stage, this study investigated the pre-purchase stage of the journey, which is critical to engage the customer emotionally and stimulate the desire to purchase (Sharples, 2019). Secondly, whilst most studies (Guttentag, 2010; Yung and Khoo-Lattimore, 2019; Beck *et al.*, 2019; Elgammal *et al.*, 2020) are still theoretical in the hospitality and tourism literature, the present study enlarges the empirical knowledge of the use of VR technologies.

Additionally, in the context of the cruise literature, this study offers insights into best practices. Whilst [Sharples \(2019\)](#) provided a theoretical basis for research on the cruise pre-consumption experience, the empirical analysis presented here offers useful insights for cruise companies and for the hospitality industry in general.

This research has implications for tourism and hospitality managers by demonstrating the opportunities derived from the adoption of fully immersive VR in the pre-purchase stage of the customer journey and contributes to the literature a case study in the cruise context. Especially in these challenging times due to the pandemic, this exploratory study encourages researchers to further investigate how managers may take advantage of VR – and fully immersive VR – to design successful CEs.

5.3 Practical implications

Our study has practical and academic implications in the field of technology applied to marketing. Our qualitative investigation incorporates both customer and company perspectives. From the firm's point of view, the identification of three dimensions to manage and monitor the adoption of VR within a marketing strategy should be useful. The three dimensions may act as drivers for much more effective implementation of new technology. The elements of physical participation and productization seem to fit with other marketing tools, like social media. Indeed, the VR catalogue might act as a product, in this case, a device, to connect and interact with other users. From the perspective of customers, VR technology is perceived as a simulator or a virtual game in which it is possible to discover and enjoy the cruise experience. The surprising finding was that the VR catalogue can be seen as a “product” in its own right, able to generate satisfaction not directly linked to the purchase of the cruise vacation. In other words, the VR catalogue has the features of a game and the customer may be stimulated to try the virtual experience just to satisfy the feeling of curiosity or for entertainment. The selected case shows how the adoption of breakthrough technology may open different avenues in terms of updating business models and product concepts built around a value-added generated by customers' ecosystems.

The dimension of configurability has important practical implications. Such flexibility could represent a fruitful means for gathering new data, for achieving a much more effective customer “clusterization”, at the pre-purchase stage. Our findings show how the VR catalogue is very connected to other digital or non-digital marketing tools. It may have a preminent role in market segmentation and may provide customers with a lot of information, via email. The traditional travel agency is not replaced; rather, it has a new way to show the contents of a cruise vacation, as well as the possibility of a new digital marketing system, endowed with a greater amount of data.

Finally, a practical implication is the use of VR technology in the context of the COVID-19 pandemic. The need to reduce personal interactions and thereby the health risks associated with the face-to-face business model has led to an urgent search for alternative tools for marketing communication. To meet this “new normal”, companies should introduce or enhance the use of VR as it will allow them to keep in touch with consumers in an experiential way and especially at touchpoints before purchase.

During the first lockdown, MSC exploited its virtual configurator to empower its social network campaign, #MSCdreams (www.mscdreams.msccrociere.it). The aim of this campaign was to reinforce the consumer-brand relationship through the integrated use of the configurator, social networks, website and mobile application by stimulating positive memories of previous cruise experiences. For this reason, VR technology might be also a resilience strategy for companies facing such unexpected events as the outbreak of COVID-

19. The adoption of new technology always has marketing implications, in terms of enlarging the reach of communication or increasing the efficiency of marketing.

5.4 Limitations and future research

The paper contributes to the literature on the cruise experience with an empirical exploration of the use of VR in the pre-purchase experience, by using a qualitative approach that integrates both the supply-side and the demand-side perspective. Our study is just a first step for identifying some key aspects of the customer pre-purchase journey during VR technology implementation. It is not without limitations. Firstly, it restricted its focus to the pre-purchase stage but it would be interesting to investigate the role of VR at other stages such as the on board experience.

Another limitation is the omission of customer segmentation. This was because the aim was to explore the overall perceived experience. Future research may explore the interconnection of VR technology with social media tools, particularly in multichannel stimulation of potential customers. Moreover, a further interesting study might investigate the use of artificial intelligence in the cruise experience, by analysing the cabin virtual assistant. Finally, the use of these innovative technologies could be approached with neuromarketing techniques to capture individuals' actual perceptions.

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Corresponding author

Annarita Sorrentino can be contacted at: annarita.sorrentino@uniparthenope.it