Chapter 6

Counting the Cost of COVID-19 on Global Cruise Ship Industry

Abstract The cruise ship industry is one of the fastest-growing segments of the tourism sector. In 2019, the industry transported over 30 million passengers across the world, creating over 1.11 million jobs. In as much as the industry plays such a significant role to global and regional economies, it remains vulnerable to a cocktail of challenges, including disease outbreaks. The chapter documents the impacts of the COVID-19 pandemic on the global cruise ship industry. Secondary data and document analyses were the main forms of data collection used, while content and thematic analyses were used to analyse the data. The results showed that the COVID-19 outbreak imposed both economic and human costs to the industry. The outbreak decimated the industry, which saw the value of shipping companies’ stock falling by up to 80% in March 2020, with major sources of revenue shut due to the suspension of cruises. With no bailout packages in many instances, the industry faced bankruptcy and imminent collapse. COVID-19 also left the industry facing several criminal investigations and lawsuits due to passenger infections on board. Some ships were denied access to ports and medical facilities on land due to fear of spreading the virus. Those that got access were not allowed disembarkations, with passengers often quarantined for days or weeks. This resulted in additional infections, trauma and psychological stress of the passengers. Probably the biggest loss the industry has incurred is reputational damage, and this has had the potential to impact negatively on its ability to recover after the COVID-19 shock. Through improved public health standards, aggressive marketing and the offering of massive discounts, the industry has the potential to rebound from the COVID-19 disaster. These stand out as the chapter’s key recommendations.

Keywords COVID-19 · Cruise ships · Port of call · Cruise ship industry · Tourism

6.1 Introduction

The cruise ship industry is an important segment of the global tourism industry providing leisure, employment and revenue across the whole world. After the emergence of COVID-19, the United Nations (2020) observed that its rapid spread and the measures put in place to try and curb it presented more than just a health crisis
but also had massive socio-economic implications, including attacking societies at their core. According to González (2018), the United Nations World Tourism Organisation (UNWTO) conceptualises cruise ships as floating resorts as opposed to being merely a means of transport. From these floating resorts, recreational activities alternate both on the ship and onshore. The cruise ship industry has been the fastest-growing segment in the travel tourism industry between 1980 and 2019. The Business Research and Economic Advisors (BREA) report the average annual growth rate in the number of cruise passengers worldwide to have been above 8.4% over the past 20 years (BREA 2018). In 2019 alone, over 30 million passengers were transported on cruise lines globally. Records from the Cruise Lines International Association (CLIA) assessed that the industry created over 1.11 million jobs worth over US$45.6 billion in wages and salaries in 2018 (CLIA 2019). The industry made over 20,000 calls at ports and deployed assets to all continents in 2017 (BREA 2018).

Notably, as the cruise ship industry expanded and gained popularity, so too have outbreaks of communicable diseases on cruise ships been more frequent. Crockett (2020) highlighted the increased prevalence of communicable diseases mostly associated with respiratory, enteric and vaccine preventable pathogens on cruise ships, noting more than 353 gastrointestinal or norovirus outbreaks since 2010. The modes of transmission associated with cruise ship outbreaks comprise foodborne, waterborne, environmental and person-to-person transmission (Stock et al. 2015). Outbreaks of the norovirus, shigellosis, measles, Legionnaires’ disease, influenza and varicella have been reported on cruise ships around the world. The European Centre for Disease Prevention and Control (ECDC) observed that as early as 2009, there were conscious efforts towards enhanced surveillance of communicable diseases on cruise ships (ECDC 2010). Apart from the increased frequency of disease cases and outbreaks, the most compelling reasons for such initiatives were the increasing popularity of cruise ships in almost all regions of the world, against a background of inadequate surveillance of diseases on ships, and the variability of ship inspection findings regarding sanitation and hygiene.

In December 2019, an epidemic caused by a new coronavirus (COVID-19) emerged and broke out in Wuhan, China. It quickly spread around the world with the World Health Organization (WHO) declaring it a pandemic on 11 March 2020 (Gan et al. 2020). This was when the disease had spread to 114 countries in the world. It was not long until fear of the disease began to show in world markets and sensitive industries such as tourism. As observed by Djalante et al. (2020), COVID-19 rapidly transformed into unprecedented health, economic and geopolitical crisis for the entire world. With accumulating evidence showing that COVID-19 could spread faster in confined settings such as cruise ships (National Institute of Infectious Disease 2020), it became only a matter of when, and not if, the contagion was going to impact on the industry.

Given the foregoing, this chapter determines and evaluates the impact of the COVID-19 pandemic on the global cruise ship industry. This is important as it helps to bring to the forefront plausible strategic interventions to minimise the spread and impact of similar future infections on the industry given its increasing popularity.
6.2 Literature Survey

The cruise ship industry has witnessed dynamic growth over the past three decades in all areas of the world (BREA 2018). This extraordinary growth can be attributed to the industry’s development of new and diverse products, including new ships, itineraries and ports well embraced by their clientele (González 2018). The success story could also be attributed to the conversion of traditional land-based resort guests into cruise passengers; delivery of a high level of passenger satisfaction, leading to repeat customers; the creation of a business model adaptable to changing market conditions; and efficient cruise line control of competition, operational costs and revenue streams (Micallef 2018). In short, the industry managed to sustain its growth due to its well-organised and managed structures. Brida and Aguirre (2008) observed the positive economic impact of the cruise ship industry to a port of call as emanating from the industry’s value chain. This includes the impact from the spending by cruise passengers and crew and shore side staffing by the cruise lines for their headquarters, marketing and tour operations. It also involves expenditures by the cruise lines for goods and services necessary for cruise operations, spending by the cruise lines for port services, and expenditures by cruise lines for maintenance. There is also the contribution to the fiscus. The next subsection draws the reader’s attention to further details regarding the economic impact of the cruise ship industry.

6.2.1 Economic Importance of the Cruise Ship Industry

The economic impact of the global cruise ship industry can be quantified through the number of passengers that it ferries, the number of deployments around the world, the number of ports of call and the total number of those employed by the industry. As observed by the CLIA, the cruise industry has enjoyed dynamic growth, which saw the increase in passengers from 17.8 million in 2009 to over 30 million in 2019 (CLIA 2019). Figure 6.1 shows the global increase in passengers of cruise ships from 2009 to 2019. The strong annual increase proves the popularity of this segment of tourism in the world and as it grew, so too did the direct and indirect economic impacts of the industry.

The capacity deployed by the cruise ship industry, as measured by bed days, rose from 125.8 million bed days in 2012 to 170.6 million in 2017 (BREA 2018). Figure 6.2 shows the cruise ship deployments around the world. The Caribbean was the most popular cruise destination for passengers sourced from North America, with 59.3 million bed days deployed in 2017 – translating to 34.4% of the overall market. These figures show the importance of this industry in the tourism mix of the receiving Caribbean countries.

From Fig. 6.2, it emerges that the cruise industry is indeed a worldwide industry with passengers coming from all over the world and also cruise itineraries destined for countries and ports around the globe. The dynamism of the industry can be
shown by its 69% global growth rate over the past decade, which by far exceeds that of land-based tourism at 42% over the same period (BREA 2018). The growth of the industry also has a spatial dimension, which saw significant growth in Europe, Asia and Australia. In the end, cruise ship tourism has impacted on the global economy, creating jobs, income and tax revenues in all regions of the world.
Table 6.1 shows that in 2017, about 136.9 million onshore visits by passengers and crew generated $61.02 billion in direct cruise sector spending at source markets and destinations around the globe. This figure also includes the direct expenditures of the cruise lines for goods and services in support of their cruise operations. These payments generated a total global output of $134 billion through direct, indirect and induced transactions related to the cruise ship value chain (CLIA 2019).

Caribbean Tourism (2017) views the Caribbean economies among the world’s most tourism dependent. The countries had close to 26.3 million stay-over tourists and 24.5 million cruise ship arrivals in 2014. This was a 5.3% rise from 2013, with trends continuing on an upward trend to 2019. These visitors spent US$29.2 billion, which provided key revenue streams that supported livelihoods and economic development in the area (Caribbean Tourism 2017). The Caribbean is also the principal cruise destination for passengers sourced from North America. Its share of the cruise industry’s global deployment has remained relatively constant from 2012 to 2017 at about 35% (BREA 2018). It also remained the largest destination market with 59.3 million bed days deployed in the region during 2017.

The Asian region has continued with the biggest growth margins in the cruise industry, with Japan the most preferred destination (CLIA 2019). The deployed capacity in Asia rose by 18% in 2017 to 17.8 million bed days (BREA 2018). Since 2012, Asia’s deployed capacity has risen from 3.2 million to 17.8 million bed days, representing a 453%. Despite the fact that the growth of only 2.4% in 2017, Australia, New Zealand and the Pacific has experienced significant growth since 2012, increasing from 5.5 million to 10.2 million bed days in 2017. This was a rise of 86% (Ibid.). Although passengers of cruise ships were sourced from all over the world, in 2017, North America accounted for 49% of the 26.75 million global cruise passengers that stood at 13.12 million (CLIA 2019). Europe followed with 26% of the total passengers. The rest of the world accounted for the remaining 25% (6.67 million passengers). The rest of the world has good potential for growth in the industry as it accounts for about 82% of the world’s population, yet only 25% of world cruisers.

There were thousands of port calls from cruise ships in the USA in 2019. The USA is the major source market. Florida was the leading state with over 3000 port calls (Vera 2020). The distribution of other calls is presented in Fig. 6.3.

| Category                          | 2017       | 2016       | % Change |
|-----------------------------------|------------|------------|----------|
| Passenger and crew onshore visits (Million) | 136.86     | 129.38     | 5.8%     |
| Total direct expenditures (US$ Billion) | $61.02     | $57.93     | 5.3%     |
| Total output contribution (US$ Billion) | $133.96    | $125.96    | 6.3%     |
| Total income contribution (US$ Billion) | $45.57     | $41.09     | 10.9%    |

Source: Authors, CLIA (2019)
Some 7154 port calls were made throughout Asia in 2019 at 306 different destinations (CLIA 2019). This constituted an increase from the 288 different destinations in 2018. Destinations that saw the most calls in 2019 were in Japan, which recorded 2681 calls. The distribution of the other calls is shown in Fig. 6.4. Each of these stops brought with it tourism-related business and employment to the local economy in addition to the docking fees and other related services provided to the industry. Ship chandlers are another significant employer in port areas, as they supply navigation-related parts and equipment as well as food, beverages, linen and other passenger-related supplies (Vera 2020). The more the calls a port receives, the more the people employed directly or indirectly by the industry at the ports of call.

Globally, in 2019, the industry created over 1.11 million jobs, which paid US$45.6 billion in wages and salaries. This makes the industry a very significant employer globally (CLIA 2019). While most of the major cruise lines were incorporated and/or domiciled in foreign countries, most were headquartered in the USA. In addition, most of their clients were from the USA, and so too were the office staff who handle issues of advertising, sales, bookings and vessel planning (Crockett 2020). Miami has the largest contingent of workers employed by the cruise ship industry, with Los Angeles and Washington State as secondary centres of employment. The cruise industry supports more than 421,000 jobs in the USA and annually contributes nearly $53 billion to the economy (Vera 2020).

In South Africa, for example, when a cruise ship carrying an average of 2000 passengers docks, the spending at the destination equates to ZAR2\(^1\) million per day,

\(^1\)The exchange rate averaged US$1 = ZAR19 in April 2020.
with tourists spending between ZAR500 and ZAR1,000 each day (Holmes 2020). This excludes the cost of their accommodation. For every 12 tourists visiting the country, one job is created. Hence the drive to attract cruise ship calls at mainly the Durban and Cape Town ports. This saw the industry growing to create demand for expansion of the number of present homeport and port of call facilities in Durban and Cape Town. These offer the most compelling cruise homeport opportunities for cruise lines with others such as Richard’s Bay, Port Elizabeth and Mossel Bay being lucrative ports of call candidates for the country. Over the mid to long-term periods, the cruise ship industry capacity growth in South Africa hopes to stimulate expansion into new market regions, such as Walvis Bay in Namibia, Port of Mombasa in Kenya, Beira in Mozambique and Mauritius (South African Tourism 2009).

With continued interest in cruising, all over the world, some local governments continue to invest large amounts of money in high-quality infrastructure to service these massive ships and thousands of passenger arrivals. A question then arose from Brida and Aguirre (2008) querying whether the benefits of attracting cruises to a tourism destination were not higher than the costs of developing and maintaining such infrastructure. Some studies, for example, González (2018) and Brida and Aguirre (2008), noted that the costs of maintaining cruise ship ports were way higher than the revenue realised from arrivals. This was due to competition between destinations and cruise lines. Cruise ships were destinations in themselves, generating almost no impact on the local economy (González 2018). Furthermore, the amount of cruise passenger expenditures was higher than expenditures of normal tourists who have to pay for hotels and meals. Brida and Aguirre (2008) observed that, on average, about US$1690 is spent by a cruiser-based tourist compared to US$1180 spent by a land-based tourist in a week. Other problems the industry faces

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**Fig. 6.4** Cruise ship calls in Asia and the Pacific  
Source: Authors, data from CLIA (2019)
as highlighted by Crockett (2020) include passengers falling overboard from cruise ships. This costs local and rescue authorities millions of dollars in search and rescue missions. Additionally, over 500 environmental violations have been charged to cruise ships over the past 25 years, costing them millions of dollars in fines.

6.2.2 Impacts of Pandemics and Related Global Crises on the Cruise Industry

Although some have labelled cruise tourism as a pandemic itself (González 2018), the industry is vulnerable to epidemics and pandemic outbreaks as well as other global crises. Among the known epidemics, pandemics and other global crises that have negatively impacted the cruise ship industry, the following may be included: the severe acute respiratory syndrome (SARS) of 2003 (Perez and Mckay 2003), the Middle East respiratory syndrome (MERS) of 2016 (Cho et al. 2016) and the 2008 financial meltdown (Belke 2009).

As highlighted earlier, the biggest problem of cruise ships is the high possibility of disease outbreak during voyages, and the global nature of the industry makes it a possible agent of spreading diseases the world over. This is a history that has repeated itself over the years. Crockett (2020) noted that there had been over 353 gastrointestinal or norovirus outbreaks on cruise ships since 2009. The year 2019 alone, the US Centers for Disease Control and Prevention (CDC) reported 10 outbreaks on cruise ships. Stock et al. (2015) observed that for centuries, ships had transmitted infections or vectors that cause diseases with norovirus being the leading cause of illness on cruise ships. It accounts for over 90% of infections on board and one of the leading causes of diarrheal outbreaks on cruise ships (CDC 2014). This makes disease spread from cruise ships a two-way matter, with great worries of onboard passengers taking the diseases to land.

Due to closed living quarters, shared dining areas as well as large passenger turnovers, controlling norovirus outbreaks on cruise ships can be challenging (Stock et al. 2015). Norovirus can be brought on board when ships dock and its ability to persist on surfaces means that it can infect passengers on consecutive cruises (CDC 2014). The most common mode of transmission in cruise ships is person-to-person contact. However, disease spread through contaminated food or water and contact with contaminated surfaces can also occur. Reoccurrence of infections on successive cruises leads to new, susceptible passengers boarding at different ports along the voyage getting infected, thereby prolonging the outbreaks and transferring such to several other cruises (Stock et al. 2015). The disease transmission is exacerbated because cruise ships move from country to country, where different standards of hygiene exit, with the quality and levels of disease surveillance practices varying (Hadjichristodoulou et al. 2013). The average cruise lasts 7 days, a common period within disease incubation and transmission of many infectious diseases. After their cruise vacation, travellers disperse and may further spread acquired infections after leaving the cruise ship (Miller et al. 2000). Approximately a third of cruise ship
passengers are senior citizens above 70 years. These elderly cruisers and other persons with underlying comorbidities are at increased risk of complications from infection by norovirus or other common diseases on cruise ships such as influenza (Stock et al. 2015). Since cruise ships are a popular travel destination for the elderly who are at the highest risk of complications, early recognition of outbreaks has been observed to minimise respiratory complications (Hadjichristodoulou et al. 2013). However, outbreaks that occur in closed and crowded settings and have multiple routes of transmission have proven particularly challenging to identify and control on cruise lines (Kuusi et al. 2002).

A lot has been done to try and contain outbreaks on ships and also to prevent them from spreading diseases to land. International biosafety and health regulations require cruise operators to report the presence of any notifiable and contagious diseases on their ship before they enter any port (Stock et al. 2015). Responsibility has been put on ship owners to make these reports and keep their crews updated on these regulations, especially quarantine laws and the international health regulations, which are regularly updated to make them more responsive to current and emerging infectious diseases (Ferson and Ressler 2005). These regulations come with enhanced reporting and response requirements for port health authorities, cruise ship companies and other stakeholders in the event of an outbreak (Stock et al. 2015). There must also be the availability of medical assistance on board, including the capacity for medical consultation with a physician, well-equipped medical facilities and enhanced systems of disease surveillance (Hung et al. 2018).

However, each time disease outbreaks have occurred on cruise ships, there have been concerns regarding the level of preparedness for such occurrences given that repeatedly cruise companies have been caught seemingly unprepared (Stock et al. 2015). In situations where quarantining was deemed necessary, there was always reported poor coordination between responding government agencies and cruise ship companies, as well as inadequate support systems for the infected in the event of a pandemic (Hung et al. 2018). Jamal and Budke (2020) highlighted that given past experiences with previous outbreaks, hospitality-related stakeholders must be better prepared. Such preparedness was expected during the COVID-19 outbreak. This preparedness should have involved proactive, coordinated crisis response and management planning, which unfortunately was still poor in the sector.

In the past, the outbreak of diseases has been met with a corresponding decline in the amount of cruise ship passengers. This is because high and increasing levels of visitor arrivals increase the potential risk for visitors and locals transmitting or acquiring diseases from each other. In the Caribbean during SARS, the H1N1 pandemic of 2009, Chikungunya in 2013 and Zika outbreaks, there was significant cancellation of bookings and declines in arrivals by both air and cruise ships (Caribbean Public Health Agency 2017). The Zika virus outbreak led to more than 80% losses in the Caribbean tourism market in 2015, including the cruise ship segment. This was attributed to heightened concern, alerts and specific measures for travellers from regional and international health agencies like the WHO and the CDC. The consequences of reduced tourist numbers for the millions of people whose livelihoods depended on the sector were serious, contributing to the adverse
economic and social burden on the Caribbean governments and potentially damag-
ing the tourism destination reputation of these countries (Caribbean Public Health
Agency 2017).

During the SARS outbreak, the heaviest impact on the industry was on Asian
cruises. This was because they were located at the epicentre of the disease. There
were massive cancellations of bookings by passengers who had earmarked the
region, with some companies cancelling or reconfiguring their itineraries to other
regions of the world (Perez and Mckay 2003). The largest operators went further by
freezing the hiring of Asian workers during the outbreak and also discouraging
Asian crew already on board from going back home when on leave. The workers
were told that they risked not being allowed back to work if they went home to their
affected countries. Some cruise companies refused to board passengers who had
travelled to China, Hong Kong and Singapore during the previous 10 days and all
those who had come into close contact with SARS patients and SARS health provid-
ers. Reduced demand resulted in cruise companies reducing prices and also offering
discounts in order to try and entice passengers on board (Perez and Mckay 2003).
Effectively, these measures dented the bottom lines of the cruise ship and related
industries in the tourism value chain. The next section considers the methodology
applied in generating and analysing data for the chapter.

6.3 Materials and Methods

This chapter sought to document the impacts of the COVID-19 pandemic on the
global cruise ship industry. The objectives were to identify and evaluate the impacts
of COVID-19 on the cruise ship industry and bring to the forefront the need to
devise strategic interventions to minimise the impacts in the future should similar
occurrences happen. Figure 6.5 shows the major source markets and deployment of

Fig. 6.5 Main cruise ship source markets and deployments – 2019
Source: Authors
cruise ships around the world in 2019. The industry is truly global, impacting on every continent of the world from Australia, through to Asia, Africa, Europe and the two Americas.

Document analysis is depicted by Kumar et al. (2020) as a process of systematically arranging, classifying, analysing content and deriving outcomes from documents. Document analysis was performed from data derived from reports, scientific publications and news publications from different authentic media houses. A document was selected for use in the study only if it offered sufficient insights into the objective of the chapter, which were to examine the impacts of COVID-19 outbreak on the cruise ship industry, specifically documenting the costs. The method was chosen because as it amalgamated information from different sources, which were similar in view of the impacts of the outbreak on the cruise ship industry. Data collection and analysis were done in three stages which were electronic database search, gathering and thematising the obtained content and then the final write up and design of graphics based on the derived themes.

6.4 Presentation of Data and Discussion of Findings

As the COVID-19 outbreak was peaking in March and April 2020, there were massive cancellations of cruise ship bookings by the guests. Eventually, the entire industry voluntarily cancelled planned voyages. This was mainly due to measures put in place worldwide to limit the spread of COVID-19, the outbreak of the disease on some of the cruise ships and also advisories from different national health authorities against travelling on cruise ships. A combination of these events brought the cruise ship industry to a standstill, negatively impacting on their revenue streams. The following subsection highlight some of the impacts COVID-19 imposed on the cruise ship industry.

6.4.1 Economic Cost of COVID-19

The COVID-19 pandemic was a disaster for the whole travel industry but turned out to be a perfect storm for the cruise ship industry. Figure 6.6 shows the drop in share prices of some of the world’s biggest cruise liner companies as of the second week of April 2020. The industry was almost decimated by the coronavirus, with share prices for some of the largest players in the industry plunging. Some of these companies include Carnival Cruise, which dropped $63.40\%$, the Royal Caribbean that fell by $-80.80\%$ and the Norwegian Cruise, which dropped $-80\%$ (Forbes 2020). These loses signified the worst stock performance on record for the industry. The COVID-19 outbreak, therefore, made the industry lose its appeal to stock buyers and investors, a situation that was bound to continue as long as the coronavirus persisted and vessels could not take to the sea waters.
To put it into actual figures, Carnival which owned 122 ships valued at over $55 billion saw its share price plunge from $51.90 on the 17th of January to $8.80 as of the 1st of April 2020 (Swift 2020). This plummeting value of shares had the effect of hampering the raising of money to sustain even the skeletal operations during the period of the pandemic. This free fall in share prices led some like Ebbs (2020) to speculate the beginning of an end for the industry as the bankruptcy was certainly on the table. The cruise ship industry was observed by Bloom (2020) to have gone from being a multibillion dollar industry, with over 30 million passengers per year, to a total standstill industry in just 2 months. As for the Carnival Corporation, the cruise ship shutdown costed the company, which ran 105 ships at least $1billion per month in lost potential revenue (Ebelthite 2020).

Initially, some cruise lines attempted to weather the storm of falling stocks and mass cancellations by trying to sell tickets at all costs, with some even telling customers that COVID-19 did not exist in tropical countries (Crockett 2020). However, the unprecedented fall of the cruise ship companies was made worse by the fact that the United States CDC and other authorities around the world issued no sail orders and advisories to their citizens against going on cruise trips during the COVID-19 pandemic (CDC 2020). This was buttressed by the lockdowns instituted in most countries popular with cruise ships such as China, Caribbean, Spain, Italy, Australia and South Africa. This led to all cruise ship companies cancelling their planned voyages till the pandemic was put under control. The questions that many would ask is if the cruise companies would make it to the other end of the COVID-19 crisis and for how long they could afford to stay in business without any form of revenue as the industry had been brought to a complete stop. Hence with no bailout package for them, most of these companies faced an uncertain future (Ebbs 2020).

![Change in stock value of cruise ship companies](source: Authors, data from Forbes (2020))

**Fig. 6.6** Change in stock value of cruise ship companies

![Change in stock value](source: Authors, data from Forbes (2020))

![Change in stock value](source: Authors, data from Forbes (2020))
To make matters worse, the reputational damage done by COVID-19 was certainly going to make it difficult for the industry to get back on its feet. Cruise companies were being accused of putting the lives of their passengers at risk for monetary gain. Hence, continued operations even when it was clear that COVID-19 was spreading globally (Crockett 2020). Cruise lines also endangered the lives of passengers and crews by refusing to cancel their itineraries and refunding passengers at the earlier stages of the crisis. Instead, the companies continued to cram passengers on to capacity packed ships under conditions, which some Japanese health experts called “coronavirus mills”. Others further classified cruise ships as “floating petri dishes” because of the proficiency with which they managed to spread the illnesses (Ebbs 2020).

Decisions to continue operations amid the COVID-19 pandemic left the industry, trapped in unprecedented nightmare scenarios all over the world. At the time of writing most of the cruise companies, for example, Carnival Cruises had up to 6000 passengers stranded at sea due to the coronavirus incidences on board the ships (Woodyard and Hines 2020). This was so because, at one point, no country was authorising cruise ships to dock at their ports fearing the spiking incidences of COVID-19 in the host communities. The Diamond Princess Cruise ship saw 542 of its 3500 passengers falling ill to the coronavirus, leading to the passengers being quarantined in the ship. At the time of writing, another ship, the Coral Princess, was heading towards Florida in the USA with an unknown number of sick passengers. The same applied to the Holland America Zaandam, which had four fatalities on board and had requested entry into Florida (McCormick et al. 2020). Fortunately, the officials in Florida agreed but only to accept Florida residents from the infected ships (Ebbs 2020). The other passengers and crew on the ship were unfortunately left to fend for themselves, a matter that may have led to further preventable deaths.

The logic of the Florida Authorities was that having worked very hard to make sure that they had adequate hospital space in the event of a COVID-19 surge, they were not prepared to release the beds to foreign-owned cruise ships. The US Coast Guard further directed cruise ships with infected passengers to stay offshore indefinitely and even instructed foreign-flagged vessels to attempt the evacuation of passengers through their countries of registration (Ebbs 2020). The affected countries included Liberia, Panama and Bahamas. Memories of such incident are likely to scare future tourists causing them to avoid sea cruises as part of their holiday and leisure activities. These scenarios also led to some questioning the future of cruise ships post COVID-19 (Ebbs 2020).

To add insult to injury, major cruise ship companies were not included in many economic stimuli, and bailout packages rolled out by countries to support their productive sectors. This was as a result of the cruise ships companies avoiding paying taxes in the past, registering in tax haven countries such as Bermuda, Liberia, Panama and the Bahamas (Singh 2020). They also registered offshore and as such would not conform to the USA and European labour laws. To this end, cruise ship companies employed more workers from the developing countries, overworked them and pay them less (Bloom 2020). These foreign-registered companies, for example, were not included in the USA’s $2 trillion stimulus package. With the
chances of getting bailouts in the USA close to zero. Over the last 3 years, some of the cruise ship companies had been performing very well and profiteering, with the Royal Caribbean having paid out US$1.8 billion in dividends and having spent US$900 million on buybacks (Singh 2020). Some would argue that the companies had enough rainy day funds to survive the COVID-19 downturn. However, their management decided to spend it on wrong priorities, hence being seen to be bailing out the rich would not look very good for the different governments. Given the coronavirus driven shutdown of the industry, which made it impossible for to obtain revenue and service their debt, the poor prospects of a bailout in sight, bankruptcy looked inescapable for most players in the industry (Singh 2020).

Bloom (2020) further observed that no one was eager to bail out the cruise ship industry because of the negative impacts that they impose on their destinations and the environment. The industry is noted to contribute little if anything to the local economy of the destinations they visit. They are known for depositing thousands of crowding tourists who spend very little. These tourists further move around carrying packed lunches from their “floating hotel”, after which they return for dinner and sleeping. This arrangement was designed to leave as little as possible at their destinations and bring as much as possible to the cruise liners. Cruise lines generally pay a small head tax that ranges from $4 to $15 per passenger to call on a port. However, as observed by Crockett (2020), most of these countries spend more on maintaining facilities for cruise ships than they make through the fees. Further, they promise to boost the local economies where they call, but the cruise companies are noted to take up to 70% of the onshore revenue with studies indicating that local populations at foreign ports do not get much out of such initiatives. Hence some argue that they were little missed if at all at their usual destinations during and after the COVID-19 pandemic, and they also had few friends in high places hence not included in rescue packages.

6.4.2 Impact on Employment

Employment remains a common thread through the cruise ship tourism segment value chain. Although most European, American and Australian nationals have been employed in the onshore business segment of the cruise ship industry, the offshore segment (on ships), foreign workers, fill most positions. Almost all ocean-going cruise ships calling at US ports are foreign owned (Frittelli 2020). The COVID-19 pandemic saw a loss in the employment of these foreign workers, most of whom were from the Philippines, Thailand, Indonesia and India. While passengers were evacuated during the COVID-19 outbreaks, most of the crew members remained on board. It is reported the more than 90,000 cruise crew members all over the world were left stranded on the cruise ships – at times without pay – because their schedules had been cancelled. This was concerning because just like their passengers, they also suffered due to the spread of the virus, especially those who were not getting paid anymore. However, for some time, cruise line workers were not allowed
off the cruise ships due to stringent repatriation conditions put in place by health authorities from different countries (Woodyard and Hines 2020).

The industry therefore still had an ongoing obligation for the welfare, care and safety of its employees during such periods. However, as Woodyard and Hines (2020) observed, the obligation was becoming complicated and harder to fulfil. Some of the workers – like those who work in ship casinos, entertainers, performers and waiters – automatically become classified as nonessential crew members as soon as there are no passengers aboard. As such, they immediately ceased getting paid. To mitigate this scenario, these workers continued to stay on board, off the payroll but received free lodging, meals, medical care and Internet services to maintain contact with loved ones. The repatriation of cruise ship employees was further complicated by the CDC, and many health authorities around the world that recommended that anyone returning home, whether sick or fit, had to get into chartered or private aircraft. This meant that cruise ship companies needed to charter planes for their employees, instead of simply issuing airline tickets for them (Woodyard and Hines 2020). A further complication was that by the time employees got on shore, and most places had been placed under lockdown, and the movement of people was strictly monitored. It is no wonder why most of the cruise ships ordered their employees to remain on board, while they worked out crew repatriation plans. This traumatic experience is likely to linger in the minds of many who were trapped.

For those who remained at work as part of the core and skeletal cruise ship staff for maintenance and securing the cruise ships during their idle period, most had to take substantial salary cuts and observe reduced working hours. The Norwegian, for example, moved its corporate employees to a 4-day working week. It also implemented a pay cut of up to 20% for the shore side employees, with those being paid hourly no longer allowed to work overtime (Peterson et al. 2020). The Royal Caribbean cruise company laid off and/or furlough over 26% of its workforce in the USA. This translated to over 1300 of their 5000 employees there (Reuters 2020). The industry therefore significantly shed both the onshore and offshore employees in order to limit their financial commitments during the COVID-19 downturn.

6.4.3 Emergence of COVID-19 Cruise Ships Lawsuits

In addition to the bad publicity the cruise ship companies got during tours in the midst of the COVID-19 pandemic, the industry has had to contend with potentially costly lawsuits and criminal investigations from all over the world. As each day passed, more lawsuits were filed across the world. In April 2020, Australia launched a criminal investigation into the Ruby Princess cruise ship to establish how the ship managed to disembark 2700 passengers in Sydney (Boseley 2020). About 600 of the passengers later tested positive for COVID-19, ten of whom died. The investigation aimed to establish if the country’s biosecurity laws had been broken in the process and if so, to punish those liable. By law, vessels were allowed to dock and disembark passengers only if the captain of the ships assured the local authorities
that their ship was free from contagious disease. There was, therefore, a noted discrepancies on what the law said and the information that was provided by the shipping company (Ibid.). In the USA, Florida’s Attorney General announced an investigation into whether sales representatives from cruise companies spread misinformation and/or sought to downplay concerns about COVID-19 from their customers. In some instances, there were allegations that emails were sent informing concerned customers that the coronavirus could only survive in cold temperatures, as such, the Caribbean as a cruise destination was not affected by the virus (Crockett 2020).

Passengers who were infected and/or affected by COVID-19 on the cruise ships also launched individual lawsuits against the companies. They argued that their cruises should never have set sail given that by March 2020 the global cruise industry was well aware of the two Princess cruise ships that experienced massive outbreaks of the virus with numerous deaths (Davies and Butler 2020). The key question in Australia, for example, is why the Ruby Princess chose to run a cruise given that the previous cruise had 158 instances of sickness with the ship turning around in a few hours. Hence, the need for answers if it had been sanitised from top to bottom as required. Furthermore, if the company had disclosed anything about the sickness during the previous trip, would the passengers have risked their lives by boarding the ship? The passengers are therefore seeking millions from cruise companies through damages for distress caused by being infected with COVID-19 and living under the threat of being infected (Davies and Butler 2020). In California, a group of former passengers accused Princess Cruises of negligence in its response to the COVID-19 outbreak on the Grand Princess. As such, they have filed several lawsuits against it. They argue that the company chose to place profits before the safety of its passengers, crew and the general public. To this end, the company may have acted negligently by proceeding with the cruise, yet it knew the risk posed to the cruise ship if an infected person was to get on board. Plaintiffs, in this case, are asking for damages of up to US$5million each and also intend to hold the company responsible for implementing new safety measures on its ships (Webeck 2020).

However, as highlighted by Kelley (2020), old laws could potentially shield the cruise industry from huge payouts in the COVID-19 lawsuits. For example, the High Seas Act of the USA, which was passed in 1920 and has been amended only once since then, prevents survivors from suing for emotional distress or suffering even when one loses their loved ones at sea. Other laws also limit the liability of ship companies to the value of their vessel. Cruise ships, just like many industries, are legally not obliged to ensure passenger safety even if they are required to take reasonable steps to keep their passengers from harm. As such, what is reasonable can be debatable in different circumstances. Kelley (2020) also observed the ticket contracts of cruise lines to be “legal works of art”. Included in the terms and conditions of the tickets is a waiver to the right of class-action lawsuits against the companies, and emotional distress is not considered an injury. Judging from history, one may reasonably foresee very limited legal recourse against the cruise industry. This is worrying given that Western governments have very limited oversight of this sector. This is mainly due to the fact that most cruise ships are foreign registered and
do not have to comply with the stringent safety regulations of the European Union, Japan, Australia and the USA. The challenges emerging herein are those for which the corporate world prepared a legal route out years ago. The risks are well calculated, with the profit margins secured in most instances.

6.4.4 The Human Cost

The COVID-19 pandemic also came with traumatic experiences for both the passengers and the workers of the cruise lines. In February 2020, the cruise ship, Diamond Princess, carrying about 3700 passengers, temporarily became the largest cluster of COVID-19 cases outside China (Mole 2020). The cruise ship docked at the Yokohama Bay, Japan, on 3 February 2020. The passengers were subjected to quarantine for 2 weeks. In the process, at least 705 passengers tested positive for the virus, including about 189 who were asymptomatic and who had initially tested negative (Inui et al. 2020). The total included infections among passengers and crew members, plus one case of a Japanese quarantine officer working on the vessel and four fatalities (Mole 2020). The ship becomes an occupational hazard for the cruise workers as they were required to keep working on board the vessel, despite the risk of infection, to ensure the smooth running of the cruise. As such, many of them – especially those who delivered food to the cabins – became infected (Inui et al. 2020).

During the quarantine period, concerns were raised as to whether quarantining both the sick and in the healthy on one ship was the best thing to do. The other issues were quarantining people on cruise ships, which, by the set-up, could lead to the acceleration of the infections on board. By default, there is limited sanitation on board, as well as restricted water and food supplies (Sawano et al. 2020). Furthermore, given that the majority of passengers were the elderly and vulnerable, issues emerged surrounding how best to care for them. There were more than 200 such elderly over 80 years on Diamond Princess (Mole 2020). There were also those with pre-existing medical conditions who were at bigger risk not just from COVID-19 but also from the physical and psychological stress that could make their existing ailments worse. With increased international criticism on the poor management of those on board, the Japanese government eventually allowed some elderly passengers to leave the ship on 14 February 2020 before the end of the quarantine period on 19 February 2020. After the quarantine period lapsed, 36 severe cases of COVID-19 were reported among the passengers, requiring treatment in land-based intensive care units. However, those fit to travel were repatriated to their countries, where again they were subjected to another 14 days or more of either self-quarantine or other regulated quarantines under lockdowns (Sawano et al. 2020).

Another cruise ship, the Dutch liner, Westerdam, sailed out of Hong Kong on 1 February 2020. The ship had on board 1455 passengers, including 91 from the Netherlands. It was turned away from ports in the Philippines, Taiwan, Korea, Japan, Thailand and the USA territory of Guam. This was in spite of the fact that there were no confirmed cases on board (Pieters 2020). The ship was finally allowed
to dock in Sihanoukville, Cambodia, after 13 days at sea. Fearmongering on infection by people on board cruise ships, which had been likened to “floating petri dishes” of the coronavirus, had been heightened the world over by the Diamond Princess saga in Japan. After this traumatic experience, the passengers were able to disembark within a few days after being subjected to medical checks by the Cambodian authorities (Pieters 2020). There were also increasing reports of workers on cruise ships being shunned and harassed by a fearful public because of their occupation and being perceived to have the coronavirus when they returned home (Koh 2020). These remain the real psychosocial matters that will remain in the tourism, and particularly the cruise industry, for a long.

The problem of quarantining people on cruise ships was made worse by the fact that most modern liners have relatively small cabins that are in sync with the industry’s economic model. The economic model is hell-bent on getting as many passengers as possible to spend money in the ship’s restaurants, shops, bars and spas (Bloom 2020). In the end, thousands of innocent cruise ship guests had to endure being marooned on board in cruise ship cabins that were beset by outbreaks of the coronavirus. Even those who were free of the virus were shunned by normally welcoming ports of call around the world. The CDC (2020) listed 21 ships in which travellers tested positive for the coronavirus, either while aboard or after their cruises. Table 6.2 shows some of the ships that had COVID-19 incidences and/or were turned away from their scheduled port of call during their voyages.

Bloom (2020) observed that the cruise ship industry had always been prepared to deal with illnesses on board since they all had resident doctors, nurses and also clinics. However, in normal periods, when a person felt sick, the plan would be to stabilise the patient, get to the nearest port, get everyone off and then sanitise the ship and continue with the voyage. This standard practice was, however, not applicable during the COVID-19 outbreak as ports turned the ships away. The cruise lines were left to fend for their sick guests, with limited resources on board. It can be argued that the industry was caught off guard and unprepared for the impacts of the pandemic, hence imposing a huge toll on its passengers. The health toll of the COVID-19 pandemic on the passengers of cruise ships was higher compared to other forms of transport and most probably will take long periods of time for the psychological trauma to heal. The untold suffering of these innocent cruise line guests was exacerbated mostly by misinformation, panic and fear among the authorities in different countries who denied cruise ships docking even for scheduled stops and when there were no confirmed cases of COVID-19. Where there were emergency cases that necessitated the ill passengers to be evacuated from the ships, they were (in many cases) not allowed to disembark from the ships and left to fend for themselves leading to preventable deaths. The psychological wounds from such experiences meant that cruise ship companies had to do more to ensure that their former passengers had access to psychological counselling where possible. This bad publicity of the industry will be difficult to shake off in the post-COVID-19 period. It will likely suffer prolonged negative impacts more than other segments of the leisure travel and tourism industry.
History shows that tourists have short memories when it comes to bad experiences. Good examples include the Paris and Brussels terror attacks, Bali bombings and the southeast Asian tsunami. All these had about 3 months of a fall in tourist numbers before going back to normal (Bloom 2020). As soon as travel restrictions are removed, the industry needs to launch massive advertising campaigns and

### Table 6.2 Selected cruise ships that had COVID-19 incidences and/or were turned away from ports of call

| Cruise ship                  | Passengers and crew | Receiving/rejecting port                                      |
|------------------------------|---------------------|---------------------------------------------------------------|
| The Grand Princess           | 2422 passengers on board | Oakland                                                       |
|                              | At least 21 out of 46 coronavirus tests administered on board were positive |
| MSC Meraviglia               | 4500 passengers and 1600 crew members | Rejected by Jamaican and the Cayman Islands ports |
|                              |                      | Finally allowed to dock in Cozumel, Mexico, before being moved to Miami |
| Costa Fortuna (Italy)        | Nobody on board tested positive for COVID-19 | Denied permission to dock in Thailand and Malaysia |
|                              |                      | Allowed to dock and disembarked in Singapore                  |
| A Sara (Nile River)          | 33 passengers tested positive for COVID-19 | Luxor                                                        |
| MS Braemar                   | At least five of the over 600 passengers aboard the cruise tested positive for COVID-19 | Denied docking in multiple Caribbean ports                  |
|                              | 25 guests and 27 crew members showed flu-like symptoms | Anchored 8 km off the coast of Cuba; only docked after charter flights arrived |
| The Golden Princess          | 2600 passengers and 1100 crew | New Zealand, not allowed to disembark                        |
|                              | Three passengers quarantined |                                                                 |
| Pacific Princess             | No one tested positive for COVID-19 | Having difficulty finding a place to dock; all planned stops refused it entry, including Australia |
|                              | Was still on a global voyage for 111 days |                                                                 |
| Greg Mortimer (Antarctic cruise) | 132 passengers and 85 crew | Anchored 20 km off Uruguay; not allowed to dock |
|                              | 128 of them tested positive for COVID-19 |                                                                 |
|                              | Ship’s doctor fell ill with a fever and was left unable to perform his duties |                                                                 |
| AIDAmira                     | 1720 passengers and crew | Cape Town                                                     |
|                              | No one tested positive for COVID-19, but passengers not allowed to disembark |                                                                 |

Source: Authors, based on Chang (2020)

### 6.5 A Way Forward

History shows that tourists have short memories when it comes to bad experiences. Good examples include the Paris and Brussels terror attacks, Bali bombings and the southeast Asian tsunami. All these had about 3 months of a fall in tourist numbers before going back to normal (Bloom 2020). As soon as travel restrictions are removed, the industry needs to launch massive advertising campaigns and
significantly reduce prices to lure customers back. However, the irony is that the ships need to be full in order to make profits, and discounting may impact on their capacity to break even. The good thing is that oil prices, one of the major fixed costs of the industry, have also been going down during the COVID-19-induced downturn, and cruise companies need to take advantage by buying fuel futures.

Munarriz (2020) observed that it would take several months after gaining control of COVID-19 for these cruise ships to be sailing again and start generating revenue. It will take at least a couple of years before customer interest in cruise vacations returns with the same appetite as before. Furthermore, when one factor in the inevitable world economic recession, which will follow the COVID-19 outbreak, the situation looks very gloomy for the industry. In a survey done by the Carnival Cruise Company, 45% of the guests contacting the company on cancelled sailings were taking up sweetened future cruise packages, with 55% of the displaced customers taking refunds (Munarriz 2020). For Norwegian cruise line passengers, about 50% were opting for compensation in the form of future cruise credit rather than a straightforward refund. This shows that despite the bad publicity and incidences of COVID-19 outbreaks on cruise ships, the industry still had loyal clients who could lift it up as soon as things normalised. The industry has also seen a surge in demand for the 2021 booking of cruises earmarked for all regions of the globe. This is a good sign of the resilience of the sector and its popularity with tourists. To show investor confidence in the future of the sector, during the COVID-19 low in April 2020, Saudi Arabia’s Investment Fund purchased an 8.2% stake in Carnival. The investment amounted to $400 million and signalled investor confidence in the sector in the future (Ebelthite 2020) and also signals Saudi Arabia’s endeavour to become a cruise ship destination.

Given that diseases can easily spread in the confined and crowded spaces of cruise ships, the industry needs to improve its state of medical preparedness so that it relies less on ground-based facilities in the case of emergencies and future outbreaks. It cannot be business as usual in the future. Cruise ships need to be better equipped to handle more severe medical conditions on board in the event that they are denied medical help from land, as was often the case during the COVID-19 pandemic. They also need to improve the sanitation procedures on cruise ships in order to enable them to mitigate the impacts of fast-spreading diseases like COVID-19. Guests need to be educated on the importance of good hygiene, with crew members assisting in making sure that their guests sanitise before visiting public areas on the ship. There is also a need for the industry to work on better evacuation and quarantine procedures in the event of future outbreaks.

6.6 Conclusion

The cruise ship industry has been heavily impacted by the COVID-19 pandemic. This saw the industry grinding to a halt and cancelling almost all cruises across the world and losing billions of dollars in potential revenue in the process. Before the
COVID-19 induced meltdown, the industry had witnessed sustained dynamic growth from the year 2009 and became one of the fastest-growing segments of the tourism sector. At its peak in 2019, the industry carried over 30 million passengers and created over 1.11 million jobs, which paid salaries over US$45.6 billion and was in total worth over US$134 billion. All these economic benefits were annihilated during the peak of the COVID-19 pandemic. The pandemic further witnessed stock values of most cruising companies dropping by as much as 80% within 2 months. This signalled the worst ever performance by these companies on stock markets.

Besides the economic costs, the COVID-19 pandemic also came at an unprecedented cost to the passengers and crews of cruise liners. They had to endure psychological trauma when their cruise liners were denied docking rights at various ports around the world, even when there were no coronavirus incidences on board. Many of the passengers were infected by the virus on the ships, and those who were free from the virus had to endure weeks of quarantine on the same ship as those who were ill. Some passengers were denied critical medical care, which was only available on land, when they were not allowed to disembark from the ships, thereby leading to preventable loss of life. Some passengers and crew members died. Such nightmare experiences on the part of the passengers and crews led to the loss of the good reputation the industry had gained over the years and to questions over their social licence to operate. The cruise ship industry is also being hit by lawsuits and criminal investigations due to incidences that occurred during the peak and early days of the COVID-19 pandemic. The cruise companies have been accused of putting money before the welfare of their passengers and crews. As such, there is a chance that biosafety laws of different countries were broken. With all the loss of potential revenue and no rescue package for them on the horizon, the industry faces an uncertain future.

However, there is light at the end of the tunnel, with some regular passengers expressing a willingness to return to the cruise ships once the virus is under control, with some even making future bookings during this period. Investors are also showing faith in the industry by investing funds into it during the COVID-19 pandemic. This confidence booster, coupled with forceful marketing and the offering of discounted tours, will go a long way towards helping the industry bounce back from the COVID-19 disaster. Finally, the United Nations (2020) strongly recommends learning from this crisis. For example, countries like Singapore, Vietnam and Taiwan learnt from their experience of SARS in 2003. This experience incentivised them to act promptly and got their citizens to cooperate with specific measures. This paid off in reducing the spread and incidences of COVID-19. In that spirit, the cruise ship industry needs to improve on its management of public health systems on board in order to reduce passenger vulnerability to infection, should outbreaks similar to COVID-19 recur.
References

Belke, A. (2009). Fiscal stimulus packages and uncertainty in times of crisis: Economic policy for open economies. *Economic Analysis and Policy, 39*(1), 25–46.

Bloom, J. (2020). Will we ever take cruise holidays again? *BBC*. Retrieved from [www.bbcnews.com/news/amp/business-52182509](http://www.bbcnews.com/news/amp/business-52182509). Accessed 9 Apr 2020.

Boseley, M. (2020). Criminal investigation launched into Ruby Princess cruise ship coronavirus disaster. *The Guardian*. Retrieved from [www.theguardian.com/world/2020/apr/05/criminal-investigation-launched-into-ruby-princess-cruise-ship-coronavirus-disaster](http://www.theguardian.com/world/2020/apr/05/criminal-investigation-launched-into-ruby-princess-cruise-ship-coronavirus-disaster). Accessed 9 Apr 2020.

Brida, J. G., & Aguirre, S. Z. (2008). The impacts of the cruise industry on tourism destinations. Sustainable tourism as a factor of local development. Monza, Italy, 7–9/11/2008.

Business Research and Economic Advisors (BREA). (2018). *The global economic contribution of cruise tourism 2017*. Phillipsburg: BREA.

Caribbean Public Health Agency. (2017). *ZIKA: Impacts on tourism*. Jamaica Boulevard: CARPHA.

Centers for Disease Control and Prevention. (2014). *Surveillance for norovirus outbreaks*. Retrieved from [http://www.cdc.gov/features/dsNorovirus/](http://www.cdc.gov/features/dsNorovirus/). Accessed 17 Apr 2020.

Centers for Disease Control and Prevention. (2020). *CDC announces modifications and extension of no sail order for all cruise ships*. Retrieved from [www.cdc.gov/media/releases/2020/s0409-modifications-extension-no-sail-ships.html](http://www.cdc.gov/media/releases/2020/s0409-modifications-extension-no-sail-ships.html). Accessed 9 Apr 2020.

Chang, B. (2020). 21 cruise ships around the world have been affected by the coronavirus so far – Here is a list. *Business Insider US*. Retrieved from [www.BusinessInsider.com/cruises-that-have-been-affected-by-coronavirus-2020-3%3famp](http://www.BusinessInsider.com/cruises-that-have-been-affected-by-coronavirus-2020-3%3famp). Accessed 9 Apr 2020.

Cho, S. Y., Kang, J. M., Ha, Y. E., Park, G. E., Lee, J. Y., Ko, J. H., et al. (2016). MERS-CoV outbreak following a single patient exposure in an emergency room in South Korea: An epidemiological outbreak study. *The Lancet, 388*, 994–1001. [https://doi.org/10.1016/S0140-6736(16)30623-7](https://doi.org/10.1016/S0140-6736(16)30623-7).

Crockett, Z. (2020). The economics of cruise ships. *The Hustle*. Retrieved from [https://thehustle.co/the-economics-of-cruise-ships/amp](http://https://thehustle.co/the-economics-of-cruise-ships/amp). Accessed 9 Apr 2020.

Cruise Lines International Association (CLIA). (2019). *2019 cruise trends and industry outlook*. Retrieved from [https://cruising.org/news-and-research/press-room/2019/april/clia-reveals-growth](https://cruising.org/news-and-research/press-room/2019/april/clia-reveals-growth). Accessed 14 Apr 2020.

Davies, A., & Butler, B. (2020). Ruby Princess: Battle begins to hold someone accountable for cruise ship coronavirus debacle. *The Guardian*. Retrieved from [www.theguardian.com/business/2020/apr/10/ruby-princess-battle-begins-to-hold-someone-accountable-for-cruise-ship-coronavirus-debacle](http://www.theguardian.com/business/2020/apr/10/ruby-princess-battle-begins-to-hold-someone-accountable-for-cruise-ship-coronavirus-debacle). Accessed 14 Apr 2020.

Djalante, R., Shawb, R., & DeWit, A. (2020). Building resilience against biological hazards and pandemics: COVID-19 and its implications for the Sendai Framework. *Progress in Disaster Science, 6*(2020), 100080. [https://doi.org/10.1016/j.pdisas.2020.100080](https://doi.org/10.1016/j.pdisas.2020.100080).

Ebbs, W. (2020). Cruise stocks may never recover from the Coronavirus. *CNN*. Retrieved from [https://www.cnn.com/grand-princess-cruise-ship-stupidity-puts-everyone-in-danger](http://https://www.cnn.com/grand-princess-cruise-ship-stupidity-puts-everyone-in-danger). Accessed 9 Apr 2020.

Ebelthite, S. (2020). Saudi Arabia buys stake in cruise giant Carnival as it seeks to become cruise destination. *Cruise Arabia and Africa*. Retrieved from [www.cruisearabiaonline.com/2020/04/07/saudi-arabia-buys-stake-in-cruise-giant-carnival-as-it-seeks-to-become-cruise-destination/amp](http://www.cruisearabiaonline.com/2020/04/07/saudi-arabia-buys-stake-in-cruise-giant-carnival-as-it-seeks-to-become-cruise-destination/amp). Accessed 9 Apr 2020.

European Centre for Disease Prevention and Control. (2010). *Expert forum on communicable disease outbreaks on cruise ships*. Stockholm, 28–29 September 2009. Stockholm: ECDC.

Ferson, M. J., & Ressler, K. A. (2005). Bound for Sydney town: Health surveillance on international cruise vessels visiting the Port of Sydney. *Medical Journal of Australia* 182(8), 391–394.

Forbes. (2020). *Norwegian and Royal Caribbean down 80%. Is either now a good value?* Retrieved from [www.forbes.com/sites/greatspeculations/2020/04/06/norwegian-royal-caribbean-down-80-is-either-now-a-good-value/amp](http://www.forbes.com/sites/greatspeculations/2020/04/06/norwegian-royal-caribbean-down-80-is-either-now-a-good-value/amp). Accessed 14 Apr 2020.
Frittelli, J. (2020). *COVID-19 and the cruise ship industry*. Washington, DC: Congressional Research Service, IN11245-Version 2-New.

Gan, N., Thomas, N., & Culver, D. (2020). Over 1,700 frontline medics infected with coronavirus in China, presenting new crisis for the government. *CNN*. Retrieved from: https://www.edition.cnn.com/2020/02/13/asia/coronavirus-health-care-workers-infected-intl-hnk/index.html. Accessed 9 Apr 2020.

González, A. T. (2018). Venice: The problem of overtourism and the impact of cruises. *Journal of Regional Research, 42*, 35–51.

Hadjichristodoulou, C., Mouchtouri, V. A., Guglielmetti, P., Lemos, C. M., Nichols, G., Paux, T., Schlaich, C., Cornejo, M. D., Martínez, C. V., Dionisio, M., Rehmet, S., Jaremin, B., & Kremastinou, J. (2013). Actions for prevention and control of health threats related to maritime transport in European Union. *Travel Medicine and Infectious Disease, 11*(4), 238–242.

Holmes, R. (2020). African cities invest to boost cruise ship arrivals. *Skift*. Retrieved from www.skift.com/2020/01/02/african-cities-invest-to-boost-cruise-ship-arrivals/amp. Accessed 9 Apr 2020.

Hung, K. K. C., Mark, C. K. M., & Yeung, M. P. S. (2018). The role of the hotel industry in the response to emerging epidemics: A case study of SARS in 2003 and H1N1 swine flu in 2009 in Hong Kong. *Globalization and Health, 14*(1), 117. https://doi.org/10.1186/s12992-018-0438-6.

Inui, S., Fujikawa, A., Jitsu, M., Kunishima, N., Watanabe, S., Suzuki, Y., Umeda, S., & Uwabe, Y. (2020). Chest CT findings in cases from the cruise ship “Diamond Princess” with Coronavirus Disease 2019 (COVID-19). *Radiology: Cardiothoracic Imaging*, in press.

Jamal, T., & Budke, C. (2020). Tourism in a world with pandemics: Local-global responsibility and action. *Journal of Tourism Futures*. https://doi.org/10.1108/JTF-02-2020-0014.

Kelley, C. (2020). Centuries-old laws may shield the cruise industry from huge payouts in coronavirus suits. *USA Today*. Retrieved from www.ustoday.com/amp/51173002. Accessed 9 Apr 2020.

Koh, D. (2020). Occupational risks for COVID-19 infection. *Occupational Medicine, 70*, 3–5. https://doi.org/10.1093/occmed/kqaa036.

Kumar, A., Singh, N., & Neelu, J. A. (2020). Learning styles based adaptive intelligent tutoring. *International Journal of Cognitive Research in Science, Engineering and Education, 5*(2), 83–98.

Kuusi, M., Nuorti, J. P., Maunula, L., Minh Tran, N. N., Ratia, M., Karlsson, J., & von Bonsdorff, C. H. (2002). A prolonged outbreak of Norwalk-like calicivirus (NLV) gastroenteritis in a rehabilitation centre due to environmental contamination. *Epidemiology and Infection, 129*(1), 133–138.

McCormick, E., Greenfield, P., & Goñi, U. (2020) Revealed: 6000 passengers on cruise ships despite coronavirus crisis. *The Guardian*. Retrieved from https://www.theguardian.com/environment/2020/apr/09/revealed-6000-passengers-on-cruise-ships-at-sea-despite-coronavirus-crisis. Accessed 9 Apr 2020.

Micallef, J. V. (2018). The cruise industry’s boom is primed to continue. *Forbes*. Retrieved from www.forbes.com/sites/joemicallef/2018/09/01/the-cruise-industry-boom-is-primed-to-continue/amp/. Accessed 16 Apr 2020.

Miller, J. M., Tam, T. W. S., Maloney Fukuda, K., Cox, N., Hockin, J., Kertesz, D., Klîmov, A., & Cetron, M. (2000). Cruise ships: High-risk passengers and the global spread of new influenza viruses. *Clinical Infectious Diseases, 31*, 433–438.

Mole, B. (2020). 175 now infected with coronavirus on cruise ship, including quarantine officer: Japan is now planning to test everyone aboard. *Arstechnica*. Retrieved from https://arstechnica.com/science/2020/02/175-now-infected-with-coronavirus-on-cruise-ship-including-quarantine-officer. Accessed 9 Apr 2020.

Munarriz, R. (2020). Will carnival, Royal Caribbean, and Norwegian cruise line all survive. *The Motley Fool*. Retrieved from www.themotleyfool.com/investing/2020/04/05/will-carnival-royal-caribbean-and-norwegian-cruise.aspx. Accessed 9 Apr 2020.

National Institute of Infectious Disease. (2020). *National Institute of infectious diseases. Field briefing: Diamond princess COVID-19 cases*. Tokyo: National Institute of Infectious Diseases.
Retrieved from https://www.niid.go.jp/niid/en/2019-ncov-e/9407-covid-dp-fe-01.html. Accessed 20 Apr 2020.
Perez, E. and Mckay, B. (2003). Swab the decks! Cruise lines guard against SARS threat. Wall Street Journal. Retrieved from www.wsj.com/articles/SB105164036784562700. Accessed 21 Apr 2020.
Peterson, B., Matousek, M., & Cain, A. (2020). Cruise lines told workers to carry on as normal as the coronavirus spread. Now, many crew members are infected or unemployed. Business Insider. Retrieved from www.businessinsider.sg/cruise-line-crew-workers-lose-salaries-benefits-over-coronavirus-2020-4/amp. Accessed 20 Apr 2020.
Pieters, J. (2020). Dutch cruise ship allowed to dock in Cambodia; health ministers gather to discuss coronavirus. NL Times. Retrieved from https://nltimes.nl/2020/02/13/dutch-cruise-ship-allowed-to-dock-in-cambodia-health-ministers-gather-to-discuss-coronavirus. Accessed 9 Apr 2020.
Reuters. (2020). Royal Caribbean sheds 26% of U.S. workforce as coronavirus hits travel. Reuters. Retrieved from www.reuters.com/article/amp/idUSKCN21Y02S. Accessed 10 Apr 2020.
Sawano, T., Ozaki, A., Rodriguez-Morales, A. J., Tanimoto, T., & Sah, T. (2020). Limiting spread of COVID-19 from cruise ships – Lessons to be learnt from Japan. Oxford: Oxford University Press.
Singh, A. (2020). The U.S. stock market crash will bankrupt these 3 companies. CCN. Retrieved from www.ccn.com/the-us-stock-market-crash-will-bankrupt-these-3-companies/. Accessed 10 Apr 2020.
South African Tourism. (2009). South Africa cruise tourism: Prospects, benefits and strategies (Final Report November, 2009 Version 5.0, Pretoria).
Stock, D., Becken, S., & Davis, C. (2015). Impact of Norovirus in the cruise ship industry (Griffith Institute for tourism research report no 8). Queensland: Griffith University.
Swift, R. (2020). Global cruise ship fleets lose US$4 billion in value as coronavirus pandemic idles industry, halving the number of vessels as sea. South China Morning Post. Retrieved from www.amp.scmp.com/business/companies/article/3078347/global-cruise-ship-fleets-lose-us4-billion-in-value-coronavirus. Accessed 10 Apr 2020.
United Nations. (2020). Shared responsibility, global solidarity: Responding to the socio-economic impacts of COVID-19. New York: The United Nations Sustainable Development Group.
Vera, A. (2020). Major cruise lines suspending operations at US ports for 30 days over coronavirus pandemic. CNN. Retrieved from www.cnn.com/travel/amp/cruise-line-suspensions-coronavirus/index.html. Accessed 9 Apr 2020.
Webeck, E. (2020). Grand Princess Passengers sue cruise line for negligence over COVID-19 outbreak. The Mercury News. Retrieved from www.mercynews.com/2020/04/09/grand-princess-passengers-sue-cruise-line-for-negligence-over-covid-19-outbreak/amp/. Accessed 10 Apr 2020.
Woodyard, C., & Hines, M. (2020). More the 90,000 cruise crew members left to battle coronavirus – At times without pay. USA Today. Retrieved from www.usatoday.com/amp/2959362001. Accessed 5 Apr 2020.