Addicted to cruises? Key drivers of cruise ship loyalty behavior through an e-WOM approach

José Ignacio Castillo-Manzano, Mercedes Castro-Nuño and
Rafael Pozo-Barajas

*Applied Economic and Management Research Group, Universidad de Sevilla,
Seville, Spain*

Abstract

Purpose – This paper aims to identify the drivers that explain loyalty behavior in cruise tourism with the aim of achieving a better understanding of repeat cruisers' intentions to sail on the same ship or on another ship belonging to the same cruise line or cruise corporation.

Design/methodology/approach – Based on over 150,000 online reviews about their satisfaction and experience posted by cruisers using so-called electronic Word of Mouth (e-WOM), the authors apply both a graphic and an econometric technique through input-output circular plots and discrete choice models.

Findings – The main results show that cruisers' behavior is influenced by multiple onboard attributes, such as the service crew, entertainment options, type of cabin, some characteristics of the ship (age, capacity) and the cruise line (Premium-Luxury versus mainstream), and, specifically, the quality and variety of the gastronomic experience.

Practical implications – The results highlight that repeats cruisers are predominantly linked to a cruise company or a cruise corporation rather than a particular ship. This result provides information on the moderators that can influence the customers' repetition behavior, which might be useful for planning revenue management and extending knowledge on hospitality loyalty in general and in the cruise industry in particular, specifically under the current uncertainty due to the COVID-19 pandemic.

Originality/value – The previous literature has essentially examined revisit intentions in the cruise market from a qualitative approach and the authors have found no study to date that has simultaneously addressed this issue in three dimensions, namely, ship, cruise line and cruise corporation. The research fills this gap by determining the reasons why passengers would repeat a cruise either on the same ship, with the same cruise line or the same cruise corporation based on previous experience.

Keywords Hospitality industry, Tourist loyalty, Online customer reviews, e-WOM,
Repeat tourists, Cruiser satisfaction

Paper type Research paper

1. Introduction

For two decades before the COVID-19 crisis, the cruise segment was one of the fastest-growing hospitality industry activities in the world, with more than 30 million passengers in 2019 according to CLIA (2020). By said year, the leisure cruise business had become a regular vacation choice and one of the most dynamic and lucrative sectors in the tourism industry (Hung *et al.*, 2019). However, everything changed in 2020, the year of the pandemic, when some of the most serious negative impacts of SARS-CoV-2 (COVID-19 pandemic) on tourism affected cruise ships (Castaldo *et al.*, 2021). The example of the Diamond Princess showed that cruise vessels are a perfect habitat for the virus to spread, with thousands of passengers living together in a confined space where innumerable social activities take place throughout the day (Castillo-Manzano *et al.*, 2015, 2018), i.e. the nemesis of social distancing.

In addition, cruise vessels were also seen to be the optimum vehicle for transmitting the virus from one country to another, in this case, from China to Japan.

Dozens of incidents on cruise ships occurred during the first quarter of 2020. To be precise, by the end of April 2020, the Washington Post had detected infections on 55 vessels and at least 65 deaths (www.washingtonpost.com/graphics/2020/politics/cruise-ships-coronavirus/). This, in turn, led to the collapse of cruise companies on the stock market, with falls in March of around 70%–80% from their January 2020 highs according to Klynveld Peat Marwick Goerdeler (https://home.kpmg/xx/en/blogs/home/posts/2020/07/covid-19-impacts-on-global-cruise-industry.html). In other words, the financial markets doubted the survival of the cruise business model.

However, in the opinion of scholars such as Sun *et al.* (2018), the cruise sector had already entered the maturity stage before the COVID-19 crisis as the emphasis was on cruise companies to not only attract new travelers but also to use a variety of marketing strategies to encourage existing customers to make a repeat purchase. One of these strategies is loyalty programs, which reward consumers for repeat business with a supplier/group of suppliers or by a brand offering discounts for points obtained with purchases (Petrick *et al.*, 2006; Vega-Muñoz *et al.*, 2020). There is a strong rivalry between companies to retain cruisers and several cruise loyalty programs can be found that segment customers based on *third-degree price discrimination* (Namin *et al.*, 2020). Programs of this type offer the opportunity to join loyalty clubs with different tiers (i.e. Silver, Gold, Platinum, Diamond [. . .]) associated with different membership benefits e.g. suite upgrades, exclusive dining options, butler services, and additional overnight stays (Ahn and Back, 2019) depending on, for example, the number of cruises and types of staterooms booked.

Cruise corporations have various tactical strategies to achieve customer repetition. These include acknowledging customers who reach the maximum number of points possible on one of a corporation's cruise lines by automatically extending the benefits to other lines in the group. Such is the case of Royal Caribbean Cruises Ltd., for example, as stated on their website www.celebritycruises.com/captains-club/exclusive-offers/loyalty-reciprocity-program. Many cruise lines also have a "next-cruise onboard sales program". Programs of this type offer even first-time passengers perks, such as exclusive onboard savings and/or extras, credits and discounts [1] on their next cruise, providing that they make the reservation on the same line before their current cruise ends.

It would, therefore, seem that cruise companies are likely to depend more and more on their most loyal repeat customers to progressively revive their business activity after the current pandemic. This justifies the pertinence of studies such as the present paper, which, as Figure 1 shows, addresses the factors that determine passengers' decisions to repeat purchase a cruise. The starting point that we take for this is cruise customers' satisfaction with some specific determinants of their cruise experience, as expressed in online reviews. We adopt the theoretical approach followed by previous scholars, such as Hosany and Witham (2010) and Li and Kwortnik (2017), which is based on the idea that travel determinants are internal/external stimuli that influence memorable experiences and satisfaction and trigger behavioral intentions to repeat cruise bookings and give recommendations as "emotional responses".

Considering this argument, the purpose of our paper is to understand the cruise loyalty phenomenon. We try to fill the gaps and overcome the limitations of the prior research, which has been predominantly based on qualitative data obtained from small samples. In a novel approach, our study investigates the factors that drive cruise loyalty at all levels to explain why passengers, based on their previous experience, repeat a cruise either on the same ship or another ship belonging to the same cruise line or, at the very least, on a ship of

Figure 1.
Research framework
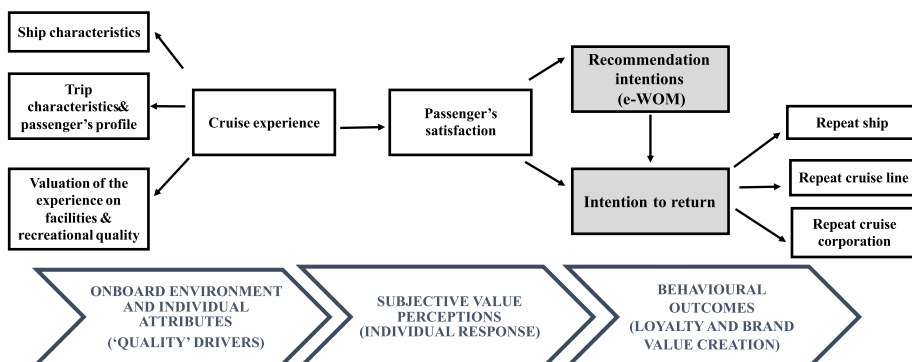
Source: Prepared by authors

a different line that belongs to the same cruise corporation. From a practical point of view, we derive some implications about repeat cruiser behavior to advance research in this area and offer interesting insights for revenue management, operations and marketing in an industry that is currently striving to recover from the aftereffects of the COVID-19 pandemic.

For the first time in hospitality management, in general, and cruise studies, in particular, we explore cruisers' online evaluations of their experiences to create a graphic model for the visualization of interactive data, complemented by discrete choice models. We construct a database of over 150,000 trip reviews posted on the "Cruiseline.com" platform. This specific cruise-travel online review website is used to capture cruisers' value perception and satisfaction for repeat purchase intention (following Mohd-Any *et al.*, 2015). In general terms, online customer reviews based on the so-called *electronic* Word of Mouth (e-WOM) phenomenon are now widely accepted by the hospitality industry and the literature as a predictor of loyalty (Sun *et al.*, 2021; Tao and Kim, 2019; Zhang *et al.*, 2015).

In the case of the cruise industry, previous authors such as Papathanassis (2017) have highlighted the considerable potential that online customer reviews offer for empirical cruise research. The opportunities offered by online data mining in this field have been examined by scholars, such as Park *et al.* (2016), Penco *et al.* (2019) and Tiago *et al.* (2018), who analyzed data on cruise experiences on social media networks, such as Facebook and Twitter; Bahja *et al.* (2019), Chen *et al.* (2020) and Zhang *et al.* (2015), who conducted studies to analyze the use of e-platforms and websites to express passenger satisfaction, and Buzova *et al.* (2020) and Gonzales Santiago and Correia (2019), who examined the use of blogs.

Considering all the above, this paper is structured as follows: after this Introduction, Section 2 presents a literature review of cruiser behavior and cruise tourism loyalty. Section 3 describes the empirical context of the research and the methodology. Section 4 presents our Results. Section 5 offers the discussion and conclusions. Finally, a list of References is given.

2. Literature review

The relationship between quality perception, satisfaction and prediction of behavioral intentions has been explored from both a cognitive and an attitudinal perspective by some scholars in tourism, in general (Ali *et al.*, 2016; Yolal *et al.*, 2017), and the field of cruises, in particular (Calza *et al.*, 2020; Chiou *et al.*, 2021; Chua *et al.*, 2017; Forgas-Coll *et al.*, 2014; Tao and Kim, 2019). The predominant conclusion is that the behavioral intentions that lead to loyalty are explained by perceived quality (an evaluation of the attributes of the service) and

satisfaction. In the specific case of a cruise, passengers judge the quality of the physical environment and services provided according to their subjective perceptions of food, accommodation, entertainment, onboard facilities and staff attention. If their satisfaction is positive, they will possibly become repeat customers (Wang *et al.*, 2018).

A small number of empirical studies in the hospitality and tourism literature (Petrick, 2004a; Su *et al.*, 2020) also consider the study of first-time and repeat tourists. Previous analyzes suggest behavioral antecedents that can serve as a crucial source for repeat travel decision-making (Hultman *et al.*, 2015; Suhartanto *et al.*, 2020), including motivation and preferences (Lim *et al.*, 2016); quality and perceived value (Dedeoğlu, 2019), and satisfaction with previous experiences (Eid, 2015). At the same time, loyalty is an emergent field in the tourism academic literature. Most studies focused on the conduct of repeat tourists are based on the analysis of land-based destinations and activities (Chi, 2012). There is also a large body of loyalty research related to certain topics as follows: destinations (Campón-Cerro *et al.*, 2017); casinos (Shi *et al.*, 2014); transportation issues, such as infrastructure (Bezerra and Gomes, 2019) and modes such as airlines (Koklic *et al.*, 2017); hotels and accommodation (Koo *et al.*, 2020; Mao and Lyu, 2017; Xie and Chen, 2014) as all-inclusive resorts (Yolal *et al.*, 2017); restaurants (Hyun, 2010), and travel agents and tour-operators (Albayrak *et al.*, 2020).

The cruise product, which is this paper's object of study, is complex and differs from other travel and hospitality market segments. Despite the relevance of determining the differences between first-time and repeat tourists, only a limited number of studies have been conducted into the different behaviors of these two types in the cruise industry and the way that previous experiences influence cruise customers' behavior (Li and Petrick, 2008; Sun *et al.*, 2018). The previous studies on cruise passenger retention highlight the importance of this issue as possibly one of the major challenges for cruise companies (Han and Hyun, 2019) and conclude that motivations, values, image, desire and relationship investment play a key role in generating repeat cruising intentions (Hwang and Han, 2014).

From a methodological point of view, several studies have demonstrated that repeat cruisers usually display higher levels of satisfaction than new cruisers, as well as a strong brand loyalty (see, for example, Chua *et al.*, 2017; Papathanassis, 2017). And yet, despite the economic relevance of cruise passenger retention, the earlier, limited investigation based on surveys, qualitative methodologies (Jones, 2011; Li and Petrick, 2008; Petrick, 2004b, 2004c, 2005; Petrick and Sirakaya, 2003; Wang *et al.*, 2018) and exploratory techniques (Sun *et al.*, 2018) has only addressed the differences between new and repeat cruisers considering individual cruise lines and small samples. The conclusion was that loyal cruisers are influenced by different personal attributes, such as age, information sources, cruise characteristics, price sensitivities and motivations. Motivations to repeat may often include some hedonic and social values related to onboard cultural activities, the appeal of destinations and itineraries, the ship's level of luxury and the opportunity to meet new people (Hosany and Witham, 2010). Also, more specifically, Chua *et al.* (2017), Forgas-Coll *et al.* (2014) and Shahijan *et al.* (2018) agree that the relevance of perceived variables such as quality of service (e.g. ship facilities, staff efficiency and professionalism, personalized customer service) raise the levels of satisfaction and, consequently, strengthen cruisers' revisit intentions. Repeat purchase intentions also seem to be influenced by the perceived quality-price ratio (Chua *et al.*, 2015; Matzler *et al.*, 2019; Petrick, 2005). As a result, the promotion efforts of major cruise line operators, such as Disney, Norwegian, Carnival and Celebrity include the offer of member loyalty programs (Han and Hyun, 2019).

Taking into account all the above, we study the key factors and drivers of cruise loyalty at all levels (ship, line, corporation) according to cruisers' previous experiences and subjective value perception. We consider cruisers in different years and at different locations

and destinations to increase the generalizability of the findings and the knowledge on tourism loyalty. As our theoretical foundation, we take the idea that cruise passengers' loyalty to cruise vessels, lines and corporations is based on their memorable experiences of internal/external factors that could influence their satisfaction, repeat purchase intention and e-WOM recommendations (Figure 1).

3. Data and method
Our database has been constructed from information on the "Cruiseline.com" cruise online review portal. Although other review portals exist, "Cruiseline.com" was selected for its high number of reviews (over 150,000), among other things. Data were taken from all available reviews from the platform's launch in 2006 to September 2018. The "Cruiseline.com" platform also enabled us to construct the maximum number of variables justified by the previous literature, which, in turn, allowed us to maximize the number of hypotheses that we could test. For example, it was the only portal that enabled us to construct the variable Group_size. As is logical, a database cannot be constructed by merging online reviews from different websites as a cruiser could use different nicknames on each, which would result in duplicates.

We compiled and extracted the data from a total of 150,183 reviews posted by 135,400 different authors and covering trips from July 1987 to September 2018, along with another 1,283 undated reviews. Once the database had been constructed, an exhaustive procedure was carried out to identify errors, omissions and duplicates. This kept the loss of original reviews down to under 1% during the extraction process. Authors were identified by their usernames registered on the website. As the objective was to study repeat cruiser behavior, we only retained the 24,746 reviews corresponding to travelers with multiple reviews. Further reviews were discarded from this total when it was impossible to identify the order in which the cruises had been taken as they had been uploaded to "Cruiseline.com" on the same date. This left 22,019 reviews listed by author and sailing date. Subsequently, R software (R Core Team, 2018) was used to create a table to link authors' first reviews to their following reviews. All authors' last reviews were discarded (as there was no indication that they had any upcoming trips pending), leaving a final total of 13,011 reviews.

Figure 2 presents the information extracted from our database and shows repeat cruiser flows between the different corporations. This is the first time that this graphic model has been applied to cruise hospitality management, following the methodology proposed by Abel and Sander (2014). An interactive version can also be accessed at https://aem.us.es/Graphics/CruisePassengersFlows/, which enables an intuitive analysis of the flows between the cruise lines represented by the lines in the graphic. Clicking on a sector shows the ships that belong to the cruise line in question, enabling an analysis of the flow of passengers from each specific ship to the same or a different line.

Figure 2 shows that a significant percentage of passengers repeat on the same cruise line, which justifies our subsequent more detailed analysis of the factors that explain this. In the figure, each external arc of the circumference represents a cruise line with over 200 sailing logs. These 8 lines represent 92.05% of logs, i.e. with 11,976 movements between ships, 206 vessels of origin and 212 of destination. The curved lines that connect one sector with another represent the number of cruisers who decide to take their next cruise on a ship from another cruise line (for example, changing from a Norwegian Cruise Line ship to a Royal Caribbean Cruises Ltd. ship). The end of the line closest to the cruise line name marks the origin of the flow. So, the lines that begin and end in the same sector are passengers who

Figure 2.
Flows of travelers
between cruise lines

Source: Taken from https://aem.us.es/Graphics/CruisePassengersFlows/. Prepared by authors

repeat on the same vessel or a different vessel belonging to the same cruise line (for example, the first cruise aboard the Norwegian Jade and the second on the Norwegian Gem). The size of each sector is determined by the number of repeat passengers who use each of the cruise lines.

The size of the Celebrity Cruise flows in Figure 3 cannot be explained by the number of the cruise line's vessels of destination alone, as their size is not proportional to said number. For example, 20% and 10% of passengers who had previously sailed with Celebrity switched to Norwegian and Princess, respectively, despite Princess having 13.33% more ships than Norwegian (note that the number of ships can be seen by clicking on the corporations' arcs in the interactive diagrams). Multiple examples of this can be found at https://aem.us.es/Graphics/CruisePassengersFlows/. This is further justification for the need to develop our complimentary econometric analysis below.
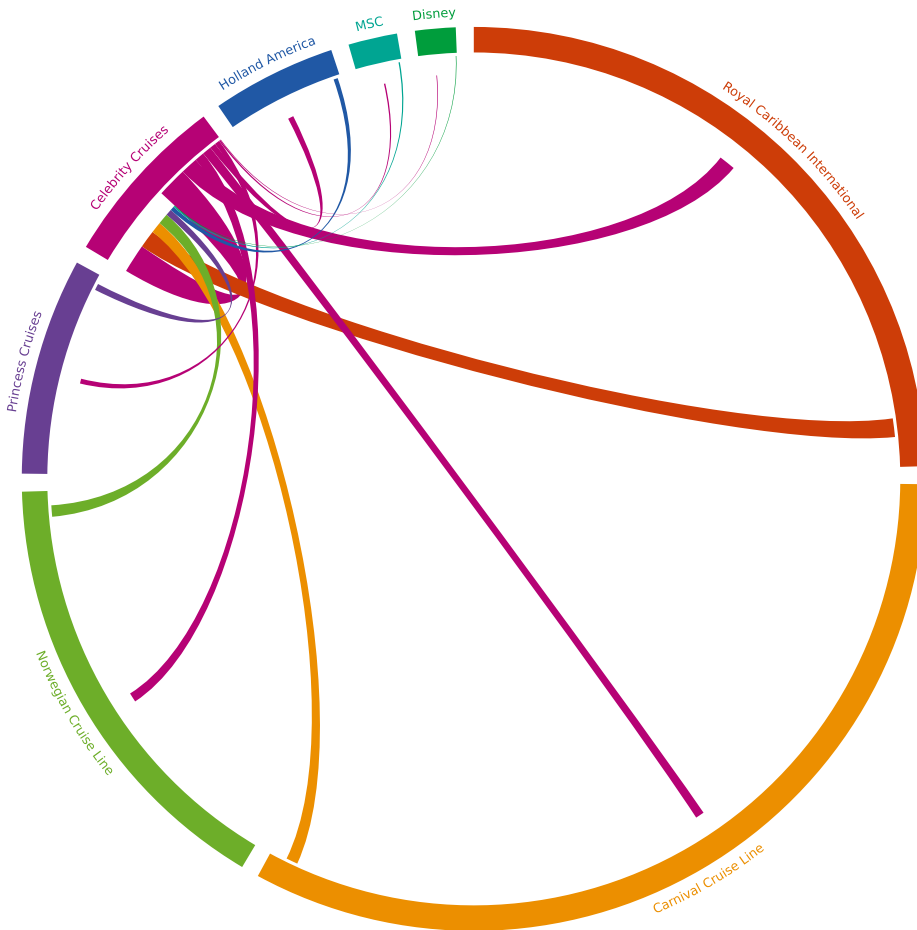
Figure 3.
Flows of travelers
between Celebrity
Cruises and other
cruise lines

Source: Taken from https://aem.us.es/Graphics/CruisePassengersFlows/. Prepared by authors

In Figure 4, the flows between Carnival vessels can be observed to be the same as the total number of flows to vessels of other cruise lines, which indicates a strong loyalty to this corporation irrespective of the Carnival vessel considered. Note that the effect can be seen in the interactive diagram by hovering the cursor over the arc corresponding to the ship. The size and variety of the flows that link any Carnival ship to another ship of the same line seem to indicate that passengers recognize different Carnival ships as near substitutes for any future cruises that they might take. In other words, Carnival's ships are homogenized and highly standardized passenger products and the line's name alone is sufficient to guarantee cruisers a similar experience on any of the line's ships.

The above graphic analysis is complemented by a set of estimates derived from a binary discrete demand model, which enables an analysis of the specific factors that explain why cruise passengers decide to take their next cruise on the same ship, with the same cruise line
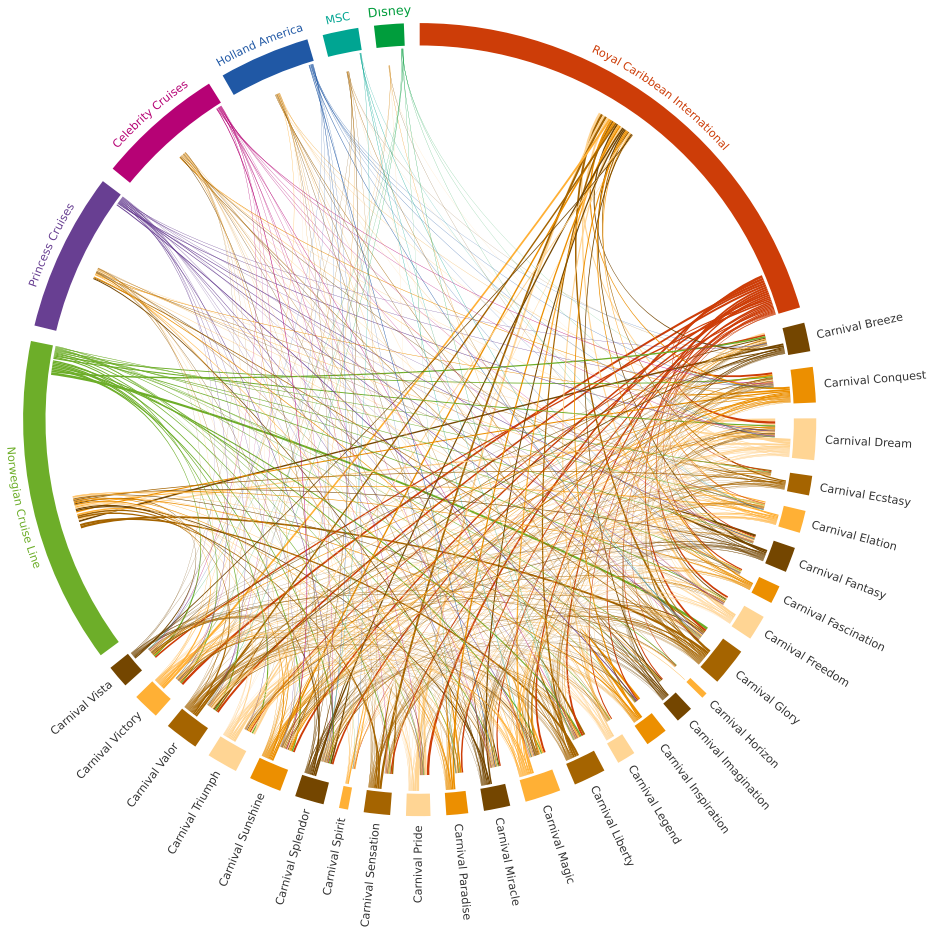
Figure 4.
Flows of travelers
from Carnival Cruise
Line vessels

Source: Taken from https://aem.us.es/Graphics/CruisePassengersFlows/. Prepared by authors

or the same cruise corporation. Binary logit models have been preferred to probit models as they maximize the verosimilarity pseudo logarithm and the exogenous variables joint significance Wald Test. Equation (1) shows the conditional probability that a cruiser i might take a repeat cruise on the same ship, line or corporation in both binary outcome models as follows:

$$P_i \equiv \mathrm{Pr}(y_i = 1|x) = F\left(x_i'\beta\right) = \left.\frac{e^{x_i'\beta}}{(1 + e^{x_i'\beta})}\right|_{logit} = \left.\int_{-\infty}^{x'\beta} \phi\left(z\right)dz\right|_{probit} \tag{1}$$

where: y is the binary observed variable to explain (i.e. the cruiser's choice to repeat or not on the same ship, cruise line, cruise corporation); x_i is a vector of independent variables and β is a vector of coefficients to estimate.

Table 1 presents the definitions of the variables used and the descriptive statistics. It shows three endogenous loyalty variables and three different groups of exogenous variables based on the prior literature that could be motivations for the cruising decision. These the following three categories of covariates are:

(1) Factors related to ship characteristics: the size of the vessel and its launch year (e.g. some cruisers might prefer new ships with fewer customers, as in Chua *et al.*, 2017; Whyte *et al.*, 2018; Xie *et al.*, 2012; Zhang *et al.*, 2015); the presence and/or quality of

Variable	Sum	Mean	P50	SD
1. Endogenous variables				
RepShip: 1 if the passenger repeats on the same ship on his/her next trip, 0 otherwise	1,419	0.109	0	0.312
RepLine: 1 if the passenger repeats with the same cruise company on his/her next trip, 0 otherwise	6,909	0.531	1	0.499
RepCorp: 1 if the passenger repeats on a cruise company belonging to the same cruise corporation as on his/her previous trip, 0 otherwise	7,983	0.614	1	0.487
2. Explanatory variables				
2.1 Ship characteristics				
Capacity: Maximum number of passengers allowed on the ship	–	2,880.295	2,758	963.520
CrewPerPass: Number of crew members/Number of cruise passengers	–	2.475	2.485	0.310
Premium: 1 if the company can be classified in the Premium or Luxury segment, 0 otherwise	2,964	0.003	0	0.053
Age: Age of the vessel at the time of the trip, in years	–	10.032	9	6.380
2.2 Trip and cruise passenger characteristics				
CabinType: Type of cabin: 1 (Inside), 2 (Oceanview), 3 (Balcony), 4 (Suite)	–	2.418	3	0.979
Date_cruise: Months since initial voyage to time of data mining, December 2018	–	54.316	42.115	39.794
Group_size: Composition of the cruise passenger's travel group: 1 (Singles/Friends), 2 (Couple), 3 (Family with older children), 4 (Family with young children), 5 (Large Group)	–	2.124	2	0.638
Wish_for_improvement: Cruiseline.com *valuation of second ship minus valuation of first ship*	–	0.021	0	0.503
Caribbean: 1 if the first trip was in the Caribbean, 0 otherwise	7,954	0.611	1	0.487
Mediterranean: 1 if the first trip was in the European Mediterranean or Portugal, 0 otherwise	446	0.000	0	0.021
Europe: 1 if the first trip was in non-Mediterranean western Europe, 0 otherwise	329	0.000	0	0.018
Social_networking: Author's contribution level to the website according to score given by Cruiseline, from 1 to 9	–	3.086	3	1.681
Cruiser_experience: Cruiser's trip experience: 1 (1 cruise), 2 (2–3 cruises), 3 (4–6 cruises), 4 (7+ cruises)	–	3.269	4	0.968
2.3 Valuation of the experience, from 0 (min.) to 5 (max.)				
Entertainment_value: Onboard entertainment, such as music and comedians	–	4.019	5	1.298
Cabin_value: Cabin	–	4.283	5	1.259
Ship_quality: General opinion of the ship	–	4.359	5	1.115
Service&Staff_value: Crew members and service	–	4.502	5	1.064
Ports of call_value: Average opinion of ports visited	–	4.055	4.250	0.933
Food&Dining_value: Food and restaurants	–	4.149	5	1.254

Table 1.
Variables used in the
analysis and
descriptive statistics

attributes that turn a cruise into a luxury experience (Han and Hyun, 2018, 2019; Hwang and Han, 2014; Hyun and Han, 2015; Ioana-Daniela *et al.*, 2018), and the ratio of crew members to passengers (Castillo-Manzano and López-Valpuesta, 2018).

(2) Attributes related to trip features, e.g. type of stateroom (according to Petrick, 2005; Sun *et al.*, 2018); the first destination (following Chi, 2012; Toudert and Bringas-Rábago, 2016); travel group size (party composition) (in line with Huang and Hsu, 2010; Li and Kwortnik, 2017), and customer profile variables, such as the previous number of cruises that passengers have been on (as studied by Jones, 2011; Petrick *et al.*, 2007).

(3) Subjective satisfaction aspects concerned with cruisers' experiences, which may be based on: guest services and crew (Chua *et al.*, 2015; Lee *et al.*, 2017), evaluation of the ports visited (Gabe *et al.*, 2006) and facilities at cruises terminals (Castillo-Manzano and Asencio-Flores, 2012), quality and range of onboard tangible/intangible facilities and amenities (Calza *et al.*, 2020; Petrick *et al.*, 2007), and recreation and entertainment options such as e.g. onboard restaurants (Li and Petrick, 2008).

It can be concluded from the information in Table 1 that repeating on the same ship is exceptional and is done by only 11% of cruisers on average. However, a majority of cruisers do repeat with the same cruise line (53%) or cruise corporation (61%). From a methodological point of view, the logit model coefficients cannot be interpreted directly as in other discrete demand models. The Marginal Effects at the mean have been estimated to explain the results. The Marginal Effect of a change in a continuous repressor, x_j, evaluated at the mean for the logit model can be estimated with equation (2):

$$\frac{e^{x_i'\beta}}{(1 + e^{x_i'\beta})} \left(\overline{x}'\hat{\beta}\right) \left\{ 1 - \frac{e^{x_i'\beta}}{(1 + e^{x_i'\beta})} \left(\overline{x}'\hat{\beta}\right) \right\} \hat{\beta}_j \qquad (2)$$

4. Results

4.1 Econometric estimations

Table 2 gives the estimations of the Marginal Effects at the mean for each of the three endogenous variables (repeat cruise ship; repeat cruise company; repeat cruise corporation). The very low VIF (Variance Inflation Factor) values indicate that the results are robust to heteroscedasticity and multicollinearity. As Table 2 shows, the VIFs are not only below the acceptable limit of 10 but also even below the more restrictive and most demanding rule of thumb of 5.

The results in Table 2 enable to explain cruisers' repetition behavior for the three endogenous variables. The interpretation of the Marginal Effects is direct for the dummy explanatory variables that take binary values 1/0 (e.g. Premium, Caribbean, Mediterranean [...]). Specifically, an increase can be observed in the likelihood of the *i-th* cruiser repeating ship/cruise line/cruise corporation when the value of the dummy variable is equal to one. In the case of the categorical variables (i.e. those with over two values, e.g. Group_size, Cabin_type, Cruiser_experience [...]), the Marginal Effect of the variable that appears in Table 2 has to be multiplied by the value of the specific category less the value of the base category, which for the three above mentioned variables is equal to one. So, for example, to estimate the effect of a large group with a value of five in the Group_size variable, the

Endogenous/explanatory variables	Ship repeat (RepShip)	Cruise line repeat (RepLine)	Cruise corporation repeat (RepCorp)
2.1 Ship characteristics			
Capacity	∇ 0.000% (0.000)	Δ 0.003% (0.001)***	Δ 0.003% (0.001)***
CrewPerPass	∇ 2.794% (1.336)**	Δ 1.323% (1.285)	Δ 3.745% (1.690)*
Premium	∇ 2.835% (0.952)***	∇ 13.467% (1.725)***	∇ 0.842% (1.690)
Age	∇ 0.086% (0.086)	Δ 0.502% (0.145)***	Δ 0.674% (0.142)***
2.2 Trip and cruise passenger characteristics			
Cabin_type	∇ 0.034% (0.392)	Δ 1.461% (0.671)**	Δ 1.298% (0.657)**
Date_cruise	∇ 0.009% (0.014)	Δ 0.009% (0.023)	Δ 0.029% (0.022)
Group_size	∇ 1.509% (0.574)***	∇ 1.037% (0.574)	∇ 1.815% (0.986)*
Wish_for_improvement	∇ 0.427% (0.454)	∇ 3.096% (1.353)**	∇ 3.130% (1.357)**
Caribbean	Δ 2.926% (1.033)***	Δ 1.817% (1.870)	Δ 0.628% (1.812)
Mediterranean	∇ 3.486% (1.832)*	∇ 1.312% (3.425)	∇ 4.643% (3.398)
Europe	∇ 1.292% (2.329)	∇ 3.849% (3.834)	∇ 7.307% (3.768)*
Social_networking	Δ 0.516% (0.227)**	Δ 1.578% (0.383)***	Δ 1.358% (0.373)***
Cruiser_experience	∇ 1.259% (0.389)***	∇ 5.110% (0.389)***	∇ 4.460% (0.677)***
2.3 Valuation of the experience, from 0 (min.) to 5 (max.)			
Entertainment_value	Δ 0.589% (0.329)*	Δ 1.221% (0.546)**	Δ 0.586% (0.529)
Cabin_value	Δ 0.117% (0.337)	Δ 2.367% (0.560)***	Δ 2.345% (0.540)***
Ship_quality	Δ 0.284% (0.419)	∇ 0.034% (0.711)	Δ 0.376% (0.688)
Service&Staff_value	Δ 0.984% (0.434)**	Δ 1.290% (0.714)*	Δ 0.801% (0.682)
Ports of call_value	Δ 0.670% (0.435)	Δ 0.064% (0.716)	Δ 0.077% (0.701)
Food&Dining_value	Δ 0.238% (0.364)	Δ 3.713% (0.610)***	Δ 3.108% (0.590)***
Joint significance test (Wald Chi-squared)	95.61***	408.80***	238.13***
Log pseudolikelihood	−2,252.189	−4,446.596	−4,393.9034
VIFs (max | mean)		2.51|1.59	
Number of observations		6,735	

Notes: Standard errors robust to heteroscedasticity in brackets; Statistical significance at 1%(***), 5%(**) and 10%(*)

Table 2.
Model logit
estimations for cruise
passenger repeat
behavior

marginal effect of this latter variable has to be multiplied by four; to estimate the effect of the category Suite with a value of four for the variable Cabin_type, the marginal effect has to be multiplied by three.

4.2 Analysis of drivers of cruiser loyalty behavior
Considering all the above, frequent passengers, i.e. those who go on the most cruises, are seen to be those who repeat the least, even with the group of cruise lines in the same corporation. Taking into account the Marginal Effects shown in Table 2, the likelihood that passengers on their first cruise will repeat on the same ship falls by almost 4% (=3·1.259%) compared to passengers who have been on over 7 cruises. This decrease rises to over 15% (=3·5.110%) in the case of the same cruise line and over 13% (=3·4.460%) with the same corporation. This implicitly demonstrates that the different ships/cruise lines/cruise corporations are close substitutes for each other with high cross elasticities.

In contrast, those who most repeat are the most active posters on "Cruiseline.com", i.e. those that the platform gives a score of 9 in Social_networking. As such, they are doubtlessly better informed about the characteristics of the different ships and very aware of the perks that cruise lines offer passengers who repeat and become loyal customers. The most active reviewers on this portal are 4% (=8·0.516%) more likely to repeat on the

same ship than the least active, with a 12.6% (=8·1.578%) greater likelihood of repeating with the cruise line and 11% (=8·1.358%) with the cruise corporation. This demonstrates that the cruise market battle is also being fought on the internet, indicating that the cruise lines should provide their potential customers with clear information about the advantages that they offer to repeaters.

According to Table 2, it also seems that repetition, significantly on both ship and cruise corporation, is a more attractive experience for couples and single travelers than for people traveling in large groups of relatives and/or friends. This can be explained by the fact that in the latter case each cruiser's discretionary decision power is reduced by the pooled decision-making. Thus, a passenger traveling in a large group is 6% (=4·1.509%) less likely to repeat on the same ship than a person traveling alone or with a partner, with the repeat intention corresponding to the individual who posted the online review. Unfortunately, the information accessible through the database does not enable us to determine whether the repeat cruiser traveled with the original "party group" on his/her repeat cruise.

In other respects, repeating with the same cruise line or cruise corporation clearly seems to correlate with the quality of the stateroom. Specifically, passengers in balcony staterooms repeat more than those in outside staterooms without a balcony, although the latter still repeat more than those in inside staterooms. So, repeat passengers also appear to be the most profitable for cruise lines, as demonstrated by the fact that they opt for the most expensive accommodation categories. Specifically, a passenger traveling in a suite is 4.5% (=3·1.461%) more likely to repeat with the cruise line and 4% (=3·1.298%) with another line in the same cruise corporation compared to a passenger traveling in an inside stateroom. Inside stateroom users are, in general, more price-sensitive and less loyal (Petrick, 2005, on the negative correlation between repeat cruisers and inside staterooms), probably because passengers who book lower-priced stateroom categories are likely to have lower incomes and fewer resources to fund any future cruises (Chua et al., 2017; Sun et al., 2018).

In contrast to what might appear to be the case a priori, repeating is shown to be more unlikely on Premium and Luxury ships and lines than on mainstream cruise lines, (i.e. the most common and popular cruise lines, mass-marketed to suit the needs of the majority of passengers and with a lower square meter/crew member to passenger ratio, e.g. Royal Caribbean, Norwegian and Carnival, among others), which is the baseline category against which we compare the explanatory variable Premium. Specifically, for the Premium and Luxury lines, the likelihood of repeating on the same ship falls by almost 3% and with the same line by almost 13.5%. This could be explained by the greater offer and variety of mainstream lines compared to Premium and Luxury lines allowing a repeat cruise to be taken on another vessel belonging to the same corporation. Said wider offer is due to mainstream lines generally having a higher number of ships and destinations worldwide than the Premium and Luxury lines and also because mainstream line ships are larger on average, enabling them to offer a broader variety of staterooms and services for all types of cruisers.

Repeating on the same ship is the least likely phenomenon (under 11% of the cruise passengers in the analysis of our broad sample) and repetition is seen to be almost 3% less likely on cruise lines with a low crew to passenger ratio, i.e. where, a priori, the service is not as good or vice versa, it is more likely on ships with a higher staff to passenger ratio. This empirical datum is confirmed by the evaluations of the passengers themselves. To be precise, it is the evaluation of service and staff and the evaluation of the ship's attributes, which span from entertainment to food, that are more closely correlated with the likelihood of repeating a cruise on the same ship. Specifically, a person who has scored these attributes

with a 5 is almost 5% more likely to repeat his/her following cruise on the same ship than someone who has given a score of 0.

Nevertheless, entertainment is also an interesting factor for repeating a cruise on the same ship. Han and Hyun (2018) indicate that loyalty rises when passengers are more involved in the trip and its activities and Whyte *et al.* (2018) state that the majority of participants place great importance on onboard attributes when choosing a vacation cruise. In any case, repeating on the same ship is a phenomenon that appears to be clearly geographically located in the Caribbean, perhaps due to the fact that it is a less cultural destination and more oriented toward sun-and-sand tourism. In other words, the ship/resort plays a greater role in sun and sand cruises as cruisers spend significantly less money than other travelers at these destinations (Larsen *et al.*, 2013). Moreover, repetition and the greater similarity of ports is more frequent in the Caribbean and, according to Lee and Lee (2017), this would increase the preference for the onboard activities that the ship offers, justifying the correlation with entertainment. However, repeating ship is less likely on cruises in the Mediterranean. The profile of cruisers who repeat with the same cruise line is much clearer. Along with the above-commented common factors, what stands out in the Mediterranean is, for example, the fact that a large majority of the attributes that define the experience are relevant. And those that stand out most are the food, service, entertainment and quality of the stateroom.

Another determinant seems to be cruise lines that offer large, though not necessarily new vessels (Capacity and Age variables). Perhaps, the most difficult result to explain is the significant negative correlation between the Wish_for_improvement variable and repeating with the same line or the same cruise corporation variables, respectively. This finding could mean loyalty in the sense that the ships that generate the wish to repeat in both cases are those that are most highly valued in each cruise line or group of cruise lines and that the most likely outcome would be that the following ship would receive a lower score. This also implicitly indicates that once their loyalty has been secured by the line or the corporation, passengers expect to obtain in return an experience that, for them, is fully satisfactory. So cruisers are not so demanding of the ship *per se* and have no reservations about taking a trip on any of the less highly rated ships in the same cruise line/corporation, which shows "trust" in the cruise line's quality and excellence (in line with the previous results in Forgas-Coll *et al.* (2014).

With respect to passengers who repeat with a cruise line in the same corporation, the food and the stateroom can again be seen to be the main determinant factors. Once again, these are cruisers who travel in the ship's best staterooms on large vessels, but they are also experienced passengers, not new. In geographic terms, repeating with cruise lines in the same group is less likely in the non-Mediterranean European market, i.e. the Atlantic and Northern Europe. This is probably influenced by the smaller variety of ships offered at these destinations compared to markets, such as the Mediterranean and the Caribbean.

Perhaps the most striking non-significant variable is the overall score given to the quality of the ship. This result is in line with Meng *et al.* (2011), who indicate that the image of the cruise ship does not have any significant impact on post-purchase behavioral intention. However, the same authors state that this is not the case for the scores given to some specific attributes, such as service, food, entertainment and staterooms. In fact, of all the specific attributes, the quality/variety of the food in the ship's various restaurants seems to be the most important variable for inducing a repeat with either the same cruise line or the same cruise corporation. A passenger who has given the food a score of 5 is 18.5% more likely to repeat with the same line and 15.5% more likely to repeat with a different line in the same group than a passenger who has given a score of 0. This result seems to indicate that

Richards (2021) idea that gastronomy is an increasingly important component of tourism experiences now extends to the cruise industry.

The lack of importance of the score given to ports of call also stands out. This non-correlation may be explained by the possibly secondary nature of ports of call compared to the cruise experience itself. Cruisers who do not enjoy a particular port on their route because it does not meet their expectations may not see this as the fault of the ship/cruise line/cruise corporation. By way of example, in Spain, according to the Andalusian regional government (Junta de Andalucía, 2012), 71.2% of people surveyed stated that they had no secondary reason for visiting Andalusia apart from enjoying the cruise itself. This clearly demonstrates that cruise customers make a marked distinction between satisfaction with the ship or the cruise line and the quality of the destinations that are visited and that no synergies or spin-offs seem to exist between the two types of satisfaction. The lack of significance of the variable that defines the year that the cruise was taken shows us that loyalty behavior has not varied significantly over the analyzed period (2006–2018).

5. Discussion and conclusions

5.1 Theoretical foundations
From a market organization perspective, the structure of the cruise sector is currently oligopolistic, with 75% of the market concentrated in the following three major players: Carnival Corp., Royal Caribbean Cruises Ltd. and Norwegian Cruise Line Holdings. Under their guidance, cruise activity has presented steady growth rates since its expansion and consolidation as one of the emerging mass tourism sectors at the end of the 1960s and the beginning of the 1970s. Considered a popular leisure option by millions of tourists across five continents, the cruise industry has become the most relevant growth segment in the travel industry with increasing rates of demand. By 2020, cruising had already become one of the most dynamic and profitable tourism sectors, with a major impact on local and national economies worldwide and strong spillovers generated in a variety of industries. However, expectations were dashed by the COVID-19 pandemic and the industry is now at risk due to the crisis.

Given this context and the need for the cruise industry to reformulate its medium-long-term strategies once the current COVID-19 pandemic is over, a better understanding of the behavioral differences of repeat cruisers will be required to achieve the two goals of customer attraction and retention. With this in mind, the broad expansion of the new technologies during the so-called "e-tourism era" and the growing use of online review systems as predictors of travel and reservation planning mean that they could be relevant tools for exploring loyalty dimensions and determinants in the cruise industry. So, in this line, this study determines the factors that influence cruisers' loyalty decisions. We start from the theoretical idea that travel determinants are usually related to internal/external stimuli based on memorable previous experiences that generate behavioral responses in cruisers and prompt them to repeat their cruise bookings and pass on their recommendations to others.

5.2 Theoretical implications
The current article addresses this topic with a novel contribution to the literature. Although a small number of earlier tourism studies have examined repeat cruisers' motivations, satisfaction and revisit intentions, no previous study has been found that simultaneously assesses loyalty in three dimensions, namely, ship, cruise company and cruise corporation. Our research seeks to fill this gap by providing new evidence on variables that influence

repeat cruisers' decision-making at all three levels. In addition, while the prior research has mostly been based on qualitative data and small samples, this paper has constructed a large, worldwide database of more than 150,000 online reviews posted on the "Cruiseline.com" platform, to which we have applied both an econometric discrete demand model and an innovative graphic method using R Software. Used in tourism research for the first time, this graphic is also presented in a dynamic interactive online format using JavaScript. The complexity of the obtained flows justifies a complementary multivariate analysis.

5.3 Practical and managerial implications

In general terms, our findings have demonstrated that in most cases cruisers repeat with the same cruise company or cruise corporation but less frequently on the same ship (only 11% of repeat cruisers). From the point of view of the repeat cruiser profile, it is the most frequent cruisers (i.e. with a high number of previous cruises taken) who repeat the least in all three categories. We can, therefore, state that a strong substitution relationship could exist between ships, cruise lines and corporations. This non-loyal behavior is greatest in the Premium-Luxury cruise market segment. Furthermore, with a very small number of exceptions, this is almost regardless of the ports of call and destinations visited. This is the case of traditional destinations, such as the Caribbean and the European Mediterranean, probably influenced by the greater variety of ships on offer.

From the perspective of loyalty to cruise lines and cruise corporations, our results further identify the importance of the cruiser's positive rating of some specific ship characteristics for the repeat purchase decision, including the quality of the stateroom and, especially, satisfaction with the onboard service provided by the cruise staff. The latter factor is also found to be a determinant of repeating on the same ship, which highlights the crucial importance of having personnel trained to the highest degree as a tactical decision for cruise corporations' sales policies. Other variables that are clearly correlated with the likelihood of repeating a cruise on the same ship, another ship of the same line or another line belonging to the same corporation are the onboard entertainment and leisure options, and the gastronomical experience in particular. These motivations are especially important in the case of customers traveling in small groups who are particularly active on social networks. Hence, an "online lone wolf" profile can be drawn as the most loyal type of passenger.

Our findings demonstrate that the greater the score given to the onboard offer, the higher the likelihood of repeating: over 18% higher for the cruise line and over 15% for the corporation. The relevance of cruiser loyalty to the cruise brand is proven for all three analyzed categories (ship, line, corporation), although it is mainly expressed with respect to the corporation to which the cruise line belongs. Moreover, once a cruise passenger's loyalty to the brand (to the cruise line or the cruise corporation) has been secured by a positive experience on a previous cruise, demands in terms of expectations of the ship go down, probably because the brand alone is a guarantee of the quality of the cruise on the ship. However, in view of the marked non-loyal behavior of the frequent cruiser, it is also recommended that the Next Cruise offices should increase the perks that they offer on the ship itself as a measure to maximize the number of future repeat cruisers before the cruise ends. It might even be a wise move for said offices, perhaps as a pilot experience, to offer discounts and other rewards even when the cruise is taken on other lines. As long as the lines belong to the same cruise corporation, naturally.

Concerning managerial implications for cruise industry practitioners, future research directions can also be drawn from our findings to guide the recovery of the sector post-pandemic. Our results indicate that cruise lines should develop loyalty programs in general and, more specifically, strategies that favor cruisers repeating on another line belonging to

the same cruise corporation. These programs could be based on, e.g. the application of specific perks and benefits to loyalty club members with no distinction between the lines in the same cruise corporation (as stated in the Introduction section). In addition to prevent the group size-related fall in loyalty indicated by our results, cruise lines could explore measures such as allowing passengers who are members of loyalty programs to invite their traveling companions in other staterooms to attend the Loyalty Club receptions that only they are eligible for.

Moreover, given the clear positive correlation found between repeat behavior and the most active cruisers on the internet, it seems evident that an incentive exists for cruise lines to make their websites more interactive, as many of the large hotel chains have already done. They could include e-WOM evaluations of their vessels, for example, either given by their own customers or imported from specialized portals such as "Cruiseline.com". Considering the importance of the onboard gastronomic experience for cruiser retention that our results reveal, loyalty programs could be diversified and the perks could be more closely linked to food quality and variety than other onboard activities such as premium shows. This result would validate the sound strategy developed by some cruise lines to enhance their culinary excellence by, for example hiring illustrious chefs as consultants for their menus, especially in the case of Premium or Luxury cruise lines that have already signed up internationally renowned chefs, such as Oceania's culinary personality Jacques Pépin and Princess' master chocolatier Norman Love (Castillo-Manzano *et al.*, 2018).

5.4 Limitations and future research

One of the main strengths of this research, the size of the database, also determines the research limitations, as in the case of other studies that handle broad databases with such high numbers of data. The hypotheses tested in this paper are to a large extent limited to the variables that can be constructed from the database extracted from the website used, in this case, "Cruiseline. com". In contrast, traditional fieldwork based on direct interviews with cruisers, in which the researchers can develop their own *ad hoc* questionnaires, offer greater flexibility and enable the inclusion of other variables that we were not able to include in this case, such as the cruiser's age or gender. However, the high economic cost of constructing a fieldwork-based database equivalent to the database used in this paper means that this cannot be considered a viable alternative. Notwithstanding, we have endeavored to overcome these limitations in this paper by creating some explanatory variables that could not be explicitly found on "Cruiseline.com", such as those relating to Ship Characteristics (Table 1, Point 2.1), i.e. capacity and age of the vessel, crew to passenger ratio and premium category.

Concerning future research lines, the first, for tourism in general, is related to the database. Despite the perhaps undeniable advantages in terms of costs and benefits of working with immense databases from online reviews (as is shown by the proliferation of such works in the hospitality field using portals, such as TripAdvisor.com and Booking. com; see e.g. Filieri *et al.*, 2020; Mariani and Borghi, 2021), their limitations with respect to defining variables will continue to justify the need for fieldwork with small samples and longer questionnaires, the results of which could serve as a robustness check for findings. Another second, complementary future research line concerning cruise research specifically could be the use of the same e-WOM database to analyze how the ongoing complicated sailing restrictions imposed by the COVID-19 pandemic, which often turn a cruise vessel into a "big floating social bubble", are influencing general satisfaction and cruisers' loyalty behavior. And perhaps the need for this is even greater given that a full return to the normality that existed before the COVID-19 crisis does not seem to be the most likely scenario in the short-term.

Note

1. Some websites such as: www.rolcruise.co.uk/blog/a-guide-to-cruise-line-reward-programmes, https://thepointsguy.com/guide/cruise-line-loyalty-programs/ and https://cruisefever.net/8-cruise-line-loyalty-programs-compared-perks-requirements/ provide an overview of cruise loyalty programs

References

Abel, G.J. and Sander, N. (2014), "Quantifying global international migration flows", *Science*, Vol. 343 No. 6178, pp. 1520-1522.

Ahn, J. and Back, K.J. (2019), "Cruise brand experience: functional and wellness value creation in tourism business", *International Journal of Contemporary Hospitality Management*, Vol. 31 No. 5, pp. 2205-2223.

Albayrak, T., Karasakal, S., Kocabulut, Ö. and Dursun, A. (2020), "Customer loyalty towards travel agency websites: the role of trust and hedonic value", *Journal of Quality Assurance in Hospitality and Tourism*, Vol. 21 No. 1, pp. 50-77.

Ali, F., Ryu, K. and Hussain, K. (2016), "Influence of experiences on memories, satisfaction and behavioral intentions: a study of creative tourism", *Journal of Travel and Tourism Marketing*, Vol. 33 No. 1, pp. 85-100.

Bahja, F., Cobanoglu, C., Berezina, K. and Lusby, C. (2019), "Factors influencing cruise vacations: the impact of online reviews and environmental friendliness", *Tourism Review*, Vol. 74 No. 3, pp. 400-415.

Bezerra, G.C. and Gomes, C.F. (2019), "Determinants of passenger loyalty in multi-airport regions: implications for tourism destination", *Tourism Management Perspectives*, Vol. 31, pp. 145-158.

Buzova, D., Cervera-Taulet, A. and Sanz-Blas, S. (2020), "Exploring multisensory place experiences through cruise blog analysis", *Psychology and Marketing*, Vol. 37 No. 1, pp. 131-140.

Calza, F., Pagliuca, M., Risitano, M. and Sorrentino, A. (2020), "Testing moderating effects on the relationships among on-board cruise environment, satisfaction, perceived value and behavioral intentions", *International Journal of Contemporary Hospitality Management*, Vol. 32 No. 2, pp. 934-952.

Campón-Cerro, A.M., Hernández-Mogollón, J.M. and Alves, H. (2017), "Sustainable improvement of competitiveness in rural tourism destinations: the quest for tourist loyalty in Spain", *Journal of Destination Marketing and Management*, Vol. 6 No. 3, pp. 252-266.

Castaldo, S., Penco, L. and Profumo, G. (2021), "Cruising in the COVID-19 pandemic era: does perceived crowding really matter?", *International Journal of Contemporary Hospitality Management*, Vol. 33 No. 8, pp. 2586-2612.

Castillo-Manzano, J.I. and Asencio-Flores, J.P. (2012), "Competition between new port governance models on the Iberian peninsula", *Transport Reviews*, Vol. 32 No. 4, pp. 519-537.

Castillo-Manzano, J.I. and López-Valpuesta, L. (2018), "What does cruise passengers' satisfaction depend on? Does size really matter?", *International Journal of Hospitality Management*, Vol. 75, pp. 116-118.

Castillo-Manzano, J.I., Castro-Nuño, M. and López-Valpuesta, L. (2018), "When Las Vegas takes to the sea: new trends in cruising", *Tourism Economics*, Vol. 24 No. 1, pp. 135-140.

Castillo-Manzano, J.I., López-Valpuesta, L. and Alanís, F.J. (2015), "Tourism managers' view of the economic impact of cruise traffic: the case of Southern Spain", *Current Issues in Tourism*, Vol. 18 No. 7, pp. 701-705.

Chen, J.M., Petrick, J.F., MacKay, K. and Nijkamp, P. (2020), "Decision-making in cruise operations management: a double-hurdle approach", *Research in Transportation Business and Management*, Vol. 37, p. 100524.

Chi, C.G.Q. (2012), "An examination of destination loyalty: differences between first-time and repeat visitors", *Journal of Hospitality and Tourism Research*, Vol. 36 No. 1, pp. 3-24.

Chiou, M.R., Chao, S.L. and Hsieh, H.Y. (2021), "The moderating role of service recovery on customer loyalty in the context of cruise passengers", *Maritime Policy and Management*, Vol. 48 No. 2, pp. 150-166.

Chua, B.L., Lee, S., Goh, B. and Han, H. (2015), "Impacts of cruise service quality and price on vacationers' cruise experience: moderating role of price sensitivity", *International Journal of Hospitality Management*, Vol. 44, pp. 131-145.

Chua, B.L., Lee, S. and Han, H. (2017), "Consequences of cruise line involvement: a comparison of first-time and repeat passengers", *International Journal of Contemporary Hospitality Management*, Vol. 29 No. 6, pp. 1658-1683.

CLIA (2020), "State of the cruise industry outlook", Cruise Lines International Association, available at: https://cruising.org/news-and-research/research/2019/december/state-of-the-cruise-industry-outlook-2020 (accessed 25 September 2021).

Dedeoğlu, B.B. (2019), "Shaping tourists' destination quality perception and loyalty through destination country image: the importance of involvement and perceived value", *Tourism Management Perspectives*, Vol. 29, pp. 105-117.

Eid, R. (2015), "Integrating Muslim customer perceived value, satisfaction, loyalty and retention in the tourism industry: an empirical study", *International Journal of Tourism Research*, Vol. 17 No. 3, pp. 249-260.

Filieri, R., Acikgoz, F., Ndou, V. and Dwivedi, Y. (2020), "Is TripAdvisor still relevant? The influence of review credibility, review usefulness, and ease of use on consumers' continuance intention", *International Journal of Contemporary Hospitality Management*, Vol. 33 No. 1, pp. 199-223.

Forgas-Coll, S., Palau-Saumell, R., Sánchez-García, J. and Caplliure-Giner, E.M. (2014), "The role of trust in cruise passenger behavioral intentions: the moderating effects of the cruise line brand", *Management Decision*, Vol. 52 No. 8, pp. 1346-1367.

Gabe, T.M., Lynch, C.P. and McConnon, J.C. Jr (2006), "Likelihood of cruise ship passenger return to a visited port: the case of Bar Harbor, Maine", *Journal of Travel Research*, Vol. 44 No. 3, pp. 281-287.

Gonzales Santiago, M. and Correia, R. (2019), "The influence of blogs on the complaint intention: the case of the cruise ship industry", *Journal of Marketing Research and Case Studies*, Vol. 2019, pp. 1-16, Article ID 628079.

Han, H. and Hyun, S.S. (2018), "Role of motivations for luxury cruise traveling, satisfaction, and involvement in building traveler loyalty", *International Journal of Hospitality Management*, Vol. 70, pp. 75-84.

Han, H. and Hyun, S.S. (2019), "Cruise travel motivations and repeat cruising behaviour: impact of relationship investment", *Current Issues in Tourism*, Vol. 22 No. 7, pp. 786-805.

Hosany, S. and Witham, M. (2010), "Dimensions of cruisers' experiences, satisfaction, and intention to recommend", *Journal of Travel Research*, Vol. 49 No. 3, pp. 351-364.

Huang, J. and Hsu, C.H. (2010), "The impact of customer-to-customer interaction on cruise experience and vacation satisfaction", *Journal of Travel Research*, Vol. 49 No. 1, pp. 79-92.

Hultman, M., Skarmeas, D., Oghazi, P. and Beheshti, H.M. (2015), "Achieving tourist loyalty through destination personality, satisfaction, and identification", *Journal of Business Research*, Vol. 68 No. 11, pp. 2227-2231.

Hung, K., Wang, S., Guillet, B.D. and Liu, Z. (2019), "An overview of cruise tourism research through comparison of cruise studies published in English and Chinese", *International Journal of Hospitality Management*, Vol. 77, pp. 207-216.

Hwang, J. and Han, H. (2014), "Examining strategies for maximizing and utilizing brand prestige in the luxury cruise industry", *Tourism Management*, Vol. 40, pp. 244-259.

Hyun, S.S. (2010), "Predictors of relationship quality and loyalty in the chain restaurant industry", *Cornell Hospitality Quarterly*, Vol. 51 No. 2, pp. 251-267.

Hyun, S.S. and Han, H. (2015), "Luxury cruise travelers: other customer perceptions", *Journal of Travel Research*, Vol. 54 No. 1, pp. 107-121.

Ioana-Daniela, S., Lee, K.H., Kim, I., Kang, S. and Hyun, S.S. (2018), "Attitude toward luxury cruise, fantasy, and willingness to pay a price premium", *Asia Pacific Journal of Tourism Research*, Vol. 23 No. 4, pp. 325-343.

Jones, R.V. (2011), "Motivations to cruise: an itinerary and cruise experience study", *Journal of Hospitality and Tourism Management*, Vol. 18 No. 1, pp. 30-40.

Junta de Andalucía (2012), "Turismo de cruceros en andalucía. Año 2011", available at: www. juntadeandalucia.es/turismoycomercio/publicaciones/143356313.pdf (accessed 25 September 2021).

Koklic, M.K., Kukar-Kinney, M. and Vegelj, S. (2017), "An investigation of customer satisfaction with low-cost and full-service airline companies", *Journal of Business Research*, Vol. 80, pp. 88-196.

Koo, B., Yu, J. and Han, H. (2020), "The role of loyalty programs in boosting hotel guest loyalty: impact of switching barriers", *International Journal of Hospitality Management*, Vol. 84, p. 102328.

Larsen, S., Wolff, K. and Øgaard, T. (2013), "Belly full, purse closed. Cruise line passengers' expenditures", *Tourism Management Perspectives*, Vol. 6, pp. 142-148.

Lee, G. and Lee, M. (2017), "Estimation of the shore excursion expenditure function during cruise tourism in Korea", *Maritime Policy and Management*, Vol. 44, pp. 524-535.

Lee, S., Chua, B.L. and Han, H. (2017), "Role of service encounter and physical environment performances, novelty, satisfaction, and affective commitment in generating cruise passenger loyalty", *Asia Pacific Journal of Tourism Research*, Vol. 22 No. 2, pp. 131-146.

Li, Y. and Kwortnik, R. (2017), "Categorizing cruise lines by passenger perceived experience", *Journal of Travel Research*, Vol. 56 No. 7, pp. 941-956.

Lim, Y.J., Kim, H.K. and Lee, T.J. (2016), "Visitor motivational factors and level of satisfaction in wellness tourism: comparison between first-time visitors and repeat visitors", *Asia Pacific Journal of Tourism Research*, Vol. 21 No. 2, pp. 137-156.

Li, X. and Petrick, J.F. (2008), "Reexamining the dimensionality of brand loyalty: a case of the cruise industry", *Journal of Travel and Tourism Marketing*, Vol. 25 No. 1, pp. 68-85.

Mao, Z. and Lyu, J. (2017), "Why travelers use Airbnb again? An integrative approach to understanding travelers' repurchase intention", *International Journal of Contemporary Hospitality Management*, Vol. 29 No. 9, pp. 2464-2482.

Mariani, M. and Borghi, M. (2021), "Are environmental-related online reviews more helpful? A big data analytics approach", *International Journal of Contemporary Hospitality Management*, Vol. 33 No. 6, pp. 2065-2090.

Matzler, K., Teichmann, K., Strobl, A. and Partel, M. (2019), "The effect of price on word of mouth: first time versus heavy repeat visitors", *Tourism Management*, Vol. 70, pp. 453-459.

Meng, S., Liang, G. and Yang, S. (2011), "The relationships of cruise image, perceived value, satisfaction, and post-purchase behavioral intention on Taiwanese tourists", *African Journal of Business Management*, Vol. 5 No. 1, pp. 19-29.

Mohd-Any, A.A., Winklhofer, H. and Ennew, C. (2015), "Measuring users' value experience on a travel website (e-value) what value is cocreated by the user?", *Journal of Travel Research*, Vol. 54 No. 4, pp. 496-510.

Namin, A., Gauri, D.K. and Kwortnik, R.J. (2020), "Improving revenue performance with third-degree price discrimination in the cruise industry", *International Journal of Hospitality Management*, Vol. 89, p. 102597.

Papathanassis, A. (2017), "Cruise tourism management: state of the art", *Tourism Review*, Vol. 72 No. 1, pp. 104-119.

Park, S.B., Ok, C.M. and Chae, B.K. (2016), "Using twitter data for cruise tourism marketing and research", *Journal of Travel and Tourism Marketing*, Vol. 33 No. 6, pp. 885-898.

Penco, L., Profumo, G., Remondino, M. and Bruzzi, C. (2019), "Critical events in the tourism industry: factors affecting the future intention to take a cruise", *International Journal of Contemporary Hospitality Management*, Vol. 31 No. 9, pp. 3547-3566.

Petrick, J.F. (2004a), "Are loyal visitors desired visitors?", *Tourism Management*, Vol. 25 No. 4, pp. 463-470.

Petrick, J.F. (2004b), "First timers' and repeaters' perceived value", *Journal of Travel Research*, Vol. 43 No. 1, pp. 29-38.

Petrick, J.F. (2004c), "The roles of quality, value, and satisfaction in predicting cruise passengers' behavioral intentions", *Journal of Travel Research*, Vol. 42 No. 4, pp. 397-407.

Petrick, J.F. (2005), "Segmenting cruise passengers with price sensitivity", *Tourism Management*, Vol. 26 No. 5, pp. 753-762.

Petrick, J.F. and Sirakaya, E. (2003), "Segmenting cruisers by loyalty", *Annals of Tourism Research*, Vol. 31 No. 2, pp. 472-475.

Petrick, J.F., Li, X. and Park, S.Y. (2007), "Cruise passengers' decision-making processes", *Journal of Travel and Tourism Marketing*, Vol. 23 No. 1, pp. 1-14.

Petrick, J.F., Tonner, C. and Quinn, C. (2006), "The utilization of critical incident technique to examine cruise passengers repurchase intentions", *Journal of Travel Research*, Vol. 44 No. 3, pp. 273-280.

R Core Team (2018), R: A language and environment for statistical computing, R Foundation for Statistical Computing, Vienna, Austria, available at: www.R-project.org/

Richards, G. (2021), "Evolving research perspectives on food and gastronomic experiences in tourism", *International Journal of Contemporary Hospitality Management*, Vol. 33 No. 3, pp. 1037-1058.

Shahijan, M.K., Rezaei, S. and Amin, M. (2018), "Qualities of effective cruise marketing strategy: cruisers' experience, service convenience, values, satisfaction and revisit intention", *International Journal of Quality and Reliability Management*, Vol. 35 No. 10, pp. 2304-2327.

Shi, Y., Prentice, C. and He, W. (2014), "Linking service quality, customer satisfaction and loyalty in casinos, does membership matter?", *International Journal of Hospitality Management*, Vol. 40, pp. 81-91.

Su, L., Lian, Q. and Huang, Y. (2020), "How do tourists' attribution of destination social responsibility motives impact trust and intention to visit? The moderating role of destination reputation", *Tourism Management*, Vol. 77, p. 103970.

Suhartanto, D., Brien, A., Primiana, I., Wibisono, N. and Triyuni, N.N. (2020), "Tourist loyalty in creative tourism: the role of experience quality, value, satisfaction, and motivation", *Current Issues in Tourism*, Vol. 23 No. 7, pp. 867-879.

Sun, X., Kwortnik, R. and Gauri, D.K. (2018), "Exploring behavioral differences between new and repeat cruisers to a cruise brand", *International Journal of Hospitality Management*, Vol. 71, pp. 132-140.

Sun, X., Xu, M. and Kwortnik, R. (2021), "Evaluating and categorizing cruise lines by ship attributes: a comparison between cruisers and experts", *Tourism Management*, Vol. 84, p. 104262.

Tao, S. and Kim, H.S. (2019), "Cruising in Asia: what can we dig from online cruiser reviews to understand their experience and satisfaction", *Asia Pacific Journal of Tourism Research*, Vol. 24 No. 6, pp. 514-528.

Tiago, F., Couto, J., Faria, S. and Borges-Tiago, T. (2018), "Cruise tourism: social media content and network structures", *Tourism Review*, Vol. 73 No. 4, pp. 433-447.

Toudert, D. and Bringas-Rábago, N.L. (2016), "Impact of the destination image on cruise repeater's experience and intention at the visited port of call", *Ocean and Coastal Management*, Vol. 130, pp. 239-249.

Vega-Muñoz, A., Arjona-Fuentes, J.M., Ariza-Montes, A., Han, H. and Law, R. (2020), "'In search of 'a research front' in cruise tourism studies", *International Journal of Hospitality Management*, Vol. 85, p. 102353.

Wang, S.W.H., Hsu, M.K.H., Scheinbaum, A.C. and Tsai, F.M. (2018), "Brand loyalty in the cruise sector: age cohorts, gender, and travel attributes as key moderators for relationship marketing theory", *Journal of Marine Science and Technology*, Vol. 26 No. 6, pp. 764-776.

Whyte, L.J., Packer, J. and Ballantyne, R. (2018), "Cruise destination attributes: measuring the relative importance of the onboard and onshore aspects of cruising", *Tourism Recreation Research*, Vol. 43 No. 4, pp. 470-482.

Xie, L.K. and Chen, C.C. (2014), "Hotel loyalty programs: how valuable is valuable enough?", *International Journal of Contemporary Hospitality Management*, Vol. 26 No. 1, pp. 107-129.

Xie, H.J., Kerstetter, D.L. and Mattila, A.S. (2012), "The attributes of a cruise ship that influence the decision making of cruisers and potential cruisers", *International Journal of Hospitality Management*, Vol. 31 No. 1, pp. 152-159.

Yolal, M., Chi, C.G.Q. and Pesämaa, O. (2017), "Examine destination loyalty of first-time and repeat visitors at all-inclusive resorts", *International Journal of Contemporary Hospitality Management*, Vol. 29 No. 7, pp. 1834-1853.

Zhang, Z., Ye, Q., Song, H. and Liu, T. (2015), "The structure of customer satisfaction with cruise-line services: an empirical investigation based on online word of mouth", *Current Issues in Tourism*, Vol. 18 No. 5, pp. 450-464.

Corresponding author

Mercedes Castro-Nuño can be contacted at: mercas@us.es