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# Apocalypse Now or Overreaction to Coronavirus: The Global Cruise Tourism Industry Crisis

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**Abstract:** The current COVID-19 cruise tourism crisis has evolved to epic proportions and placed some of the cruise lines on the verge of bankruptcy. This research aimed to gain a deeper understanding of the crisis. Using an inductive qualitative approach, interviews were conducted with eight frequent cruisers who were at home and eight cruise ship employees who were employed by various cruise companies and who were working on cruise ships during the COVID-19 cruise tourism crisis. The findings revealed a systematic failure within the cruise industry management to understand the COVID-19 pandemic. Results of this study highlight the importance of health-related perceived risks on the nature and impact of the COVID-19 cruise tourism crisis. This study supports the overall theory of cruise tourism and crisis management by extending the chaos theory and its principals on the COVID-19 cruise tourism crisis. The managerial implications for cruise lines are outlined.

**Keywords:** cruise tourism crisis; coronavirus disease 2019 (COVID-19); crisis management; qualitative methods

## 1. Introduction

The cruise industry is a crisis-prone industry [1], which in the past has been significantly affected by both the 9/11 terrorist attacks and the 2008 global financial crisis. When the 9/11 terrorist attacks evolved into the global crisis affecting the cruise industry, the cruise industry quickly adopted The International Ship and Port Facility Security Code (ISPS Code), which helped them navigate through the crisis. During the 2008 financial crisis, the global fleet of cruise ships was significantly lower in numbers compared with what we presently have. Thus, when being in a market where demand was significantly higher than the offer, the cruise industry significantly lowered cruise prices (to the point of covering basic operational costs) and emphasized on onboard revenue, which proved to be a successful strategy in overcoming the crisis. Previous crises demonstrated that the cruise industry has a reactive approach to crisis management. Thus, the COVID-19 pandemic with government measures, such as coercive lockdowns, social distancing, and restriction of mobility, caught the cruise industry

without any comprehensive plans in dealing with infectious disease outbreaks, which lead to the unprecedented cruise tourism crisis. Up until 2020, cruise tourism was the fastest-growing sector within the tourism industry [2]; however, 14 March 2020 will be remembered as a day when cruise ships stood still. Due to the COVID-19 pandemic, between 12 March 2020 and 14 March 2020 the following cruise lines halted their fleet and suspended their cruises:

- Princess Cruises [3];
- Disney Cruise Line [4];
- Viking [5];
- Norwegian Cruise Line [6];
- Royal Caribbean Cruises Ltd., Carnival Corporation & Plc, and MSC Cruises 2020 [7].

Moreover, on April 6, 2020, the Centers for Disease Control and Prevention (CDC) issued a No Sail Order for at least 100 days for all cruise ships that carry more than 250 passengers [8]. On 16 July 2020, the CDC extended the No Sail Order until 30 September 2020 [9]. Thus, major cruise lines are experiencing significant financial losses [10], and fear generated by the COVID-19 cruise tourism crisis has induced a devastating crash in the value of major cruise lines stocks, where Royal Caribbean Cruises Ltd shares dropped 82.31%, Norwegian Cruise Line Holdings shares dropped 85.17%, and Carnival Corporation & Plc shares dropped 76.61% from 2 January 2020 to 23 March 2020 [11]. In September 2019, the Federal Reserve Bank injected 400 billion USD\$ [12] and from March–July 2020 will inject at least another 7.4 trillion USD\$ [13] into the repurchase agreements market. Currently, there are 122 new ocean-going ships on order until 2027, with a total value of 68.4 billion USD\$ [14]; thus, the liquidity of the extremely fragile cruise lines is now highly questionable. Thus, in the light of the current COVID-19 pandemic, the unprecedented health-related risk it is causing has evolved into a large-scale crisis that possesses the strength to potentially halt all cruise ships around the globe.

The tourism literature offers valuable insights when it comes to risk perceptions, risk management, and crisis management in general; however, specific studies on crisis management in cruise tourism are scarce, with only one study conducted by Radić [1]. The author concluded that the cruise industry is a crisis-prone industry and he provided a strategic framework for leadership in crisis management. Moreover, to the authors' best knowledge, no studies have yet explored the COVID-19 cruise tourism crisis. Therefore, the purpose of this research was to obtain a deeper understanding of the perception of risk from COVID-19 and the cruise tourism crisis that has resulted from it.

To accomplish such an important task, two questions were addressed:

1. How did COVID-19-linked events escalate into the cruise tourism crisis?
2. What is the nature and impact of the COVID-19 cruise tourism crisis?

This study was exploratory in nature and the present work addresses a major research gap. The aim of this research was addressed by utilizing an inductive approach to data collection and directly interviewing people who were cruise ship employees and passengers during the COVID-19 cruise tourism crisis. In light of this crisis, the results of this study support the overall theory of cruise tourism and crisis management by extending the chaos theory and its principals on the COVID-19 cruise tourism crisis.

## 2. Literature Review

### 2.1. COVID-19 Risks to Cruise Tourism

With suspended cruise ship operation and without revenue, cruise line companies are draining their funds at a fast rate. That being said, Balboa [15] predicted that from 15 May 2020, Carnival Corporation could sustain itself for nine more months, Royal Caribbean Cruises Ltd for eleven more months, and Norwegian Cruise Line Holdings Ltd for eighteen more months. Interestingly, despite current negative perception of cruise tourism [16], there is a strong demand for cruise tourism

products from cruise tourists [17]. More precisely, even though majority of the new bookings are in essence rescheduled cruises that were canceled due to the COVID-19 pandemic, Feuer and Mody [18] claimed that Royal Caribbean made slightly above 60% of new bookings since May 2020. However, as all major cruise ship companies have average product governance issue management scores and medium overall environmental, social, and governance risk scores [16], without COVID-19 vaccine and efficient medications, cruise ship companies' return to operation is still very much unclear [19].

## 2.2. Risk Perception and Cruise Tourism

Risk is an integral part of every single sphere at any given moment of our lives [20]. However, risk begins where knowledge ends [21], and the cruise tourism literature lacks studies on the perception of risk on cruise ships [22]. Reisinger and Mavondo [23] defined risk as "a possibility of danger, harm or losses; and a chance or hazard". Risk is something to be avoided as a hidden, ever-present potential threat [21]; moreover, the risk is an aggregation of negative consequences and their eventuality [22]. Risk perception can be seen as a two-dimensional structure founded on uncertainty and adverse consequences [24], where uncertainty dwells on the credence of likelihood, while adverse consequences are based on the significance of forfeiture [25]. Moreover, based on prospect theory, in situations where the probability of different outcomes is unknown and perceived risk is high, individuals value loss and gains differently, and their final decisions between probabilistic alternatives are based on perceived gains [26]. Looking at risk perception in cruise tourism, health-related risks were identified by [1,22,27–33].

While investigating cruisers' perceptions of food safety during their Caribbean cruises, Baker and Stockton [27] concluded that cruisers who have previously cruised two or three times perceive a risk to their health from cruising, and they consult their healthcare providers before a voyage. On the other hand, first-time cruisers take all necessary precautions to prevent illness and diseases [27]. In his quantitative study on crisis management in cruise tourism, Radić [1] pointed out that cruise lines and cruise tourism stakeholders perceived health and infectious diseases-related risks (acute gastroenteritis caused by Norwalk virus [norovirus], severe acute respiratory syndrome [SARS], Ebola, avian flu [H5N1], and Legionnaires disease) to the extent that their fears could evolve into a cruise tourism crisis. In a study on cruise tourism's key perspectives and challenges, Papathanassis [29] identified crisis management and communication transparency as one of the key challenges, where health-related risks, with the aid of social media, can evolve into a reputation crisis if not managed adequately. The cruise industry's reactive approach to health-related risks and the unpreparedness of cruise companies towards severe infectious disease outbreaks was outlined by Liu and Pennington-Gray [30], who pointed out several issues, including weak ties between cruise companies and health authorities, poor crisis communication strategies, and a lack of comprehensive and exhaustive crisis management plans. Health-related risks, such as infectious diseases with prolonged incubation periods, can create severe illness among cruise ship passengers, leading to an epidemic on board with possible death at sea [31]. Moreover, Zou and Petrick [28], in their study on peoples' cruise travel intentions, discovered that health-related perceived risk was one of the underlying dimensions of interpersonal constraints against taking a cruise. Looking at young people and their risk perception towards taking a cruise, Le and Arcodia [22] concluded that it is of paramount importance for cruise lines to understand the risk perceptions of this market segment and to develop specific and effective risk management plans that can mitigate the concerns of young people. Finally, Liu-Lastres et al. [33] identified protecting passengers' health while on board a cruise ship as one of the most important goals for the cruise lines. In summary, except for Baker and Stockton [27], who focused on the risk perception of cruisers, all other studies concentrated on cruise industries' risk perception. However, to successfully mitigate health-related risks, the cruise industry risk perception must consider the risk perception of cruisers so that risk management plans could prevent health and epidemiological types of crises.

Thus, as public attention is directed towards the spread of COVID-19, according to international data from Johns Hopkins University [34], globally on 30 April 2020 there were about 3,212,262 infected, 228,299 dead, and 986,062 recovered, including on cruise ships:

- 712 infected, 13 dead, and 645 recovered from cruise ship Diamond Princess;
- 21 infected from cruise ship Grand Princess [35];
- 33 infected on River Nile river cruise ship in Egypt [36]; and
- Three infected on Dream cruises [37].

As a result of the COVID-19 outbreaks on cruise ships, on 9 March 2020 the US Department of State—Bureau of Consular Affairs [38] issued an emergency notification related to cruise passengers: “U.S. citizens, particularly travelers with underlying health conditions, should not travel by cruise ship. CDC [US Centers for Disease Control and Prevention] notes increased risk of infection of COVID-19 in a cruise ship environment”. The increased level of perceived risk may lead to behavioral changes, such as canceling travel plans and requesting refunds as compensation [39]. These human behaviors caused by fears of the disease were discussed in the study of Laato et al. [40]. Similar to CDC’s note, they empirically evidenced that perceived severity in an epidemic situation exerted a significant impact on intention to make unusual behavior/purchases [40]. On 13 March 2020, President Trump declared a national emergency [41] and requested cruise lines to suspend cruise ship operations in the USA [42].

### 2.3. Crisis Management and Cruise Tourism

The cruise experience is a multisensory experience [2], cocreated between the service provider, the guest, and the service environment, and between various guests during the voyage and scheduled ports of call [43]. In 2018, the total economic contribution (direct, indirect, and induced) of cruise tourism to the global economy (through goods and services) was 150.1 billion USD\$ with 1,177,000 full-time equivalent jobs [44]. However, the cruise industry is a crisis-prone industry [1] and, in the light of the COVID-19 pandemic and the COVID-19 outbreaks on the Diamond Princess and the Grand Princess, the major cruise lines remind us of the statue from Nebuchadnezzar’s dream: a massive and impressive, dazzling statue, awesome in appearance but with feet partially made from baked clay.

One of the first comprehensive definitions of a crisis came from Pearson and Clair [45], who argued that “an organizational crisis is a high impact event that threatens the viability of the organization and is characterized by ambiguity of cause, effect, and means of resolution, as well as by a belief that decisions must be made swiftly”. Laws and Prideaux [46] described a crisis as an unfavorable situation induced by a sudden negative event with huge, evolving potential. Thus, a crisis is a sudden or developing change that creates an issue that must be addressed immediately [47]. Moreover, Coombs [48] asserted that a crisis is “the perception of an unpredictable event that threatens important expectancies of stakeholders and can seriously impact an organization’s performance and generate negative outcomes”. Looking at the tourism industry in general, we can agree with Papatheodorou et al. [49], who warned that hospitality and tourism managers are “in crying need of information and knowledge for decision making and for strategies to effectively respond to and manage a crisis”.

Crisis management in tourism lacks conceptual and theoretical foundations; thus, deeper insights and understanding of the nature, type and scales of crises are essential for efficient managerial practices [20]. The nature of a crisis can be understood as per De Sausmarez [50], who used the traditional classification of crises as being either natural (e.g., hurricanes and earthquakes) or human-made (e.g., industrial mishaps and terrorist attacks). However, from a constructivist perspective, a crisis is always socially constructed and highly political, which makes a crisis a social event [51]. Thus, crises are intrinsically political since they drive commercial, financial, governmental, and bureaucratic leaders to revise their ways of thinking and to act upon issues at hand, ultimately creating new, advanced, and imaginative narratives [51]. Crisis typologies are valuable instruments for recognizing potential negative impacts and for engaging adequate measures [52]. Looking at cruise tourism and potential causes of the current crisis, Radić [1] outlined a number of cause types: terrorism,

political, economic, health and epidemiological, and environmental. Depending on its gestation period, Parsons [53] defined a tourism crisis as being either:

- a. An immediate crisis (comes without any or with very weak warning signals, so tourism organizations are caught completely off guard and unprepared);
- b. An emerging crisis (slower in development and if addressed properly can be mitigated by a set of organizational actions); or
- c. A sustained crisis (can last for a prolonged period of between months and years).

Finally, the negative outcomes of a crisis depend on its scale [46]. Ritchie and Jiang [20] argued that a crisis has a “vertical scale”, which is related to its geographical impact, and a “horizontal scale”, which is related to its impact on other sectors and industries.

Any health-related issues of crew and passengers are of paramount importance for cruise lines because, if not managed properly, these can escalate into public health crises of great magnitude [30]. This type of crisis can be understood by Gleick’s [54] theory of chaos, which is manifested by what Sellnow et al. [55] described as a collapse of sensemaking, which leads to the reshaping of current knowledge by advanced arrangement within the organization that is in pursuit of recovering its equilibrium. Moreover, the United States Centers for Disease Control and Prevention (CDC) outlines that in onboard situations when health-related issues comprise multiple incidents (i.e., cases), these circumstances will be considered as “cruise ship outbreaks” [56]. Recent COVID-19 outbreaks on the Diamond Princess and the Grand Princess have escalated into unprecedented health-related crises that have spilled over from a single cruise company to affect the entire cruise industry sector.

### 3. Methodology

#### 3.1. Overview and Qualitative Procedure

This study adopted an interpretivist paradigm. Interpretivism argues that communications and interpersonal relationships between people are filled with various interpretations and individual responses and, as such, interpretivist-qualitative lenses offer a profound understanding of the link between implication and action [57]. Thus, interpretivism is often accompanied by unstructured interviews and the collection of oral data and so is related to a qualitative approach [58]. An interpretivist paradigm is a bottom-up approach and, as an insider, a researcher must be an empathetic observer, a faithful reporter, and a mediator of language who observes the social world from the subject’s perspective [59]. Thus, the reliability of the interpretivist paradigm is in an interpreted reality where the researcher identifies and addresses the conclusions of individual reality [60]. Lastly, qualitative researchers operate predominantly in the interpretivist paradigm that dominates the social sciences [61].

#### 3.2. Research Design and Data Analysis

This study took an inductive approach and a qualitative method; semi-structured, in-depth interviews were conducted. Semi-structured interviews assimilate open-ended and theoretically guided questions, where valuable data are captured from the participants’ own experience, and essential data are extracted from components that are within the specific discipline of the study [62].

Possible participants were invited to take part in the research via various Facebook groups that connect cruise passengers and cruise ship employees. Participants for this study were chosen using a convenience sampling method. This approach was supported by [63], where authors concluded how social media users who actively participate in supportive action are unlikely to share fake news. Data were collected from 16 people: eight were frequent cruisers but were not on board a ship affected by COVID-19; and a further eight were cruise ship employees employed by four major cruise lines and who were on eight different cruise ships during the COVID-19 cruise tourism crisis. Bearing in mind the importance of purchasing behavior during COVID-19 cruise tourism, aforementioned participants have been chosen due to their in-depth knowledge of cruise tourism



products and consumer purchase behavior. This approach is supported by recent studies [64,65] where authors have used online surveys to identify related themes. The cruise ship employees were members of various onboard departments; six of them were senior officers while the remaining two were executives. Francis et al. [66] proposed two principles to reach data saturation. More specifically, in this study, once authors completed the initial 12 interviews, another four interviews (two with cruisers and two with cruise ship employees) were conducted to verify whether new themes emerged. However, no new themes were observed after the four additional interviews. Thus, from the two principles set by Francis et al. [66] and data saturation suggested by Grady [67], authors concluded that the point of data saturation was reached. Moreover, 16 interviews were sufficient to reach data saturation, as suggested by Damschroder et al. [68] and Ungar et al. [69]. Given the aim of examining the COVID-19 cruise tourism crisis more precisely, including what COVID-19-linked events escalated into the crisis and its nature and impact, cross-sectional research was conducted. The major strength of a cross-sectional design is convenience, as such studies are quick to complete, relatively inexpensive [70], and they provide a picture of a situation related to a particular population within a specific time [71]. Cross-sectional design includes the use of an interview survey and a mass screening program [71]. In this study, interviews were conducted via Skype. The entire study was conducted from 5 March 2020 until 9 March 2020. All the interviews were recorded, transcribed, and analyzed using the grounded theory approach [72]. To ensure the validity of the findings, the interview questions were designed based on the guidance and recommendations of Dolnicar [73]. Strauss and Corbin's [74] open and axial coding technique was used for coding the written data.

#### 4. Passengers' and Cruise Ship Employees' Opinions on the COVID-19 Cruise Tourism Crisis

##### 4.1. Demographic Profile of Interviewees

Respondents were divided into two groups, where the first group was comprised of cruise ship employees who were on board cruise ships during the COVID-19 cruise tourism crisis and the second group was composed of cruisers (passengers) who have previously cruised on various cruise ships; however, they were not on board during the crisis. The two groups were equal in number, having eight participants from each group for a combined total of 16. However, the sample was not evenly distributed in terms of gender, with more males (12) than females (four); this imbalance occurred because most cruise ship employees are men (Table 1).

**Table 1.** Demographic profile of interviewees.

Code Number	Age	Nationality	Gender	Occupation
Passenger No. 1	62 years old	The United States of America	Male	Small business owner
Passenger No. 2	61 years old	The United States of America	Male	Independent contractor
Passenger No. 3	64 years old	The United States of America	Male	Civil engineer
Passenger No. 4	54 years old	The United States of America	Female	Business office manager
Passenger No. 5	70 years old	The United States of America	Female	Retired
Passenger No. 6	44 years old	The United States of America	Female	Logistic operation manager
Passenger No. 7	41 years old	The United States of America	Female	Unemployed/homemaker
Passenger No. 8	63 years old	The United States of America	Male	Small business owner

Table 1. Cont.

Code Number	Age	Nationality	Gender	Occupation
Cruise ship employee No. 1	39 years old	Netherlands	Male	1st Engineer
Cruise ship employee No. 2	48 years old	India	Male	Hotel director
Cruise ship employee No. 3	32 years old	India	Male	Photo manager
Cruise ship employee No. 4	38 years old	Finland	Male	Cruise captain
Cruise ship employee No. 5	32 years old	The United Kingdom	Male	Cruise chief purser
Cruise ship employee No. 6	57 years old	Croatia	Male	Cruise chief officer
Cruise ship employee No. 7	44 years old	Turkey	Male	Maitre D'
Cruise ship employee No. 8	49 years old	Philippines	Male	Cruise housekeeping manager

#### 4.2. Risk Perception of COVID-19 and Its Impact on Cruise Tourism

On 31 December 2019 in Wuhan, China, pneumonia of unknown cause was first reported to the World Health Organization Country Office, and on 30 January 2020 an outbreak was declared a Public Health Emergency of International Concern. Four days later on 3 February 2020, Princess Cruises confirmed that 10 people on the ship Diamond Princess had tested positive for COVID-19 [75]. On 11 March 2020, the World Health Organization officially declared COVID-19 a pandemic; at that time there were 121,564 infected, 4373 dead, and 66,239 recovered including nearly 800 people aboard four cruise ships (see Section 2.1 for details). When participants were asked if the cruise industry was ready for risks related to infectious disease outbreaks, the respondents were divided in their answers.

*“Yes, I mean cruise ships have a lot of practices in place. For example, the medical evaluation is a form that you fill out and hand in. They are checking to see if you’ve traveled from China or the other listed countries recently. There is generally an attendant at the buffet reminding you to wash your hands. Many people are washing whether there is anyone there or not. There is also an attendant who is keeping an eye on the food to see how it’s being handled, whether people are using tongs or touching things they shouldn’t. On the whole, I’d say the ship is doing a great job and the rest of us are just relaxing and enjoying life!”* (Passenger No. 4)

*“Not completely. The cruise industry lacks information on various infectious diseases since there are so many of them. They are not prepared, this is a new threat to the cruise industry and everyone thought it won’t happen to them. Even as we speak they don’t have test kits on board, they don’t have facilities for containing ill passengers/crew. The cruise ship can handle two or three cases and that’s it.”* (Cruise ship employee No. 3)

Cruise lines have specific outbreak prevention plans required by the U.S. Public Health Service [76]; however, the plan is designed to manage outbreaks related to acute gastroenteritis. Thus, meeting the minimum requirement set by the Vessel Sanitation Program (VSP) will not suffice when dealing with infectious disease outbreaks. There is a lack of transparency and communication from the cruise industry on infectious disease outbreaks and cruise lines lack comprehensive contingency plans for these events. Moreover, cruise lines are balancing profitability against the expenses related to counteraction measures, which ultimately leaves them exposed to the threat of infectious diseases like COVID-19. These findings

are in line with previous work by Radić [1] and Liu and Pennington-Gray [30], who argued that cruise ship companies lack a comprehensive contingency plan for infectious disease outbreaks.

When participants were asked what the main challenges for the cruise industry were when attempting to mitigate the risks related to infectious disease outbreaks, all of them agreed that it was managing people. Thus, the main challenge for cruise lines during infectious disease outbreaks is the very same source of their profitability, which is passengers.

*“Having been on a “norovirus” cruise, I’d say ships are unable to stop the spread of disease despite a rigorous cleansing routine. The main reason [is] having people who refuse to act accordingly. There were people from the previous cruise who neglected to reveal they had been sick. Some infected people were sneaking out of their cabins, requiring all of us to show IDs before entering the dining rooms. Unless selfish people can be weeded out, cruise lines best efforts will fail.”* (Passenger No. 1)

Cruise lines need to learn how to effectively stop the spread of an outbreak once it is on board, because passengers in close proximity to each other increases the likelihood of disease transmission. A cruise ship is a contained environment, and as such is exposed to situations where health epidemics are easily established [77]. Risk perception of health-related issues increases with inadequate communication during outbreaks due to the psychological factor inherent in labeling infected individuals. Having clear red and green zones that separate infected and noninfected people are impossible to achieve; making it possible would require a whole array of security measures, which cruise companies cannot enforce with current rates of onboard staffing. These findings are supported by Tarlow [31], who argued that, in the face of an infectious disease outbreak on a cruise ship, cruise lines face great challenges when it comes to dealing with health-related risks, which include the potential for harm to the cruise line’s reputation.

Cruise ships have certain practices that are performed on a regular basis (e.g., cleaning), and these practices communicate to passengers that cruise lines are dealing with health-related risks. However, study participants were divided in opinion concerning the relation between health-related risks and current onboard practices and their sufficiency when dealing with infectious disease outbreaks.

*“When you have a cruise ship that has crew members and passengers spreading the COVID-19 or any other virus it is dangerous for the population on board. Cruise ships are floating cities in close quarters with over 3000 people living together, eating together and playing together. Spreading any type of sickness to a large group of people is very dangerous because cruise lines do not have enough medical personnel to handle a large number of people getting sick. This is a burden on cruise medical crew and dangerous for both crew members and passengers.”* (Passenger No. 3)

The public perception of the risk of infectious disease outbreaks on cruise ships is unclear and ambiguous. The COVID-19 pandemic is an unprecedented event and the risk perception and uncertainty around it is increased due to the lack of previous experience. Having said that, Williams and Baláž [21] outlined how risk and uncertainty are inherent in tourism. When dealing with a colossal challenge in the form of a COVID-19 outbreak on a cruise ship, cruise line leaders have to have what Horsford and Haynes [78] described as “Odyssean education, Apollonian rationality and Dionysian intuition”. Cruise lines must be proactive and not reactive when it comes to dealing with health-related perceived risks. Lastly, as Kierkegaard [79] said, “Life can only be understood backward; but it must be lived forwards”.

When participants were asked their opinion of local governments banning cruise ships from visiting their ports due to perceived health-related risks, most thought that local governments were doing the right thing.

*“Paranoia!! Virtually every cruise ship has someone with flu-like symptoms, it’s extremely common on board. Based on this logic every cruise ship should be stopped in every port which means the entire industry may as well close up shop, millions of crew members left unemployed and unable to support*



*their families and all countries that depended on income from cruise tourism can figure out how to pick up the pieces after throwing the baby out with the bathwater, all because of a virus that is less dangerous than type A influenza. The media need to stop hyping the public into a frenzy and start reporting on how many people have recovered and of the open cases of how many are in [a] mild condition.” (Passenger No. 6)*

*“They are sovereign countries and they have every right to ban entry if there are concerns that there are infected people on board. Cruise ships have to disclose if they have invasive species on board that could create disequilibrium in their countries. In this case, COVID-19 is a rare and dangerous invasive species.” (Cruise ship employee No. 8)*

Cruise tourism is a socio-economic system created by the interaction between people, organizations, and geographical entities, with the goal of creating tourism experiences based on maritime transport [80]. Moreover, cruise tourism is heavily dependent on waterscapes and ports of call [81], and people are pulled towards cruise tourism under the influence of various advertisements and their images of pristine beaches, cultural-historic cities, and last frontiers. Thus, as cruise lines and local governments work together in a time of prosperity and economic growth, it is even more important for them to understand each other’s interests, and in times of crisis to cooperate even more closely. Having said that, cruise lines must understand the fragile ecosystems of the many small islands that they visit during their itineraries, and respect the sovereignty of local governments and the decisions they make in the best interests of their people. On the other hand, canceling a port of call visit during a cruise harms service quality perception and overall satisfaction [82]. Thus, cruise lines must also be transparent and use the communication strategies described by Coombs [48,83]. Coombs’s “reduction” communication strategy accepts the existence of a crisis and through narrative shows that the organization has had very little control over what has occurred. The “excuse” and “justification” strategies are complementary tactics used in conjunction with the “reduction” communication strategy [48,83]. Another useful strategy, suggested by Liu and Pennington-Gray [30], is “bolstering”, which combines a group of strategies that all display the relationship between the organization and its stakeholders in a positive light [48,83].

Finally, when the study participants were asked if health-related risk would stop them from going on a cruise or booking another cruise, their opinions differed.

*“I’m in my 70s and my husband is 82 and is a respiratory cancer survivor. We have enjoyed cruising but have canceled trips with Princess and Holland America through the end of the year. We will stay home in our small mountain community, take our vitamins, and wash our hands. We do have friends and family from Texas on the Grand Princess and we are concerned for them.” (Passenger No.1)*

*“Absolutely. Once passengers stop coming on cruises and stop booking, cruise companies will suffer from liquidity and new ship builds will be affected. The whole growth of the cruise industry is at stake. I mean, right [now] bookings are 35% down compared to last year.” (Cruise ship employee No. 3)*

The respondents confirmed that most people are currently in shock and are afraid, and this mental state can increase the perception of health-related risks. Moreover, tourism consumption is emotional [84], and when fear becomes the prevailing emotion, most people are cautious in their decision-making. If uncertainty about health-related risks comes to a boiling point, it is of paramount importance that cruise companies engage their marketing instruments and mitigate within their target population the perception of health-related risks. Most importantly, cruise lines need to target both cruisers and noncruisers according to their personality traits. Cruise lines would benefit from a large marketing study, encompassing several hundred thousand people, so that they could obtain reliable psychological profiles of the personality traits of cruisers and noncruisers. In the end, personality drives behavior, and behavior influences the decision-making process. These findings are supported by Kozak et al. [39], who argued for including conceptualizations of psychological personality in research

on risk perception. Similarly, Sirkaya and Woodside [85] outlined how individual decision-making processes related to risk tolerance and risk-related masteries are influenced by personality traits.

#### 4.3. Cruise Tourism Crisis Induced by COVID-19

The world is economically globalized, with bilateral, multilateral, and regional trade and investment agreements [86]; thus, crises and disasters are part of our reality and they are inseparable from human existence [87]. As a process, a crisis is framed by time and degree of disequilibrium, and a crisis develops through three phases: pre-event, emergency phase, and adaptive phase [88]. All the study participants agreed that the cruise tourism industry is in crisis, with slight differences in opinion as to which phase of the crisis lifecycle it has currently entered.

*“Yes, and I mean [the] USA government issued [a] travel warning for cruise ships and President Trump made [a] 30-day ban on travel from Europe over [the] COVID-19 threat.” (Passenger No. 1)*

*“[The] Diamond Princess fiasco was the event that initiated a crisis in Princess Cruises and cruise tourism. You can’t “quarantine” people on a cruise ship with shared ventilation systems and food service personnel that don’t follow strict quarantine guidelines. At best, it’s a waste of time. At worst, it allows more people to become infected than if they got them off the ship.” (Passenger No. 8)*

Based on respondents’ answers, the Diamond Princess outbreak was the event that pushed cruise tourism into the crisis. Moreover, based on respondents answers, the COVID-19 cruise tourism crisis is what De Sausmarez [50] described as a “natural” crisis; based on typology, it is a “health and epidemiological” crisis [1]; looking at gestation, it is a “sustained” crisis [53]; and the scale of the current crisis is global with a spill off effect on various industries [20]. The COVID-19 cruise tourism crisis has demonstrated that, as Shamberg et al. [89] illustrated, nothing spreads like fear and no one is immune to fear. Moreover, starting from the Diamond Princess outbreak, the trajectory of the COVID-19 cruise tourism crisis has followed what Macdonald and Boyle [90] summarized as exposure, infection, epidemic, evacuation, and devastation. Cruise industry leaders must accept the fact that they are facing a crisis of epic proportions. These findings are in line with Radić [1], who pointed out that the cruise industry doesn’t have a crisis management strategy, and that the cruise industry leadership is unprepared for managing a major health-related crisis.

Going forward, all participants said that cruise ship companies don’t have detailed contingency plans in case of an infectious disease outbreak.

*“No they don’t have because if they had, they would state it in public and you would see it in action. You see both the CDC and Princess Cruises have no clue. The CDC has not devoted sufficient resources to scientifically decide on COVID-19 and the cruise lines will just say whatever they think will make them seem less culpable.” (Passenger No. 3)*

*“I am not familiar with a contingency plan of every cruise line plan, but I would never call them detailed plans. There are plans and measures and checklist, but I don’t think they are holistic and detailed and they can be improved. But that comes with knowledge gained from experience from previous cases. I mean you would think that SARS and H1N1 brought us something, but it didn’t. Cruise lines essentially don’t think about [the] unthinkable and they hope it would not happen to them. The lessons will come regardless if cruise lines want to learn them or not.” (Cruise ship employee No. 8)*

Based on the respondents’ answers, cruise lines need to embrace the philosophy defined by Mitroff [87] as “thinking about the unthinkable”. Looking at cruise lines and the COVID-19 cruise tourism crisis, it appears that the cruise lines are failing at three out of the four factors found by Mitroff et al. [91] to predict the crisis vulnerability of an organization. The three factors are:

- Organizational strategies (contingency plans, process, and mechanism of crisis management);

- Organizational structures (dedicated logistics);
- Organizational culture (organizational beliefs and values).

Participants' opinions on the COVID-19 'infodemic' (overload of information) vs. the COVID-19 pandemic was that COVID-19 is an illness that can have a serious impact on an individual's health. Moreover, some participants stated that media are attracted to stories related to the COVID-19 pandemic and cruise tourism since, as Pooley [92] said, "if it bleeds, it leads".

*"Telling the truth and making people aware of the hazards is not manufacturing panic, it is informing people so that they can make the proper decisions. Right now, you couldn't pay me to get on a cruise and I'm not the only one. If anything, the State Department is a bit late with this warning and President Trump is late with this travel ban."* (Passenger No. 5)

*"Right now it's 50-50. [The] COVID-19 pandemic is reality and media is pumping the story."* (Cruise ship employee No. 7)

Objective journalism doesn't exist and the concept itself is a contradiction in terms [93]. World media are using explicit photos and videos in their reporting of the COVID-19 cruise tourism crisis, and with this type of media coverage, people are experiencing what Thompson [94] described as "pure and savage terrorism reminiscent of Nazi Germany". Crisis communication is an essential instrument throughout all phases of crisis management, and delivering the organizational narrative via various media can assist an organization to frame favorable public opinion [47]. Essentially, crisis communication is managing the perception of reality in the eyes of the public [95]. Finally, as Liu-Lastres et al. [33] outlined, cruise lines should truthfully debrief cruisers about health-related outbreaks and educate cruisers and noncruisers about how to stay healthy on board cruise ships.

Once the emergency phase of the crisis lifecycle is over, the adaptive phase begins, and in this phase, organizations start their recovery process with the normalization of their business operations [96]. During this phase, cruise lines have a genuine opportunity to fundamentally change their leadership style, organizational culture, and risk management strategies, and to ultimately install crisis leadership based on knowledge gained from crisis experience. It is only during the final adaptive phase of the crisis that cruise lines can remold their organizational culture according to their newly gained vision. Thus, Faulkner [97] argued that a crisis has a transformational role; that is, a crisis can create either positive or negative outcomes for organizations. However, the respondents in our study shared concerns about whether cruise lines will change their practices once the COVID-19 cruise tourism crisis is over.

*"Absolutely not. To make a long story short, cruise lines may be accountable for damages caused when a passenger becomes ill only when it is proven that the cruise line was negligent and its negligence was the direct cause of the guest's damages. So, back to business as usual. Anyway I won't be surprised if [the] USA government will bail them [out] with USA taxpayers' money."* (Passenger No. 5)

*"I mean contingency plans will be created and when it comes to practice nothing will change because [the] COVID-19 pandemic is [a] naturally caused event. [The] COVID-19 crisis was an unprecedented event and it will be classified as such. I mean epidemics and outbreaks are not everyday reality so practices that follow epidemics and outbreaks will not be everyday practices once epidemics and outbreaks are over. At best case, we will obtain knowledge so if a similar incident happens we will hopefully use previously gained knowledge and use it in dealing with a new threat."* (Cruise ship employee No. 8)

Participants were pessimistic about change; they didn't think that the cruise industry and local governments would work together towards creating a contingency plan that would protect the interests of both parties.

*“If a small Caribbean island has an outbreak of the COVID-19 how many of the cruise lines will be stopping there? Probably none. So, these small, mostly poor island countries are protecting themselves from a destructive economic crisis. The cruise ships won’t be there to rebuild the economies of the islands. The cruise lines are just using the islands for their own profit.”* (Passenger No. 5)

*“It will always be up to the governments the way they would like to go. It should not be [a] matter of cruise lines influencing governments by lobbying. It is always better when it is up to the government to decide how they will deal with outbreaks and epidemics.”* (Cruise ship employee No. 6)

Understanding and collaboration between cruise lines and local governments with the interests of both parties being protected is pivotal for the successful execution of the recovery phase of the COVID-19 cruise tourism crisis. Thus, cruise lines and local governments must bridge their differences and work together in creating a strong network between people and various interest groups within cruise tourism, so that a comprehensive contingency plan, based on the experience, knowledge, and best practices learned from the COVID-19 cruise tourism crisis, can be created. These findings are supported by Papatthanassis [29], Liu and Pennington-Gray [30], and Tarlow [31] who argued that cruise lines and local governments are inseparable entities within cruise tourism and hold a common goal of growth and prosperity.

During the COVID-19 cruise tourism crisis, cruise lines have suffered extreme financial losses. Singh [98] pointed out how in the last three years, Royal Caribbean Cruises Ltd have paid out \$1.8 billion in dividends and spent \$900 million on buybacks; thus, due to spending money on individual enrichment, now, in the face of a crisis, Royal Caribbean Cruises Ltd lacks sufficient assets to meet their obligations. Interestingly, our study participants expressed the belief that cruise ship lines will be able to recover (financially) once the COVID-19 cruise tourism crisis is over.

*“Very hard without the USA government help. However, the government should not give the cruise industry [a] bail out. Trump’s economic advisor – Larry Kudlow – suggested that the government should give cruise lines “stimulus” money because COVID-19 is wreaking havoc on their business. Why should the US taxpayers give money to companies that purposely fly foreign flags so that they can avoid paying US federal taxes?”* (Passenger No. 4)

*“I think they will because there is a huge demand for cruises and many new ships are being built to meet such demand. So once [it] all settles down, money should be coming back to cruise lines.”* (Cruise ship employee No. 4)

Cruise tourism will recover at great expense; however, the leadership of cruise lines with their poor risk management and lack of comprehensive crisis leadership strategies are still in control, and that needs to change. Interestingly, as Gardner et al. [99] concluded, we are living in an era of fraud in the USA.

## 5. Discussions

The COVID-19 cruise tourism crisis has demonstrated that within the cruise industry leadership there is a systematic failure to understand what is happening with the COVID-19 pandemic, and this has led major cruise lines’ leadership to misjudge their positions during the crisis. Accordingly, this study attempted to answer two questions:

1. How did COVID-19 linked events escalate into a cruise tourism crisis?
2. What is the nature and impact of the COVID-19 cruise tourism crisis?

### 5.1. COVID-19-Linked Events and Cruise Tourism Crisis

The results of this study revealed that cruise lines have only basic plans for acute gastroenteritis outbreaks, which do not meet the needs for managing infectious disease outbreaks. Thus, cruise lines

need to develop comprehensive outbreak plans for managing these incidents. Moreover, during infectious disease outbreaks, cruise lines need to be transparent during their crisis communication with the general public. When cruise lines balance the profitability and expenses related to counteraction measures, they are susceptible to increased risk due to the lack of timely action. Educating passengers about general public health and hygiene while they are on board is the foundation of mitigating perceived health-related risks. Fischer et al. [100] examined the efficacy of protection motivation theory for predicting passengers' intentions toward handwashing. The authors concluded that people demonstrate willingness to participate in protective measures to avoid health-related threats. Moreover, cruise lines need to constantly revise their public health and sanitation operations and learn how they can effectively prevent the spread of an outbreak once on board. The COVID-19 pandemic is an unprecedented event that has spread fear and uncertainty in the real and the virtual world due to the lack of previous experience. Thus, cruise lines must work closely with local governments so that both parties can obtain relevant knowledge and improve the future preparation of cruise tourism in general. Interestingly, in the case of an infectious disease outbreak, cruise lines do not have detailed contingency plans, and this circumstance made the COVID-19 pandemic seriously endanger the health of the passengers. However, the COVID-19 cruise tourism crisis has provided cruise lines with a genuine opportunity to fundamentally change their leadership style, organizational culture, and risk management strategies.

### *5.2. Nature and Effect of COVID-19*

The poorly managed Diamond Princess outbreak has placed the cruise tourism industry in crisis. The COVID-19 cruise tourism crisis has evolved to epic proportions, stopping all cruise ships from sailing. Essentially, the COVID-19 cruise tourism crisis is a natural crisis, best described as the health and epidemiological type of crisis, with a sustained gestation period and a devastating magnitude that has affected many countries and industries worldwide. The COVID-19 cruise tourism crisis has exposed several weaknesses in the management of cruise lines, such as a lack of transparency in communication during the COVID-19 outbreak and a lack of comprehensive contingency plans for infectious disease outbreaks. Moreover, during the COVID-19 cruise tourism crisis, despite a discourse between cruise ship companies and local governments, a breakdown in communication has intensified the crisis. The fragile ecosystems of many small islands were threatened during the COVID-19 pandemic; however, local governments only showed an interest in protecting their people and sovereignty. Finally, cruise lines' crisis management strategies were deployed too late, which ultimately paralyzed all cruise lines financially, questioning their future existence.

This research has provided valuable theoretical foundations through support and confirmation of the theory of cruise tourism and crisis management. Moreover, this research fills a major research gap by providing a taxonomy of the COVID-19 cruise tourism crisis and framing the crisis by nature, type, gestation period, and impact scale. The complexity of the COVID-19 cruise tourism crisis, with its tangle of crisis events, has caused the event to increase to unprecedented proportions that can be understood within Gleick's [54] theory of chaos. Thus, the findings of this study support Gleick's [54] theory of chaos and Lorenz's [101] "butterfly effect". The chaos theory contemplates a crisis as a rupture to the form, structure, and harmony of an organization. That being said, the cruise industry is on a trajectory with the following elements of chaos theory described by Sellnow et al. [55]: fractals, bifurcations, strange attractors, and self-organization. Thus, the COVID-19 cruise tourism crisis fits the model of a system in chaos. Fractals refer to the situation where an observed object can appear differently to the observers depending on the focal point. Bifurcation is the moment when the observer concludes that conventional methods of operation have failed. Strange attractors are emerging entities that arise from the chaotic system and that can assist in the creation of a new order as they initiate the process of self-organization. Last, self-organization is the outset moment of the recovery phase, as the system shifts away from chaos toward balance.



### 5.3. Practical Implication and Suggestions for the Cruise Industry

Taking into consideration these findings, cruise lines are offered the following suggestions, which can assist them in preventing similar crises and in overcoming the current crisis:

1. Explore the use of quantum computers for the detection of crisis-related early warning signals.
2. Use distributed ledger technology to improve the operational efficiency of reconciliation and intraday liquidity.
3. Create digital video marketing content that considers the target population's personality traits, which drive their behavior.
4. Consider avoiding berth rate discounts as a crisis-coping strategy.

These four suggestions are further explained in the following sections.

#### 5.3.1. Application of Quantum Computers

Cruise lines need to work together toward creating a comprehensive crisis leadership plan that benefits all parties. Moreover, cruise lines need to investigate the possibility of using quantum computers for detecting health-related risks across the globe, in real and virtual spaces. In the prodromal phase of a crisis, noise and disturbance can be detected in the real and virtual worlds. Thus, a quantum computer that uses qubits allows the simulation of how the universe actually works, with a special emphasis on the uncertainty that lies on the smallest scale of quantum mechanics. If the cruise lines create comprehensive risk and crisis models, then they would be able to harvest valuable results and knowledge within an hour of launching the program with quantum computing. Such a system of early warning detection would increase the cruise line readiness for infectious disease outbreaks.

#### 5.3.2. Application of Distributed Ledger Technology

Liquidity is one of the main challenges that cruise lines are facing during the COVID-19 cruise tourism crisis; thus, the cruise industry must embrace the rapid development of their financial technology. More precisely, the cruise industry should adopt distributed ledger technology, which allows easy validation with consensus for transaction approval. Such a payment system would provide cheap, fast, scalable, and reliable transactions. Hence, cruise lines, through distributed ledger technology, could interact with various cruise industry stakeholders and tourists, which would ultimately lead to the settlement of any transaction and cross-border payments within a few seconds.

#### 5.3.3. Creating Tailored Digital Marketing Content

Currently, cruise lines have relaxed cancelation policies; thus, once the emergency phase of the COVID-19 cruise tourism crisis shifts to the adaptive phase, people will also change their perception of the risk of the COVID-19 pandemic, which will influence their behavior and decision-making processes. During this adaptive phase, the cruise industry must release tailored digital-video marketing content that considers their target populations' personality traits, considering that personality drives behavior, and behavior influences the decision-making process.

#### 5.3.4. Avoiding Berth Rate Discounts

Cruise lines should be cautious in choosing crisis-coping strategies, specifically regarding berth rate discounts. Applying berth rate discounts to ease aggregative revenue loss and stimulate financial recovery is a common practice. However, Kim et al. [102] argued that although room rate discounts may reduce the collective occupancy loss, they do not reduce cumulative losses, whereas discounting may delay occupancy and revenue per available room recovery times.

#### 5.4. Limitations

This study cannot be generalized, as it has certain limitations. The first limitation is the sample; thus, it would be very interesting to conduct similar research with other stakeholders within cruise tourism. The second limitation is the cross-sectional time horizon utilized in this study; thus, there is space for potential causality and reciprocal relationships among components [103]. Future studies should use a longitudinal time horizon to understand the complexities of the COVID-19 cruise tourism crisis. Future studies can address the shortcomings of this study in order to gain a deeper understanding of the COVID-19 cruise tourism crisis.

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