

Alexis Papathanassis *Editor*

Cruise Business Development

Safety, Product Design and Human
Capital

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Editorial Note

Cruises can be characterised as a ‘killer combination’ of holiday features. Cruises optimally combine comfortable travel, high-quality service, and experience diversity to produce an unbeatable value-for-money holiday proposition. Arguably, this is one of the main reasons behind the sector’s continuous growth over the last years. Despite an ever-increasing cost base (esp. fuel costs), financial crisis, piracy, incidents at sea (e.g. Costa Concordia) and, more recently, terrorist attacks (e.g. hostage incident in Tunisia), the cruise industry has effectively ‘navigated to economically calm waters’. Worldwide cruise capacities are growing steadily, new source markets and segments are being entered, and passenger numbers are increasing. Nevertheless, the above-mentioned has left its toll on the industry’s success course. Negative press on the cruise sector’s environmental and socio-economic impacts, public criticism on tax avoidance and the flags of convenience and exposure of questionable employment practices and safety concerns have rendered corporate social responsibility and reputation management vital for business success in the medium and long term.

Innovation management and product development have mutated from a strictly company-level, product-/service-focused tactical task to an industry-wide, experience management strategic challenge. The ‘intangible’, reputational aspects of the cruise experience, as well as the peripheral (i.e. outside the boundaries of the cruise vessel) components and stakeholders, are becoming increasingly important for customer acquisition and retention. The increasing size of cruise vessels and the accompanying standardisation of facilities and itineraries, in conjunction with the hybridisation of cruise passengers (i.e. alternating between cruises and conventional holiday packages), all expand the competitive boundaries and competition intensity of the cruise sector. Considering the above, it follows that addressing safety, image and responsibility issues have evolved to being more than a public relations campaign; they have actually become the very essence of strategic cruise-business development.

This book addresses these aspects through a thematically organised selection of peer-reviewed, original research papers, presented during the 5th International

Cruise Conference held in Bremerhaven (Germany) between the 24 and 26 of January 2014.

This proceedings volume consists of three parts: cruise safety, cruise design and human capital. Addressing those aspects, a number of main themes emerged during the conference, which can be summarised as follows (Papatthanasiss 2014):

- **‘Unique guests’—micro-understanding vs. macro-descriptions:** Despite the extensive marketing research in the cruise sector, there is still a limited research—and by implication understanding—of the behavioural and decisional micro-dynamics of cruise passengers. Relevant topics covered in this volume refer to the experiences and motives of solo cruisers, the development customer loyalty, the effects of co-branding, the utilisation of social media and the interpretation/impact of visual images in cruise brochures.
- **‘Too-big to sail?’—incident management at sea:** In light of the latest cruise accidents and disasters, the cruise sector, regulators and experts have focused their efforts on redefining the regulatory architecture to account for newly emerging safety and security risks. Criminality on board, power losses and fires often do not reach the international headlines. Nevertheless such less sensational incidents are expected to become more frequent due to increasing cruise ship sizes, passenger mix (demographics and diversity) and technological dependence/complexity. In this respect, updated regulations and technological standards may not be sufficient. Integrating behavioural and socio-psychological elements could redefine safety and security on board from a liability issue to a management responsibility challenge
- **‘Lawspitality’ vs. hospitality—social responsibility at the age of transparency:** Due to the cruise sector’s globalisation, environment protection and safety regulations are difficult to enforce and control. Cruise operators on the other hand have been accused ‘of greenwashing’ and of treating sustainability as a public relations campaign. This approach contradicts the sector’s mantra ‘true hospitality’ and renders the characterisation ‘guest’ somewhat superficial. Although cruise passengers seem to be reluctant in paying a premium for ‘green options’, they have come to expect high standards in relation to environmental protection as well as to safety and security.
- **‘Business case for cruise education’—questioning the value of cruise/tourism education:** Research in tourism education in general, and cruise education in particular, has been traditionally focusing to the interdisciplinarity of the curriculum, its practical relevance and employability/competence requirements. Nonetheless, education comes at a cost, and it may be worth questioning the benefits and its economic justification—especially considering that most academic programmes in this domain are publicly financed.

The aim of this proceeding volume, following the International Cruise Conference series, is to raise and address relevant but also controversial (and somewhat provocative) questions, which extend beyond a mere description of the cruise sector’s growth quantification and current operational practices. A systemic, holistic view of cruise tourism as a social phenomenon (i.e. not just economic) reveals a

number of significant implications outside the boundaries of a cruise vessel, which call for effective and professional management. As editor of this proceedings book, I wish and hope it provides food for thought for current and future cruise professionals, researcher and students.

Bremerhaven, Germany

Alexis Papathanassis

Reference

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Part I
Cruise Safety

Chapter 1

Safety, Security, Health and Social Responsibility

Ross A. Klein

Abstract Academic researchers have common interests, such as cruise research, however they approach their work with different perspectives—from different standpoints. This chapter explores the issue of perspective and how this is related to the research undertaken or the research valued. It also looks at factors that may influence an academic researcher’s perspective. These include institutional constraints such as those related to promotion and tenure and expectations for funded research, and discipline-specific factors such as sufficient journals for publication and the nature of research that will be funded versus non-funded. The chapter concludes with a call for an academic journal devoted to cruise research, and encourages research from diverse perspectives.

This essay is based on a keynote address at the Fifth International Cruise Conference in Bremerhaven, January 2014. The goal was to frame a series of papers focused on safety, security, health and social responsibility. Given the different perspectives from which scholars approach their work, the essay first focuses on definition of terms with consideration of how perspective influences both the definition of a research question or and ways to ameliorate a problem. It then illustrates with examples the influence of perspective, and concludes with a discussion of factors influencing academics and the perspectives they take. The goal of the essay is to raise to the forefront issues that underlie the work that cruise researchers undertake.

Keywords Academic freedom • Community engagement • Cruise industry • Cruise research • Cruise tourism

1.1 Definition of Terms: It Is All About Perspective

While safety, security and health have common sense understanding, the concept of social responsibility is open to different interpretations—it depends on perspective. For example, the *London Times* in 2004 published a profile of Carnival Corporation. The corporation rated relatively high on share performance (9/10), fat-cat

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quotient (8/10), future prospects (8/10), and at seven points out of ten: strength of brand, innovation, and city star rating. But it rated relatively low on social responsibility (3/10) and its attitude to employees (4/10) (London Times 2004, p. 22). The corporation would disagree with the low assessment, likely based on many of the things it views as socially responsible; not only the fact that its cruise ships contribute to local economies but the many donations it makes to ports. For example, the company took pride in offloading used mattresses in port communities of small island states after it replaced old, worn mattresses on a ship. It similarly proudly promoted its generosity when it donated to several port communities surplus paint that could no longer be used onboard its ships. And the corporation's companies participate in beach clean-up days on Caribbean islands, which often clean refuse drifting ashore from cruise ships or left behind by cruise passengers. This isn't to diminish the view of the cruise line that it is helping out ports, but to raise the question of what is meant by social responsibility and how perspectives can contrast. One way to think about social responsibility is to look at the distinction between responsible tourism and sustainable tourism (see Klein 2011). Responsible tourism emerges from the movement for sustainable tourism. Sustainability was defined in 1987 by the Brundtland Commission as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development 1987). Five years later, the Earth Summit's Agenda 21 offered a blueprint for sustainable development focusing on environmental issues and equitable distribution of economic benefits derived from development and tourism (UNEP 2002). According to the UNEP Program on Tourism,

Sustainable tourism development meets the needs of the present tourists and host regions while protecting and enhancing the opportunity for the future. It is envisaged as leading to management of all resources in such a way that economic, social, and aesthetic needs can be fulfilled, while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems (Responsible Travel Handbook 2006, pp. 12–13).

Ten years after Earth Summit's Agenda 21, in 2002, the World Summit on Sustainable Development was convened. A preliminary report jointly prepared by four industry bodies (including the cruise industry through the International Council of Cruise Lines) gave direction for the Summit. The report reflected industry's interests and concerns, focusing more on best practices, certification programs, and the economic benefits of tourism than on the inherent challenges to achieving sustainability. The primary focus when it came to cruise tourism was waste management practices and procedures (see UNEP 2002). These were addressed solely from an industry perspective.

Immediately preceding the World Summit on Sustainable Development was the first International Conference on Responsible Tourism in Destinations (RTD). The conference shared the same concerns as sustainable tourism (i.e., a focus on environmental, economic, and socio-cultural impacts), but was grounded in ethics and human rights—companies are expected to do what is morally and ethically "right" (McLaren 2006) from the perspective of consumers and communities.

It isn't a matter of simply reducing negative impacts, but of mediating and/or ameliorating those that persist. RTD concluded with the Cape Town Declaration. It defined responsible tourism as:

- minimizing negative economic, environmental, and social impacts;
- generating greater economic benefits for local people and enhancing the well-being of host communities, improving working conditions and access to the industry;
- involving local people in decisions that affect their lives and life chances;
- making positive contributions to the conservation of natural and cultural heritage, to the maintenance of the world's diversity;
- providing more enjoyable experiences for tourists through more meaningful connections with local people, and a greater understanding of local cultural, social and environmental issues;
- providing access for physically challenged people; and,
- maintaining cultural sensitivity, engendering respect between tourists and hosts, and building local pride and confidence (see RTD-1, 2002).

As already stated, responsible tourism has three broad areas of concern: tourism's impact on the environment, the equitable distribution of economic benefits to all segments of a tourist destination, and minimizing negative socio-cultural impacts. Determination of what constitutes "responsible" is vested with stakeholders involved in the development of tourism products and in those impacted by that development. Thus, when considering environmental responsibility, it may not be whether a company uses "best practices" or follows international regulations, but instead the environmental impact on people of those practices. In the case of wastewater treatment for example, the issue is not whether cruise ships have installed advanced wastewater treatment systems (AWTS)—best practice, but whether the effluent of these systems has deleterious effects. Similarly, when considering economic benefits of cruise tourism the focus may not be on whether a port community realizes income but rather the degree to which economic benefits are distributed equitably between the cruise line and port and among the stakeholders and segments of society in the port.

What is relevant here is that there are different perspectives about what constitutes social responsibility. Standpoint theory, which emerged in the 1970s and 1980s, is a useful tool for concretizing the idea of "perspective". The theory looks at the relationship between the production of knowledge (what constitutes "social responsibility") and power within a society (Harding 2004). In other words, how what is conceived to be socially responsible is related to the class and power position of those who dominate the discourse about social responsibility. In terms of cruise tourism, the cruise industry is in a dominant power position.

A related concept to standpoint theory is the "situated knower." As Anderson (2009, p. 2) states, knowers are "situated in particular relations to what is known and to other knowers. What is known, and the way that it is known, thereby reflects the situation or perspective of the knower." For our purposes, this underlines the fact that there is no favoured knowledge or ways of knowing. As social scientists

our role is not so much to adopt a favoured knowledge as it is to be aware of and reflect the competing states of knowledge: the view not just of industry but of communities and their full range stakeholders. This reminds us that such things as safety, security, and health may be seen quite differently from the perspective of a cruise line than they are seen from the perspective of ports, passengers, and/or crew members, and from the perspective of different researchers.

1.2 Illustrating the Concept of Perspective

A concrete example may help to illustrate the point. On July 3, 2013, Carnival Corporation announced it would spend \$300 million to upgrade all ships in the Carnival Cruise Lines fleet (see Martin 2013). The cruise line said it wanted to ensure that another disaster at sea doesn't happen. The investment was also intended to buff its tarnished image and to win the confidence of passengers. The timing of the announcement coincided with a major fire that disabled *Carnival Triumph* (see Griffin and Bronstein 2013) and the release of a report of a similar incident on *Carnival Splendor* in 2010 (see USCG 2013). The announcement, which was cheered by pro-cruise enthusiasts, was no doubt intended to mediate the negative impact of the ongoing coverage of the *Carnival Triumph* and the *Carnival Splendor*. What wasn't mentioned in Carnival Corporation's announcement is that a large amount of the expenditure was to correct a design flaw. There had been a series of problems with Destiny-platform vessels, especially those built at Montefalcone shipyard, and as evidenced in the *Triumph* and *Splendor* incidents a lack of redundant systems. Consequently, a fire could easily knock out all ship systems, including electrical systems and navigation. From a different perspective, the cruise corporation was now being forced to spend money it had consciously chosen to save when it constructed the ships.

1.2.1 Passengers Overboard

Another example is provided by the issue of persons overboard. Cruise lines habitually label incidents of a person overboard as a fall or jump, even when there is no video coverage. The case of Jason Rappe going overboard from Holland America Line's *Eurodam* is a good example (see Gonzalez 2013). Mr. Rappe went overboard in November 2012 after participating in a "Pub Crawl" on the cruise ship where the cruise line plied the passengers with alcohol at various locations. Video shows Jason on the deck after the cruise sponsored drinking event. Although there was no clear video released of Jason going overboard, there is video of him in the water after going overboard. According to his brother Eric (personal communication), law enforcement at one point had declared that Jason had jumped overboard, but later said the cause was undetermined. Law enforcement agencies had

trusted a cruise line claim based on video surveillance, however when the videos were viewed by law enforcement they were found to be of no probative value.

In a more recent case, a crew member on Holland America Line's *Nieuw Amsterdam* viciously attacked and raped a 31 year old woman in her cabin late at night in February 2014. The woman escaped, bloodied, battered, and barely alive and was airlifted to shore for emergency medical care. The crew member said his plan had been to throw the woman's body overboard from the balcony of her cabin (McMahon 2014). No doubt, had he been successful, the disappearance would have been labeled a fall or an intentional fall (suicide). The passengers who were responsible for the death of Diane Brimble on a cruise ship off Australia also said they had wanted to throw the body overboard but couldn't find a way to get her to up on deck (see Klein 2008).

In contrast to claims that passengers overboard are falls or jumps, data from 1995 to mid-2013 reveals that 16.7 % of passengers overboard are rescued, 6.2 % of incidents involve alcohol intoxication, 11 % are known to be suicides, 3.3 % are murders, 9.5 % are known to be falls, 2.4 % follow a large casino loss, 7.1 % are after a domestic fight, and about 30 % are mysterious (there is no clear explanation). The data also indicates 73.8 % of persons overboard are male, 75 % are passengers, and that males on average are younger than females (38.85 vs. 42.11) although the range of ages is much greater for males than females (Klein 2013). There is also the problem of a cruise ship know when a passenger goes overboard. In January 2015 a passenger went overboard from *Oasis of the Seas*, unbeknownst to the cruise ship, and was picked up hours later by *Disney Magic* (BBC 2015). One issue is whether Royal Caribbean cruise ships comply with the Cruise Vessel Safety and Security Act of 2010, which requires ships to have technology for detecting persons overboard—International Cruise Victims Association argues cruise ships are out of compliance and with the law and suggests several systems while the cruise industry argues there are no system approved by the U. S. Coast Guard so the law doesn't have any effect.

1.2.2 *Illness Outbreaks*

Illness outbreaks on ships provide another useful illustration. The cruise industry has successfully perpetuated a mantra that “passengers bring it with them.” The explanation was first used in 2002 after three successive outbreaks on the same Holland America Line ship. The company's vice president of Public Relations stated on November 12, 2002: “The ship is not sick. There are sick people getting on the ship” (LeMendola and Steighorst 2002). The statement seemed to stick and was used in a concerted media campaign by the International Council of Cruise Lines and repeated by a cruise line each time an outbreak occurred (see Klein 2005, pp. 180–181).

The assertion that passengers bring norovirus with them implies the cruise line is as much a “victim” as the passenger. While they proudly say that containment is

within their control, the idea that passengers bring it on board and spread it around places the problem beyond their control. This resists assignment of blame, presumably including liability, for the outbreaks. As the cruise industry might say, “we’re doing everything humanly possible, so don’t penalize us.”

The underlying assumption is outbreaks are random. But that is not the case. Certain ships and certain cruise lines appear more prone to outbreaks than others. There is no ready explanation, but it presents an interesting area for study—is it ship design, the nature of the passengers, the mix of crew members, or something else?

Another area given inadequate attention is the role of crew members as reservoirs for the illness. Even if a worker is quarantined, she or he returns to work after 48–72 h of being symptom-free; however the virus continues to be shed for as long as 2 weeks. It can easily be reintroduced, and/or carried over from one cruise to another. Crew as much as passengers can be the source of person-to-person contact. The role of crew is supported by the frequent number of outbreaks that carry from one cruise to another.

The cruise industry argues this position is not supported by the relatively small number of reported illness among crew members as compared to passengers. The fact is that crew members as far back as the 1980s and 1990s reported illness at levels lower than passengers. Perhaps they are less susceptible to gastrointestinal attacks, are stoic when they suffer, or they are responding to disincentives to reporting illness. If they depend on tips, they are not paid when they don’t work. The latter explanation is supported by several vessel sanitation inspection reports in 2013 and 2014 that found workers were reporting for work in the galley despite being symptomatic with gastrointestinal illness.

Another interesting element to add to the mix is not all people can be infected by norovirus. Research reported in 2003 found that 29 % of a study population lacked the gene required for norovirus binding—they did not become infected after receiving a dose of the virus (Lindesmith et al. 2003). Because there is no vaccine for norovirus, and because resistance does not accrue from infection (getting it once does not provide antibodies to resist subsequent infection), knowledge that some people are naturally immune is interesting. Its implications are hard to anticipate. As seen from this brief discussion of illness outbreaks there are a range of different perspectives.

1.2.3 How Large Is Too Large

The question of how large is too large for a cruise ship is also a matter of perspective. Following the *Costa Concordia* accident there was renewed interest in the SOLAS requirement that a ship be able to be abandoned with 30 min of an abandon ship call. Some critics suggested that a ship of that size, much less the size of the *Oasis of the Seas* or *Allure of the Seas* that carry 50 % more passengers than *Costa Concordia*, could not adequately comply with SOLAS requirements.

Critics were countered by a statement by the CEO of Royal Caribbean Cruises Limited, Richard Fain: “The truth is the newer, bigger ships are as safe or safer than any comparable smaller ships” (Smith 2012). He went on to claim that the evacuation of larger ships was actually faster because of the greater number of exits on board. He seemed to ignore the challenges of funneling the large number of passengers through hallways, up and down stairwells (elevators cannot be used in an emergency), and the sheer time needed to get from one’s cabin to a lifeboat station in the best of times.

Finding a lifeboat station is further complicated by the practice on many ships to have passengers meet at a muster station, removed from lifeboats, rather than to the lifeboat station itself. Passengers are not shown where their lifeboat is located, are not instructed what to do if they are unable to get to the muster station, and are not oriented to alternatives to their lifeboat station in the case that an emergency situation makes it inaccessible. While the cruise lines attempt to reassure passengers they are safe, their practices create a situation that may be less than ideal and potentially unsafe in an emergency situation.

It is worth noting the stark contrast between cruise ships and airliners. In the case of the latter there are real-life drills to determine how long it takes for passengers to exit an airliner that crashes. In the case of the former, assertions are based on emotion (or perspective) or on assumptions, but there are not real-life drills to see what is actually possible and likely to happen in an emergency situation. It is a matter of perspective as to whether a ship can satisfy the SOLAS requirement that a ship be fully evacuated within 30 min of an abandon ship call.

1.2.4 CLIA Cruise Passenger Bill of Rights

The Cruise Lines International Association (CLIA) announced a Cruise Passenger Bill of Rights on May 22, 2013. The timing followed a spate of cruise ship incidents in the previous 3 months and was timed to usurp Senator Charles Schumer’s stated intent to develop a passenger bill of rights. The ten points of the passenger bill of rights essentially codifies many longstanding cruise industry practices. The bill of rights brought cheers from cruise industry proponents who said they demonstrated the industry cares. In contrast, critics argued the bill of rights failed to address many common occurrences—that the bill of rights was essentially a public relations tool (see Klein 2013). In contrast to the CLIA bill of rights, Carnival Cruise Line’s “ticket contract makes absolutely no guarantee for safe passage, a seaworthy vessel, adequate and wholesome food, and sanitary and safe living conditions” (Griffin and Bronstein 2013).

1.3 What Perspective Do We Take?

The foregoing has discussed how differences in perspective may lead to different conclusions or different “known facts.” While the media and corporations often have political and economic interests that shape their message, we as academics are expected to have a certain ethic around research and the reporting of results from research. These are discussed in many undergraduate textbooks on research methods (see Jackson 1988). Two that are particularly important are:

- (1) Responsibility to be transparent—to be clear about the methods used to gather data and to analyze that data. This is important if a researcher’s results can be reproduced by another researcher. This means that a researcher has an obligation to be transparent about the data they have used, and to make available to other researchers that same data for independent verification.
- (2) Responsibility to be objective and honest—the researcher must be objective and honest in reporting findings. In other words, research results must reflect the empirical findings of a study and not be built around what the researcher wishes for the results. A corollary is that a researcher should not search data for desirable results nor should they manipulate data to produce those results.

The bottom line is that as academic researchers we are scientists. Our research should be value neutral. This begs the question of whether research can have an activist agenda—whether in support of those in power or critical of those in power. In other words, what is the purpose of the research we do?

In the ideal world, research is objective and neutral, however in the real world the definition of such concepts is itself rooted in a perspective. On top of that, we work in an academic institution that is anything but value and politically neutral. Most universities derive funding from governments, from industrial partners, and/or from foundations. Each of these have their own interests and they desire research that furthers—not undermines—their political and economic interests. There are a number of features of the academy today that influence the research undertaken and that in a subtle way undermine an academic’s freedom to pursue the research they find most interesting or compelling.

1.3.1 Community Engagement: Encouraged But Not Valued

In 2006, the buzzword became “community engagement.” The Carnegie Foundation for the Advancement of Teaching had come up with the new classification. In April 2006, 145 institutions responded to the opportunity to be classified; in December 2006, the foundation announced the inaugural selection of 76 U. S. colleges and universities to be newly classified as “institutions of community engagement” (Driscoll 2008). Under the scheme, faculty scholarship was seen as evidence of the institutionalization of community engagement and that it was part

of faculty roles and rewards, rather than being an “add-on” to faculty responsibilities.

The issue of how community engagement fits into the promotion and tenure process is discussed in a blog on university-community engagement authored by Margo Fryer, appearing on the website of the Association of Universities and Colleges of Canada (see Fryer 2013). As she points out, few institutions have tenure and promotion policies recognizing community engagement. Referring to the 145 applications to the Carnegie Foundation, Driscoll states, “. . .even among the most compelling applications, few institutions described promotion and tenure policies that recognize and reward the scholarship associated with community engagement” (Driscoll cited in Schnaubelt and Statham 2007, p. 18). While university rhetoric supports the concept of community engagement, the activity is not valued in promotion and tenure decisions.

A more critical issue is how community engagement is defined—the definition is elusive and often not clearly articulated. Churchill (2011), for example, asks why writing op-ed pieces for newspapers such as *The New York Times* and *The Boston Globe* is considered public engagement rather than community engagement. The lack of clarity about what constitutes community engagement means that some forms are more valued than others. My current institution espouses the importance and value of community engagement. It even has a centre that ostensibly encourages and facilitates such activities, but community engagement is of dubious value when it comes to promotion and tenure. Though community engagement as a broad concept is given lip service as being important, its value in faculty advancement may be quite narrow and limited, and only certain types of community engagement (that having economic value to the university) may be recognized as a reflection of scholarship.

1.3.2 It Isn't What You Publish, It Is Where You Publish

Another feature of the academic environment is increasing pressure on where academics publish their work and what they publish. There is greater credit given for publications in refereed journals, often at the expense of books and non-refereed publications. This not only shapes the nature of published work—the confines of a journal article produces work quite different than a book, a book chapter, or a research report for a nongovernmental organization. It also means there is increasing competition among more academics to publish in refereed academic journals. This is particularly dire for cruise researchers given the lack of any journal devoted to cruise research, and only a handful of related journals where their work may fit.

The problem is made even more problematic as institutions judge refereed journal publications based on the “impact factor” of journals. Articles in high impact journals are valued; those in low impact journals are devalued or not counted. This increases competition among academics to publish in a smaller range of top-ranked journals. In order to succeed in placing an article in these journals, one's research

often must be politically and methodologically in the mainstream, subtly compromising academic freedom. It is much more difficult to place research and writing that is critical or controversial. This means that to be successful an academic's work is expected to be conservative in nature and if politically-oriented lean more toward supporting the mainstream than challenging the status quo.

1.3.3 The Paradox of Funded Research

Another expectation increasingly becoming part of the promotion and tenure rubric is funded research. Many faculty members, especially those in junior ranks, spend more time trying to generate funding for research projects than actually undertaking the research they want to do. Funding has become a goal unto itself. While this approach might make sense if funding were freely available, that is not the case. In Canada, like elsewhere, there have been huge cutbacks in the amount of research funding available. In 2009, the government announced plans to cut \$8.2 million from its Social Sciences and Humanities Research Council budget over the next 3 years by eliminating the Research Time Stipends program that provides funds to allow faculty adequate time for research, and by cutting \$5.6 million from health-related research. In addition, it cut from Canadian Institute for Health Research \$40 million over 3 years by ending the Open Team Grant Program and by discontinuing the Intellectual Property Mobilization program. And it cut from the National Sciences and Engineering Research Council nearly \$70 million over the same time period (see Wells 2009). By 2011–2012, the three granting councils had a shortfall of \$147 million. In real dollars, the amount of money devoted to research funding has consistently decreased. Over this same time, the government has discontinued support for Statistics Canada, making unavailable for academic research census data and other traditionally-available data sets. In addition, the granting councils are increasingly favouring targeted research. This means that research having commercial value or fitting into one of the pre-determined government priorities are given preference over other research. Innovative, critical, or basic research is undervalued and is unfunded.

This means that while university administrations increase pressure for funded research, available funding is disappearing. Many junior faculty members in Canada receive an evaluation of their research grant proposal that indicates they qualify for funding, but the pot of money is exhausted before their proposal comes next in line. Also common is that grants are reduced from what has been requested in order to allow money to be spread around to more people. The result is dismal for academics whose research requires funding. At the same time, getting funding for research has become a higher priority for universities than undertaking the research and disseminating the results.

It isn't just that faculty members are expected to have funding, but the type of funding is also important. Universities want to receive a cut of the funding for research, normally called "overhead." Consequently, unless a research grant or

research contract benefits the university, there is risk that it will not be valued when the faculty member is considered for promotion or tenure. There is also the issue, already mentioned, of what type of research receives funding. Funders have their own self-interest and want research and research results that serve their interests. For example, research funded by the cruise industry is expected to have results that positively impact or represent the industry. An academic who takes money from the industry and writes an article or report that is less-than-glowing for the industry may not be able to publish the work, but a bigger problem is that they are unlikely to receive future funding from the source—one can't bite the hand that feeds you.

The result of the shift in the academy (i.e., paradox of community engagement, favouring certain types of publications over others, the paradox of funded research) is that the type of research being produced is becoming more narrowly defined, the tradition of academic freedom to pursue questions that may not be popular or that focus on discovery is being compromised, and the professoriate as a career track is becoming more difficult to achieve, especially for young, new scholars. We have to wonder where the future is headed in terms of cruise research. If we are to flourish we need to support one another, including the development and sharing of data sets, in part so we are not tied to the cruise industry for our data and in part so we can produce research that is more likely to fit the positivist model and make its way into high impact journals.

1.4 Conclusion

The underlying premise of this chapter is that the way the world is seen, the way problems and solutions are conceived, and the nature of academic work is based on perspective—that there are different perspectives with none having a corner on truth. However, in the context of political and economic dynamics in the modern age, there tend to be some perspectives that gain priority over others. It is important that researchers and scholars keep in mind the diversity and range of perspectives and how this influences their work and their publications. It is not so much a matter, for example, of concluding that cruise tourism is sustainable or responsible, but understanding the assumptions underlying the judgment of sustainability or responsibility. Written work ideally acknowledges the diversity of perspectives.

A related issue is the degree to which academic institutions have increasingly favoured some perspectives over others, including that which is valued for faculty career development and advancement. As institutions more narrowly define where research should be published (i.e., refereed journal with high impact ratings), favour funded research over unfunded research, and become more cozy in their relationships with industry and corporate funders, the choices available to academic researchers become more limited, especially those academics in the early stages of their career or who are employed in institutions that don't grant tenure or who work as contingent academic staff.

This is particularly a problem for academics focused on cruise tourism. It isn't only a matter that funding for such research is difficult to secure, except from industry supporters, but that there is a dearth of academic journals in the field that have a high impact factor rating. This has negative implications for the type of work being done in this emerging field, but also impacts whether new academics choose this area for their academic career as opposed to a substantive area that is in the better interest of their career. It is a challenge that must be faced by those who are at the core of substantive interest in cruise research. It also demonstrates why it is important that there be an academic journal devoted to cruise research.

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Chapter 2

Crime at Sea: A Comparison of Crime on Carnival Cruise Lines, 2007–2011

Ross A. Klein

Abstract Crime on cruise ships has received attention through hearings by the U.S. Congress at least eight times in the past 10 years, leading in part to passage of the Cruise Vessel Security and Safety Act of 2010 and subsequent amendments in 2014. This chapter looks at three types of crime reported to the FBI by Carnival Cruise Lines in 2011 (data for other cruise lines was not yet available), and compares these findings with three types of crime reported to the FBI by Carnival Cruise Lines in 2007–2008. Before exploring the data, it first looks at the context—the succession of hearings before the U.S. Congress and the nature of the problem from the cruise industry’s perspective versus on the basis of data the industry provided. The data reveals that incidents of physical assault and of theft are lower than on land, however the rate of theft suggests increased caution is warranted by passengers. The data also reveals that the rate of sex related incidents (particularly sexual assaults) on Carnival Cruise Lines ships is greater than on land, and that the rate has not appreciably changed in comparison to 2007–2008; however, in the most recent period there is a greater proportion of sexual assaults involving minors (children under the age of 18). The chapter concludes with recommendations to cruise lines and to passengers.

Keywords Carnival cruise lines • Child sexual abuse • Cruise crime • Cruise ship • Sexual assault

2.1 Introduction

Cruising is an increasingly popular style of vacation enjoyed by millions of people; the cruise industry is currently experiencing worldwide 3.4 % annual passenger growth with an estimated 20 million passengers in 2013—growth is greatest in Australia, New Zealand, and Asia (Klein 2013). A market report produced to assist shipping companies with their occupancy projections (Cruise Lines International Association 2008) states that 94.8 % of cruisers report satisfaction with their

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cruising experience. With passenger numbers of 20 million, that means there are over one million dissatisfied passengers in 2013. Although there is clear majority in terms of customer satisfaction, apart from the obvious causes such as bad weather and seasickness, an unsettling question remains: what went wrong?

Google searches reveal a plethora of sites devoted to cruising: sites detailing the sizes and shapes of the liners, the onboard pleasures, and an array of romantic and interesting destinations to visit. An interesting phenomenon quickly emerges—most sites are either strongly for or against cruising, as if the concept of a cruise holiday lacks obvious acceptance, and must therefore be defended against those who are critical. The criticisms, as it transpires, are many. Entire sites are devoted to problems around cruising, such as rape (e.g. cruiserape.com; Internationalcruisevictims.org, 2009), environmental issues (e.g. action.foe.org; cruisejunkie.com), and holiday annoyances such as food poisoning, bedbug infestations, deaths, and abuse (cruisebruisse.com, 2009; cruiselawnews.com), to name a few.

This paper focuses on one of many problems on cruise ships: the occurrence of crime, specifically rapes and sexual assaults and thefts. While cruise vacations are often sold as voyages of romance and adventure, a significant number of passengers have very different and very unpleasant experiences.

2.2 The Nature of the Problem

Except in U.S. Congressional hearings, there has been little discussion of crime on cruise ships. The issue was first put on the agenda in Congressional Hearings before the Subcommittee on Coast Guard and Maritime Transportation of the House Committee of Transportation and Infrastructure. Based on its representations in 2005 before the U.S. House of Representatives that cruises were safe, the cruise industry was challenged to provide committee members with an understanding of their onboard security systems. The industry was also asked to present honest statistics about the incidence of crime on cruise ships. For the latter they hired James Alan Fox, a sociologist at Northeastern University in Boston, to compare incidents of sexual assault and thefts on cruise ships with incidence in the U.S. generally. The task of comparing thefts is fairly straightforward—cruises were found to have a lower rate than on land. But comparing rates of sexual assault on cruise ships to the rate on land in the U.S. is more difficult given that the U.S. does not keep track of sexual assaults in its uniform crime statistics; its crime statistics are limited to reports of rape. So Fox compared reports of sexual assault on cruise ships with the rate of forcible rape in the U.S., but it is entirely unclear what definition was used to qualify an incident as sexual assault on a cruise ship.

In his testimony, Fox concluded that passengers were far safer onboard a cruise ship than in their home communities. He determined, based on data provided by the cruise lines, that the rate of sexual assault on cruise lines is—at worst—half the U.S. rate of forcible rate and said the low levels “makes reasonable sense in view of

the confined and highly secured environments offered on major cruise ships” (Fox 2006). Fox suggested a person is more likely to get struck by lightning than sexually assaulted on a cruise and that the odds of disappearing from a ship are less than one in a million. Committee Chair Shays expressed skepticism about the accuracy of the statistics.

The issue of crime on cruise ships could have ended following the 2006 elections given that Shays no longer chaired the House Committee. But two things appear to have stemmed that possibility.

First, the *Los Angeles Times* published an article on January 20, 2007, which based on internal documents from Royal Caribbean said sex related onboard incidents was a larger problem than the cruise industry suggested in March 2006. The documents revealed 273 reported incidents within a period of 32 months, including 99 cases of sexual harassment, 81 of sexual assault, 52 of inappropriate touching, 28 of sexual battery and 13 cases that fit into other categories (Yoshino 2007). When the company-specific numbers were subjected to the same statistical analysis as done with industry-wide data for James Fox’s 2006 testimony before Congress, the rate of sexual assault was not half the average rate for rape in the U.S. but 50 % greater than the U.S. rate (see Klein 2007). As Klein reported in his testimony before the Subcommittee on Coast Guard and Maritime Transportation of the House Committee of Transportation and Infrastructure in March 2007, in contrast to 17.6 cases per 100,000 people shown in the industry’s analysis, the Royal Caribbean data yielded a rate of 48.1—the rate of sexual assault on cruise ships is 50 % greater than the rate given by Fox for sexual assaults in the U.S. generally. One explanation offered by the cruise industry for the discrepancy between their presentation in 2006 and the testimony in 2007 was that the data presented to Congress in 2006 did not include passengers who were groped, were subjected to indecent exposure or had crewmembers enter their rooms without permission to proposition them. To a large degree most of these types of incidents had also been excluded from the analysis of the Royal Caribbean data so the explanation doesn’t work. At the same time, it is difficult to know precisely what was included and excluded from the industry’s analysis without the raw data being made public and available for independent analysis.

The second factor that pushed for a new round of hearings was that Representative Doris Matsui from California had a constituent, Laurie Dishman, appeal to her for help. Matsui was not only concerned about the way Laurie had been treated and her case handled but also with discrepancies in crime statistics. She told the *Los Angeles Times* that she planned to cosponsor a new version of *Shays’ Cruise Line Accurate Safety Statistics Act* (originally introduced in 2006). From her position on the House Transportation and Infrastructure Committee she pushed for a new round of hearings to be held March 27, 2007, before the Subcommittee on Coast Guard and Maritime Transportation. The purpose of the hearing was to examine the incidents of crime that occur on cruise ships and the extent to which federal agencies have the information, legal authorities pertaining to these crimes and resources necessary to investigate and prosecute crimes that may occur on these ships.

Crime statistics were again presented in Congressional hearings in 2008, 2012, and 2013. In June 2008, Klein (2008) testified before the Subcommittee on Surface Transportation and Merchant Marine Infrastructure, Safety, and Security of the Senate Committee on Commerce, Science and Transportation. Using statistics reported by the Subcommittee on Coast Guard and Maritime Transportation Staff in hearings held before the Committee September 17, 2007, Klein found that the rate of sexual assault had increased to 56.9 per 100,000 (compared to Fox's claim of 17.6 and Klein's earlier testimony indicating a rate of 48.1) and the rate of robbery was 44.7 per 100,000 as compared to Fox's claim that the rate was 0.5 per 100,000. At those hearings, the cruise industry attempted to change the focus of discussion from using a rate per 100,000 to compare crime on cruise ships to crime on land. Their claim was that the cruise industry has 12 million passengers so the incidence of sexual assault should be based on the number of victims per the number of total passengers. While this position may make sense on certain levels, the effect is to reduce the appearance of the problem of sexual assaults (or other crimes) on cruise ships, and it makes it impossible to compare crime incidence on cruise ships to on land.

In March 2012, Klein testified in general oversight hearings before the U.S. Senate Committee on Commerce, Science and Transportation. In that testimony he presented again known statistics of crime on cruise ships, including a systematic analysis of sexual assaults, physical assaults, and thefts on cruise ships in 2007. The data was received from the Federal Bureau of Investigation (FBI) in response to a Freedom of Information request. Analysis of that data showed that crime varied across different cruise lines. In terms of sexual assaults, the data showed that Royal Caribbean International (RCI) had significantly reduced its rate of sexual assault, however data for Carnival Cruise Lines indicated that the rate of sexual assault on Carnival ships was as high as RCI had been in 2003–2005 (Klein and Poulston 2011). The data also revealed that thefts were considerably more common on Carnival Cruise Lines' ships than on any other cruise line, and that physical assaults were more common on RCI ships than on any other cruise line.

Hearings were again held in July 2013 before the U.S. Senate Commerce, Science and Transportation Committee. The hearings opened with Chairman Rockefeller reporting of a Staff Report entitled "Cruise Ship Crime: Consumers Have Incomplete Access to Cruise Crime Data." The report pointed out that crime statistics reported online by the cruise industry under the Cruise Vessel Security and Safety Act of 2010 (CVSSA) understates the incidence of crime: only 3.2 % of crimes reported to the FBI are actually reported publicly; 23.8 % of incidents required to be reported to the FBI by the CVSSA are reported publicly. The report also disclosed that 34 % of sexual assaults are perpetrated against passengers younger than age 18 (Senate Staff 2013).

The only publication dealing with the topic of crime on cruise ships is an article, *Sex at Sea*, co-authored by Klein and Poulston (2011). Utilizing data from 2007 to 2008 for RCI and Carnival Cruise Lines, the article discusses factors that may be at play in sexual assaults, including characteristics of the crew; customer contact;

passenger and crew attitudes; the sexualization of romance; uniforms, power and harassment; and alcohol. The data reported in that article is used here for comparison between the 2 years, however the focus will be on only one cruise line—Carnival Cruise Lines.

2.3 Methodology

The data used in this chapter is secured from the FBI through a Freedom of Information Request. One set of data includes 424 crime reports between October 1, 2007 and September 30, 2008; Carnival Cruise Lines accounts for 46.5 % of all crimes—a total of 197. These include for our purposes 14 physical assaults (5 with serious bodily injury), 76 thefts (3 over \$10,000), and 93 sex related incidents (i.e., 48 sexual contact, 40 sexual assaults, 5 sexual harassment).

The second set of data includes 170 crimes on Carnival Cruise Lines ships reported between January 1, 2011 and December 31, 2011. The data includes 12 physical assaults (3 with serious bodily injury), 66 thefts (3 over \$10,000), and 84 sex related incidents (i.e., 33 sexual contact, 39 sexual assaults, 10 rapes, 2 sexual harassment). This chapter focuses on Carnival Cruise Lines because at the time data was not available for Royal Caribbean International or for other major cruise lines. That data was subsequently supplied. The data comprise incident reports completed onboard a cruise ship and forwarded to the FBI. Each report is completed by a cruise ship security officer; the category assigned to a sex related crime is largely subjective. In order for consistency, and that the data can be compared to Canadian rates of crime (there are no uniform crime statistics sexual assault in the U.S.), all incidents are reviewed and are labeled by the researcher. In a few cases, incidents are found to be mislabeled by the cruise line as more serious than they deserve; in many cases it is found that incidents are labeled “sexual contact – groping” when the details indicate that there was a sexual assault, especially in cases involving a child or others under the age of 18. For example, a 15-year-old male found in bed engaged in sexual activity with a 6-year-old female was labeled groping by the cruise line; it was relabeled sexual assault (given the age of the victim it could realistically been labeled rape). Table 2.1 shows the number of incidents by category as labeled by the cruise line versus the number of incidents by category as re-labeled by the researcher.

The analysis that follows is based on the researcher’s relabeling of incidents. The same definitions were used in labeling incidents in the 2011 data set as used in labeling incidents in the data from 2007 to 2008, which will be used for comparison.

Table 2.1 Comparison of crime category—Carnival Cruise Lines’ versus researcher’s label, 2011 data

Crime label	CCL label (N)	Researcher re-label (N)
Sexual incident	4	–
Sexual harassment	–	2
Groping	6	–
Sexual contact: groping	54	–
Sexual contact	–	33
Sexual assault	11	39
Sexual assault—rape	9	10
Total	84	84

2.4 Data Analysis

This analysis looks at three types of crime on Carnival Cruise Lines ships: physical assault, theft, and sex related incidents. As regards physical assault, the number of incidents in 2007 and 2011 were similar: 12 in 2011, 14 in 2007–2008. In both years there were nine physical assaults. Incidents of assault with serious bodily injury were three and five respectively. In both years the rate of incidence was low as compared to the general population in the U.S.

2.4.1 Theft

The second area of crime is theft. The cruise industry distinguishes between two categories: theft less than \$10,000 and theft more than \$10,000. The majority of incidents involve jewelry or cash found missing from the passenger’s cabin and in some cases missing from the room safe. As a rule, thefts less than \$10,000 are not prosecuted and they are not required to be publicly reported by the CVSSA. In testimony presented to the U.S. Congress in 2006, the cruise industry’s expert used the label “robbery” to refer to thefts on cruise ships and testified that there had been an average 1.33 incidents in 2003–2005 with a rate per 100,000 of 0.5. This compares to a rate for the U.S. of 136.7 (Fox 2006); according to uniform crime statistics the rate of robbery in the U.S. in 2011 was 113.27.

The data for 2007–2008 and 2011 was quite different than that reported for 2003–2005. In 2007–2008 there were 76 thefts on Carnival Cruise Lines ships (3 were theft over \$10,000). In 2011 there were 66 thefts on Carnival Cruise Lines ships (3 were theft over \$10,000). This translates into a rate per 100,000 of 107.16 in 2007–2008; 86.84 in 2011. In comparison to the U.S. rate, incidence onboard Carnival Cruise Lines ships is lower. In addition, like on land, the rate reduced between the two time periods. However it is worth noting that the incident rate is much higher than stated in the industry’s testimony before the U.S. Congress in 2006.

2.4.2 Sex Related Incidents

As already mentioned, there are several types sex related incidents, including sexual harassment, sexual contact, sexual assault, and rape. Table 2.2 presents the data for these categories for the two time periods.

As can be seen, the rate of sex related incidents reduced slightly between the two time periods, however there is an increase in the incidence of sexual assaults and rape while a decrease in sexual contact and sexual harassment.

For purposes of comparing crime statistics onboard cruise ships to incidence on land we turn to Canadian crime statistics. There are two reasons. First, there is no uniform crime statistics for sexual assault in the U.S. Second, the definition of sexual assault in Canada includes the offense categories found on cruise ships: sexual contact, sexual assault, and rape. There is also a separate category for sexual assaults against children. The Canadian rate of sexual assault in 2007–2008 was 68 (Statscan 2008). It was 74 in 2011 (Statscan 2012; Brennan 2013). It is worth noting that the rate of sexual violations against children rose sevenfold between 2007–2008 and 2011 (from 2 per 100,000 to 11 per 100,000), making it one of the few categories of offences to increase. In any case, the rate of sexual assault on Carnival Cruise Lines ships is more than 50 % greater than the rate of sexual assault on land in Canada.

As on land, there has also been an increase of sexual assaults involving children on cruise ships. As revealed in Table 2.3, the increase in the percentage of sex related incidents involving minors is more than 100 % for all incidents (11.8 % versus 25 %); more than 500 % for sexual assaults and rapes (7.5 % versus 38.8 %). More alarming is that the 2011 data indicated that 70 % of all rapes (n = 10) involve minors as victims. This is reflected in Table 2.4.

Table 2.2 Comparison of reported sex-related incidents on CCL by year, 2007 & 2011

	CCL 2007–2008 ^a	CCL 2011 ^b
Sexual assault—rape	40 ^c	10
Sexual assault		39
Sexual contact (groping)	48	33
Sexual harassment	5	2
Sex-related incidents total	93	84
Rate per 100,000	115.00 ^d	110.88

^aSee “Analysis of Crime Reports Received by the FBI from Cruise Ships, October 1, 2007 – September 30, 2008,” Appendix B of Testimony of Ross A. Klein, PhD before the Senate Committee on Commerce, Science, and Transportation Hearings on “Oversight of the Cruise Industry,” March 1, 2012. <http://www.cruisejunkie.com/crimedat.pdf>

^bData is provided by the FBI in response to a Freedom of Information request

^cData for 2007 does not separate “Sexual assault-Rape” from “Sexual assault”

^dSee Klein and Poulston (2011)

Table 2.3 Comparison of incidents involving minors on Carnival Cruise Lines, 2011 versus 2007

Incident	Incidents involving minors— 2007–2008 ^a			Incidents involving minors— 2011 ^b		
	N	N Minors	% Minors	N	N Minors	% Minors
Sexual assault & rape	40	3	7.5	49	19	38.8 ^c
Sexual contact	48	6	12.5	33	2	6.1
Sexual harassment	5	2	40.0	2	0	0
Total	93	11	11.8	84	21	25.0

^aSee “Analysis of Crime Reports Received by the FBI from Cruise Ships, October 1, 2007 – September 30, 2008,” Appendix B of Testimony of Ross A. Klein, PhD before the Senate Committee on Commerce, Science, and Transportation Hearings on “Oversight of the Cruise Industry,” March 1, 2012. <http://www.cruisejunkie.com/crimedat.pdf>

^bData is provided by the FBI in response to a Freedom of Information request

^cThe 2011 data distinguishes between “Sexual Assault-Rape” and “Sexual Assault.” Minors comprise 70 % of all reports of “Sexual Assault-Rape”; 30.8 % of all reports of “Sexual Assault”

Table 2.4 Sex-related incidents by age and presence of alcohol on Carnival Cruise Lines, 2011

Incident	N	Number incidents involving minors	% incidents involving minors	Number incidents involving alcohol	% incidents involving alcohol
Sexual assault—rape	10	7	70.0 %	5	50.0 %
Sexual assault	39	12	30.8 %	15	38.5 %
Sexual contact	33	2	6.1 %	11	33.3 %
Sexual harassment	2	0	0	0	0
Total	84	21	25 %	31	36.9 %

Source: Analysis of Carnival Cruise Lines data provided to International Cruise Victims Association through freedom of information request to the Federal Bureau of Investigation (FBI)

Table 2.4 also shows the percentage of sex related incidents in 2011 known to involve alcohol. Because the data does not consistently report whether alcohol intoxication is an element in an incident, these figures reflect a minimum—the actual percentage is likely significantly higher. Regardless, as shown alcohol intoxication is a factor in 50 % of rapes, 38.5 % of sexual assaults, and 33.3 % of cases of sexual contact. Overall, alcohol is present in 36.9 % of sex related incidents. Alcohol was similarly a factor in 36 % of sex related incidents in 2007–2008, (see Klein 2012, Appendix B). Given that passengers are not permitted to bring alcohol onboard the ship, over intoxication reflects the cruise ship’s practices in serving alcohol.

One area worth exploring is the gender of perpetrators and victims, and the breakdown of sex related incidents involving crew and passengers. As seen in Table 2.5, the overwhelming proportion of incidents are perpetrated by a male

Table 2.5 Victims and perpetrators on CCL, 2011 compared to victims and perpetrators on all ships, 2007–2008

Incident	N	% Female victim	% Male perpetrator	Pax victim/Pax accused	Pax victim/Crew accused	Crew victim/Pax accused	Crew victim/Crew accused
Sexual assault—rape	10	100 %	100 %	8 (88.8 %)	1 (11.2 %)	–	–
Sexual assault	39	95.8 %	97.5 %	24 (60 %)	9 (22.5 %)	5 (12.5 %)	2 (5 %)
Sexual contact	33	81.8 %	93.9 %	9 (27.3 %)	8 (24.2 %)	7 (21.2 %)	9 (27.3 %)
Sexual harassment	2	100 %	100 %	–	–	1 (50 %)	1 (50 %)
Total 2011	84	89.3 %	90.9 %	41 (48.8 %)	19 (22.6 %)	13 (15.5 %)	12 (14.3 %)
Total 2007–2008	158	86 %	–	43.5 %	26.6 %	7.3 %	22.5 %

Source: 2011 data: Analysis of Carnival Cruise Lines data provided to International Cruise Victims association through freedom of information request to the Federal Bureau of Investigation (FBI); 2007 data: see Klein (2012) (Appendix B)

against a female victim. As regards the incidence of cases involving crew and passengers, when comparing data for Carnival Cruise Lines in 2011 with data for all cruise lines in 2007–2008, there is a higher proportion of cases in which a crewmember is victimized by a passenger, a notable increase in the number of incidents in which a passenger is both the perpetrator and the victim, and a relative decrease in the proportion of cases where a crew member either victimizes another crewmember or a passenger. In other words, the proportion of incidents perpetrated by crew members reduced from 49.1 % in 2007–2008 to 36.9 % in 2011, while incidents perpetrated by passengers increased from 50.8 % in 2007–2008 to 64.3 % in 2011. It would appear the cruise line has better managed crew behavior, but the behavior of passengers has become more problematic.

2.5 Discussion

Despite claims by the cruise industry that cruise ships are safe (see Klein 2012) and that a person is more likely to get struck by lightning than sexually assaulted on a cruise, crime reports provided by Carnival Cruise Lines to the FBI indicate that rapes, sexual assaults, and incidents of sexual contact (cumulatively categorized as sexual assault) are 50 % more likely to occur on a cruise ship than on land in Canada. More alarming is that minors are commonly a victim, accounting for 34 % of all sexual assaults industry wide; 70 % of the rapes on Carnival Cruise Lines.

This study focuses on Carnival Cruise Lines because data for other cruise lines was not available. A Freedom of Information request remained outstanding after more than a year.

There are several factors that may be related to the scale of the problem. First, the cruise industry appears to believe its own public relations campaigns—that cruises are safe—and they are less than vigilant in addressing the problem. This would particularly appear to be the case with Carnival Cruise Lines, which starkly contrasts with Royal Caribbean International's success in reducing its rate of sexual assault by 50 % in the same period (Klein and Poulston 2011). It would appear that Carnival Cruise Lines hasn't taken seriously that there is a problem and therefore has not taken ameliorative steps.

This leads to a second factor. While the Cruise Vessel Security and Safety Act of 2010 (CVSSA) requires that a cruise ship operating from U.S. ports have available for each passenger a guide written in commonly understood English, which provides clear information about how to report a crime and what crimes are to be reported, most cruise lines (including Carnival Cruise Lines) post this information on their website and do not provide information in the passenger cabin. It would make infinite sense for cruise ships to be proactive by alerting passengers to known crime risks, especially sex related incidents and thefts, and to suggest strategies a passenger can use to protect themselves and their family members from victimization. But from a cruise ship perspective such an admission is not good for business given it directly contradicts claims that a cruise ship is a safe environment.

The CVSSA also requires that all shipboard crimes be reported on a public website broken down by cruise ship. When the CVSSA was originally introduced it required all crimes reported to the FBI to be posted on a US Coast Guard website that could be accessed directly or from a cruise line's webpage. Unfortunately, as a result of a last minute change in the Act, the website only reports cases on which the FBI has opened an investigation and subsequently closed the investigation. Consequently, as reported by the U.S. Senate Commerce Committee, there were 959 crimes reported to the FBI in 2011 and 2012, but only 31 (3.2 %) were reported online. Counting only crimes that were required to be reported to the FBI by the CVSSA, there were 68 crimes reported to the FBI in 2011, but only 16 reported online; in 2012 there were 62 crimes reported to the FBI but only 15 were reported online. Incidents of sexual contact, theft less than \$10,000, and physical assault are not required to be publicly reported by a cruise line. As a result, information available to a passenger on a cruise line's website is limited and tends to downplay the likelihood of a sexual assault or other crime.

Under pressure because of its under-reporting of crime online, the cruise industry (with Gerald Cahill, Carnival Cruise Lines President present) announced July 27, 2013, before the U.S. Senate Committee on Commerce, Science, and Transportation, that it would display online all crimes on their ships that must be reported under the CVSSA. Carnival Corporation chose to combine crime statistics for its four North American cruise lines: Carnival Cruise Lines, Holland America Line, Princess Cruises, and Seabourn Cruise Line. Carnival Cruise Lines comprises 46.7 % of the total passenger capacity for those four cruise lines in 2011, but a

vast majority of crime incidents. Consequently, the rate of crime for Carnival Cruise Lines is made to appear lower because of a relatively lower rate of crime on the other three cruise lines. Still, there appears to be underreporting:

Carnival Cruise Lines reports 11 “Sexual Assault” to the FBI in 2011 however its online report for the same dates says 8 for the four cruise lines combined.

Carnival Cruise Lines reports to the FBI one person overboard from a Carnival Cruise Lines ship in 2011; two persons from all four cruise lines combined. Cruise Junkie dot Com, based on media reports identified in 2011 three persons overboard from CCL, two from Princess, and two from Holland American Line for a total of 7.

Consumers have a challenge locating reliable information about the incidence and the risk onboard cruise ships of sexual assaults and other sex-related incidents. Reliable information is not available on cruise line websites and is not made available by the cruise line to parents taking their children onboard a cruise ship. The result is that passengers go onboard unprepared for the problems that could potentially be faced.

2.6 Conclusion

Crime on cruise ships continues to be a problem, particularly theft of personal property and more so sex related incidents because most passengers underestimate the risk. In contrast to claims by the cruise industry that cruises are safe and that passengers should feel confident that they and their children are safe, data suggests there are risks. While it would be nice to have a zero level of shipboard crime, this is not a realistic expectation. Therefore, the data suggests that cruise lines be more proactive in making passengers aware of onboard risks so they can take necessary precautions (especially as concerns their children), and that cruise ships be more vigilant in their responsible serving of alcohol given the high proportion of incidents that include alcohol intoxication. They should also continue their work with crewmembers in order to reduce incidents perpetrated by a crewmember against either a passenger or another crewmember. As well, based on the review of hundreds of sex related incidents, cruise lines should be less tolerant of allowing a passenger or crewmember accused of sexual assault to remain onboard. Guest behavior policies are often used to disembark at the next port a passenger who has physically assaulted another (including cases of domestic violence), however the Guest Behavior Policy appears to be infrequently used in the case of a sexual assault, rape, or sexual interference with a minor.

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Chapter 3

‘Stranded at Sea’: Exploring Passengers’ Reactions During Incidents at Sea

Alexis Papathanassis

Abstract Tragic incidents such as the grounding of the Costa Concordia highlight the pressing need to critically review, update, and ultimately improve the safety and security of cruises. Although such disasters are relatively rare, the increasing size and technological complexity characterising today’s cruise vessels, in conjunction with the passengers’ demographic diversity, pose an array of new safety-related challenges. Other incident types such as power failures and the resulting vessel immobility (e.g. the Carnival Triumph Incident) have indicated another safety vulnerability and the accompanying stresses of survival at sea; even on board a ‘luxurious lifeboat’. Following a collision, fire, or a power-shortage, it may often take a long time before passengers are evacuated. This paper aims at shedding light on this aspect of an emergency at sea, focusing on passengers and how they perceive, interpret and cope with a prolonged incident at sea. Following a content analysis of 28 press reports and online secondary data covering the Carnival Triumph, Costa Allegra, Carnival Dream, Azamara Quest, Carnival Legend and Costa Romantica incidents, 137 codes related to passengers’ first-hand recollections were extracted and analysed. The resulting model, consisting of factors potentially affecting passengers’ personal experience and reactions to incidents at sea, could serve as a relevant input for future safety procedures, emergency plans and crew training.

Keywords Cruise tourism • Incident • Accident • Safety • Psychological coping

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3.1 Introduction & Background

3.1.1 *'Too Big to Sail': Passenger Diversity & Technological Complexity*

Cruise tourism nowadays can be hardly regarded a niche tourism segment. According the Cruise Lines International Association's (abbr. CLIA) report on the state of the cruise industry 2014,¹ this ever-growing sector comprised of approximately 410 cruise vessels, with a total capacity of 467,629 lower berths, serving 21.3 Million passengers, and sold via a distribution network of over 50,000 travel agents. While North America remains the main source market for cruises (55.1 % of global passenger share), Europe and Australasia are becoming increasingly important, fuelling the continuation of passenger number growth. The main cruising regions are the Caribbean (34.4 % of total fleet capacity) and the Mediterranean (21.7 % of the total fleet capacity). The cruise sector's phenomenal growth is accompanied by a diversity of sub-segments and source markets, as well as a wider demography of passengers (i.e. age-, income-groups and nationalities). Cruise vessels have steadily grown in size, offering a plethora of amenities and experiences on board. One has come to refer to them as 'floating resorts' and/or 'mega-ships'. For example, Royal Caribbean's newest Quantum Class vessels are approx. 348 m long, 41 m wide and have a Gross Tonnage of 167,800. Aside from accommodating some 4905 guests in her 2124 cabins, the Quantum of the Seas features²: 18 decks, 16 elevators, a skydiving simulator, the 'Northstar' movable observation capsule (approx. 90 m above sea level), transformative venues, surf simulators (flowriders), two pools and the 'Seaplex' indoor activity area (for bumper cars, circus school, basketball and ice-skating). Nevertheless, the very technology enabling such marvels of modern maritime engineering, also involves safety risks associated with technical failures and energy dependencies. It is arguable that the demographic constitution and increasing vessel size, both in conjunction with technological complexity, pose significant challenges for passenger safety and security. Mouawad (2013) contends that big-vessels imply big problems and that the current trend of "building them too big and putting too many people on board" has exceeded the "point of manageability".

3.1.2 *Disabling Accidents at Sea: Carnival Triumph Incident*

Although the images from the Costa Concordia disaster have dominated the news and press-media, such maritime tragedies are rather infrequent in passenger

¹ <http://www.cruising.org/sites/default/files/pressroom/Infographic.pdf>, Access Date: 10.02.2014.

² <http://www.royalcaribbean.com/findacruise/ships/class/ship/home.do?shipCode=QN>, Access Date: 12.02.2014.



Fig. 3.1 Carnival Triumph passengers lodging on deck. *Image source:* <http://www.nytimes.com/imagepages/2013/02/15/us/CRUISE.html>

shipping (Lois et al. 2004). According to Klein's (2014) data, in the period between 1990 and 2013, approx. 48 passenger ships have sunk.³ This may appear significant at first, but it is rather small compared a total of 448 (during the same period) so-called 'disabling accidents' resulting from fires, collisions, power-loses, engine-damage and propulsion problems. A disabling accident effectively means that passengers are stranded at sea, often for days, having to endure adverse conditions (e.g. Dysfunctional sanitary facilities, insufficient catering) before being towed back to port.

One of the latest and highly publicised disabling accidents was that of the Carnival Triumph on the 10th of February 2013. Following a fire in the engine room, the ship's 3143 guests and 1086 crew members were immobilised some 240 km away from the Mexican coast for 3 days. The press reported horrendous conditions on board (incl. Anti-social behaviour, hysteria, people sleeping in over-filled decks, overflowing toilets). The press and passengers often referred to this as: 'Poop-cruise'. The images below illustrate the living conditions on board and provide an impression of the passengers' reactions (Figs. 3.1, 3.2 and 3.3).

Managing such situation and ensuring the safety and well-being of cruise passengers is not adequately addressed by the current safety standards and evacuation procedures, and presumably requires a different set of competences and training requirements.

³This number is not limited to large cruise-ships, but also includes other, smaller passenger-forwarding vessels.



Fig. 3.2 Carnival Triumph passengers lodging on deck. Image source: <http://boards.cruisecritic.com/showthread.php?t=1789392&page=7>



Fig. 3.3 Carnival Triumph passengers signalling 'Help'. Image source: <http://www.nytimes.com/imagepages/2013/02/15/us/jp-cruise.html>

3.2 Research Question and Methodology

3.2.1 Research Relevance and Expected Outcomes

In line with the above mentioned, the aim of this research is to:

Analyse and interpret the behaviour and perceptions of cruise passengers, during longer periods of exposure to adverse conditions at sea

Its relevance is based on the contention that there is a relatively high proportion of disabling incidents at sea and that this is expected to remain so (if not to increase), mainly due to:

- Increasing ship sizes and technological complexity/dependence
- Increasing cruise population diversity (also combined with demographic changes)

The findings and the derived understanding of the passengers' perceptions and behavioural dynamics during such incidents could potentially support the development and improvement of cruise emergency procedures, cruise rescue and relief plans, and existing safety training contents of cruise staff (hotel and nautical).

3.2.2 Research Methodology: Qualitative Content Analysis

A post-ante, direct data collection from disabling incident victims represented a significant challenge, as no contact data was available. To meet this challenge a modified content analysis approach was utilised. Following a pre-defined internet keyword search containing the terms: 'Cruise disaster(s)', 'Cruise incidents', 'Power loss', 'Cruise Fire', 'Azamara Quest', 'Carnival Triumph', 'Carnival Legend', 'Carnival Dream', 'Costa Allegra', and 'Costa Romantica' a total of:

- 22 Newspaper/magazine reports
- Cruiser online forums
- 2 Televised reports

were identified, containing first-hand accounts of disabling incident victims. Only direct quotes from passengers were included in the analysis (i.e. text containing third party comments on the incidents was excluded from the coding). The material contained in these reports was coded with NVIVO 8, producing 137 open codes, which were subsequently grouped into 15 axial codes (Table 3.1), reflecting 6 variable groups (Fig. 3.4).

The resulting tentative variable model (i.e. derived hypotheses) is illustrated in Fig. 3.4 and will be discussed in the next section of this paper.

The model and categories were presented and discussed during the 5th International Cruise Conference, which took place in Bremerhaven between the 24th and 26th of January 2014. The conference consisted of approximately 90 participants;

Table 3.1 Coding summary

Open codes/ labels	# of sources	# of codes	Axial codes/categories ()—Number of open codes comprising each category	Transactional model of stress level (Lazarus and Folkman 1984)
Trust announcements	6	10	Information processing (19)	Primary appraisal
Uncertainty— lack of information	7	7		
Ignoring signs	1	1		
Reject safety measures	1	1		
Pax hardship experience	11	15	Gratification (16)	Secondary appraisal
Diet Coke	1	1		
Past issues with ship	1	2	Attribution specificity (4)	
Problematic clientele	1	2		
Comparison with alternative scenario	3	4	Past event comparison (10)	
Concordia comparison	3	3		
Carnival Tri- umph comparison	1	1		
Fear pirates	1	1		
Katrina analogy	1	1		
Trust in crew abilities	8	14	Perceived crew compe- tence (18)	
Concern for crew safety	1	2		
Crew visibility	2	2		
Contact with relatives	2	2	External support visi- bility (4)	
External support visibility	2	2		
Lack of civilisation	6	8	Observed anti-social behaviour (23)	Re-appraisal
Loss of self- control	4	6		
Resource distri- bution equity	2	5		
Others panic	4	4		
Loss of dignity	4	5	Perceived self- determination (6)	
No cabin access	1	1		
Compensation motive	3	3	Compensation (3)	

(continued)

Table 3.1 (continued)

Open codes/ labels	# of sources	# of codes	Axial codes/categories ()—Number of open codes comprising each category	Transactional model of stress level (Lazarus and Folkman 1984)
Passenger initiative—support	5	8	Active involvement (6)	Problem-coping
Boredom	1	1		
Blitz spirit	1	3	Perceived solidarity (6)	Emotional coping
High pax morale	2	2		
Dunkirk spirit	1	1		
Intention to re-cruise	3	3	Positive recollection (3)	Cognitive coping
Dramatisation	5	7	Dramatisation (9)	
Exaggeration	1	2		
Probability surprise	2	2	Generic attribution (3)	
Systemic risk perception	1	1		
Adventure perception	3	3	Positive interpretation (4)	
Party time	1	1		

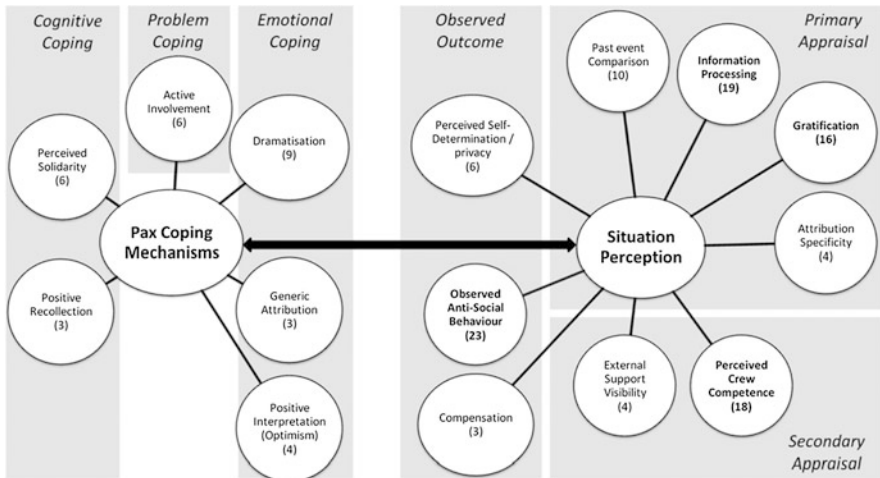


Fig. 3.4 Determinants of passenger’s reactions during disabling incidents at sea. ()—Number of open codes comprising each category

a considerable number of who were cruise academics and professionals. The feedback provided was incorporated into the research, in order to compensate for interpretation subjectivity of the researcher(s).

3.3 Results and Discussion

Broadly speaking, all the resulting categories/variables refer to the passengers' perception of the situation and their corresponding coping mechanisms.

3.3.1 *Cruise Passengers' Situation Perception*

In terms of situational perception it is important to highlight the fact that cruise passengers do not merely consume the official emergency/safety announcements provided by the ships' management. They are constantly filtering the information provided by various sources (e.g. other passengers) and comparing it with their own previous experiences, knowledge and observations. According to the 'transactional model of stress and coping' by Lazarus and Folkman (1984), an individual confronted with a potentially stressful situation evaluates it in three levels:

- Primary appraisal: The first level of situational appraisal entails an assessment of the threatening event's significance for the individual well-being.
- Secondary appraisal: Following the initial assessment of the situation, the affected individual proceeds with an assessment of the situational controllability and the available coping resources.
- Reappraisal (Observed outcomes): Finally coping mechanisms (i.e. Emotional-, Cognitive-, Problem-Coping) are applied and the observed outcomes feed back to the individual's appraisal processes (i.e. situation is constantly reappraised).

3.3.1.1 Primary Appraisal: Information Processing

Indicative codes:

The cruise director is giving passengers very limited information and tons of empty promises. What was supposed to take an hour has turned into 7-plus hours

Going home. That's the only thing we are unsure of. Nobody knows. We talked to 5 different people and all say the same thing

During nautical emergency situations, communication tends to be mainly one-way, minimalistic and instructional. This type of communication modus may well be efficient and effective during an enveloping emergency, but may well be insufficient for the entire duration of the crisis.

Hetherington et al. (2006), underline the role of communication and language during incidents at sea. Although their research is mainly focused on the communication between nautical personnel, they still contend that: "There appears to be a discrepancy here between an individual's self-perception of effective communication and other's interpretations of these interactions." (p. 406) and also question the crew's language skills under stressful conditions. It could be asserted that such

issues are even more pertinent when non-nautical personnel and regular passengers are involved.

Under prolonged periods of crisis at sea, restrictive information practices, could presumably create a gap for individual interpretation and encourage the collection of information by other, not necessarily reliable, sources of information (e.g. other passengers). In this respect, the perceived reliability of the information provided may play a catalytic role. Information not corresponding to the passengers' observations, can easily lead to a rejection of the formal communication channels ('empty promises') and intensify the demands on the individual's information processing activities.

Thus, the higher the specificity, reliability and frequency (i.e. updates) of the formal communication during a prolonged incident at sea, the less likely are affected passengers to employ alternative sources of information. Moreover, they are less likely to subsequently disseminate their interpretations to others, discouraging in that way parallel, uncontrollable and unreliable information flows.

3.3.1.2 Primary Appraisal: Gratification (of Basic Needs)

Indicative codes:

I was on that ship too and was astonished when my kids brought me a cucumber sandwich to eat on the day of the fire. First, I hate cucumbers and second, I could not believe that was all the food they had to offer. It was fine with the vegetarians because they didn't eat meat anyway.

The first thing we did was open up those Diet Cokes and we drank some

The temporary catering limitations during a cruise incident may be regarded as relatively trivial given the actual (and potential) impact of a disabling event. Nevertheless, such annoyances/hassles tend to have a cumulative effect (Schuster et al. 2006), contributing to the overall passengers' subjective stress levels. More specifically, the role of food intake during stressful situations has been well-researched, suggesting that high-calorie and comfort food has an anxiolytic effect (Dweck et al. 2014; Tryon et al. 2013a, b; Bazhan & Zelena 2013; Ortolani et al. 2011). A power loss at sea effectively means that perishable foods are to be consumed first and that the catering provided cannot be extensively processed, significantly restricting the possibilities to provide rich, comforting food.

3.3.1.3 Primary Appraisal: Attribution Specificity & Past Events Comparison

Indicative codes:

I've been on several cruises. ...Carnival is by far the worst. Not because of their service, but because of the type of people that go on Carnival Cruises.

There were problems on that ship way back in December. They should have done something about it

Believe me, unsteady thoughts ran through my mind. We'd all read recent news of slew of disturbing travel stories: the sea captain abandoning his Italian cruise liner after it keeled over; fire striking a sister ship in the Indian ocean and towed to shore a month later; a pilot having a meltdown and escorted off his plane by law enforcement; and scores of disgruntled passengers disturbed by how companies mishandled cruise disasters and refused to take responsibility or even help.

As already mentioned (see 'Information processing'), given a threatening situation combined with a lack of information, passengers are likely to engage in speculation on the incident's causes, envelopment and potential implications. This involves 'filling the gaps' by drawing on past knowledge and experience. It could be argued that the interpretational impact of analogous situations depends on the attention passengers attributed to them as they occurred. With reference to the attention invested in crisis/disaster-related media coverage, Glaesser (2006) identified a number of determinants:

- Geographical proximity (Skriver 1990 in Glaesser 2006, p. 19): The closer the event is to the information recipient, the more attention/importance will be invested.
- Cultural proximity (Adams 1986 in Glaesser 2006, p. 19): This refers to the degree to which those affected from an event are considered to be culturally similar.
- Psychological proximity (Tscharnke 1995 in Glaesser 2006, p. 19): This refers to the event's parallels with the recipients own experience.
- Duration of coverage exposure (Mathes, Gärtner & Czaplicki 1991 in Glaesser 2006, p. 19): This factor concerns the length of time of the coverage/exposure to an event.
- Emotionality of the event (Glaesser 2006, p. 19): The degree to which the coverage triggers emotions with factors such as drama, conflict, struggle, risk, etc.

3.3.1.4 Secondary Appraisal: Perceived Crew Competence & External Support Visibility

Indicative codes:

It quickly became apparent that the captain and crew were incompetent and totally clueless. There were clearly no procedures in place for dealing with the emergency

Most of the crew suddenly disappeared after the fire. What crew remained visible worked their asses off. I watched them darting around corners avoiding passengers like we had the plague or something

Few in the media have mentioned the three cruise ships that took time out of their cruise vacations to stop and render aid to us. The passengers of these ships stayed on deck cheering and calling to us the whole time they were there. It made us feel less alone in that vast, endless ocean and let us know we were not forgotten.

As mentioned previously, the secondary appraisal of the threatening situation aims at evaluating the controllability of the event the availability of coping

resources. A competent crew and external support are undeniably key factors in containing and effectively managing incidents at sea (Talley et al. 2008). In addition, when this competence and support are evident and visible to passengers, the overall anxiety will presumably diminish. Lois et al. (2004, p. 107) state: "The areas directly related to human behaviour and crowd control might include the ability of giving clear and reassuring order, dealing with passengers' special needs and keeping order, reducing or avoiding panic". During an incident at sea, the crew are required to confidently communicate and adopt a directive leadership role in their interactions with customers.

Considering the service-orientation and non-intrusion imperative expected of the crew in their daily interactions with the guests, this kind of role change represents a considerable behavioural challenge. This issue may not apply to the nautical staff as it would to the hotel staff, but then again passengers are more likely to observe and communicate with the crew members they are most familiar with; the hotel/guest-service staff. In this case, the passenger-facing crew's training would require more than mere implementation of emergency procedures, incorporating psychological and behavioural competence development.

3.3.1.5 Re-Appraisal (Observed Outcomes): Observed Anti-Social Behaviour

Indicative codes:

People were screaming obscenities in the hallways, wasted. The crew then stopped serving alcohol again.

People were just piling it on their plates. Then you'd go back into the hallways and there's half a plate of food left that they didn't even eat. People were getting in fights for a cup of coffee

To a certain extent what was described as anti-social behaviour during incidents had mainly to do with perceptions of other being remarkably inconsiderate regarding 'common' resources such as food and outside sleeping locations. Raines et al. (2014), describe this behaviour as 'hoarding' and have associated it with the degree of perceived control over negative events and/or threatening situations. According to the authors, this type of behaviour may even persist after the stressor has been brought under control. This may explain in a straightforward manner, this type of anti-social behaviour during and after incidents at sea. Moreover, 'hoarding behaviour' appears to also be dependent on certain belief dimensions such as 'harm avoidance' and 'material deprivation' (Gordon et al. 2013). Being immobilised at sea with limited information on the duration of the situation, combined with the stereotypical demography of cruisers, could presumably facilitate this type of behaviour. Observing 'hoarding' by others could also amplify perceptions of one's own material deprivation, collectively reinforcing this phenomenon. Perhaps,

the standard practice of providing food and drinks at a buffet, allowing passenger self-service, may be inappropriate during a prolonged incident at sea.

3.3.1.6 Re-Appraisal (Observed Outcomes): Perceived Self-Determination/Privacy

Indicative codes:

Going to the bathroom in plastic bags and then handing it to another human being to throw it away; that is just the most embarrassing thing!

Not being able to go back into the cabins sparked a bit of panic on board

Deprived the possibility to freely move on board, which is restricted even under normal conditions, the perceived dependency on crew members and emergency procedures, demonstrate rather directly to the passengers that they, as individuals, have very limited control over the situation in general and over their own activities in particular. The relationship between perceived control and anxiety/stress is well-documented in psychology research. An additional effect of experienced lack of control is also the distortion of time perception. Mereu and Lleras (2013), having conducted a controlled experiment, found that their participants when faced with low degrees of control tended to subjectively overestimate the display duration of negative images. They concluded that negative experiences induce a subjective expansion of time. At the same time, this time-expansion seemed to be eliminated, when participants were given a degree of illusory control. The implication here is that under threatening situations, the degree of perceived (not necessarily real) control and self-determination may well be related to both the degree of felt anxiety and the its subjectively-experienced duration. In other words, when passengers' freedoms are restricted by emergency procedures and measures over a prolonged period, they are likely to experience higher levels of anxiety, whilst overestimating the duration of this emotional state.

Given the standardisation and formalism of emergency measures and procedures, designed to cover a number of incident scenarios, the probability of irrelevance for the specifics of an actual situation is not to be underestimated; especially if they impose restrictions to passenger freedom. Apart from reducing actual risks and corporate liability, safety regulations and emergency procedures have a downside as well. Thus, their effectiveness is not dependent on risk probability reduction alone, but needs to be assessed on the basis of the situation at hand.

3.3.1.7 Re-Appraisal (Observed Outcomes): Compensation (Expected)

Indicative code:

I heard one silly bint who seemed hell bent on suing the cruise line, claiming that she almost died. I wouldn't be surprised to find that she was on a different boat passing by and jumped on to claim any compensation that may be going.

An incident at sea, involving any degree of hardship (incl. Emotional, psychological) represents a service failure. Previous research in service failures utilises attribution theory to shed light on complaint behaviour (Kuenzel and Katsaris 2011). Attribution theory describes a cognitive bias, whereby positive events/outcomes are attributed to the internal qualities of the affected, whilst negative events/outcomes tend to be credited to external causes. On this basis, one could assert that a incident at sea and its specific outcomes for a particular individual, regardless of their own behaviour and actions during the event, are likely to be attributed to the company; the logical consequence being complaints and compensation demands. Moreover, according to Day (1984), the higher the:

- Socio-economic status of consumers,
- Significance of the consumption event (incl. money and time spent, reputation/brand of the product), and
- Consumers' knowledge and experience,

the higher the probability of expressed complaints and compensation expectations. In light of the stereotypical cruiser's consumption patterns (i.e. cruise repeater, travel experience) and demography, a certain degree of exaggerated compensation demands are both justifiable and expected. A cruise holiday costs a substantial amount of money and interestingly enough, cruisers tend to overestimate their holiday expenditures compared to other tourists (Laresen et al. 2013). It is noteworthy that the average cruiser spends 1289 (Cruise Market Watch 2013) to 1710 (DRV 2013) Euros for their holiday at sea. All this could be a partial explanation for the formalistic (legalistic) approach and the restrictive information and communication policies of cruise operators.

The relevant question here is how to treat complaints and compensation demands during an incident. Disqualifying and/or ignoring the issue of service failure during (as well as after) an emergency situation does not come without a cost. Discontented, but otherwise not affected, passengers may engage in dramatisation (see further on), increasing collective anxiety, which is detrimental for the management of the incident and the emotional well-being of others. Hence, although it may appear unintuitive, effectively addressing service failure concurrently to dealing with the incident is arguably a proposition worth considering within the context of emergency management.

3.3.2 Cruise Passengers' Reactions

Confronted with a potentially threatening situation, based on one's own assessment and interpretation of associated events, humans will initiate regulating processes aiming at containing the threat itself or its impact to their person. Such regulating processes are well-defined and researched in the field of psychology and are

referred to as ‘coping mechanisms’. Coping mechanisms come in various forms, some aiming at concrete action, while others aiming at ameliorating one’s awareness and experience of the situation. Although it seems unwise to categorise coping mechanisms between effective and problematic or between healthy and pathological, some are regarded as more mature and constructive than others. At the end of the day, the desirability and outcome of a particular coping mechanism is situation dependent. In this section, passengers’ reactions are interpreted utilising psychology and social theory and are evaluated within the specific context of cruise incidents at sea. In other words, caution is called for, when attempting to generalise the arguments and conclusions presented here to other domains.

3.3.2.1 Active Involvement & Perceived Solidarity

Indicative codes:

There is no panic, everybody is fine and they are just getting on with it. It is the Dunkirk spirit and they are making the best of the situation

Passengers from 25 different countries began to bond-United States, Australia, New Zealand, Germany, Canada, Scotland, England, France, Denmark, Poland, Russia – you name it. We shared stories, toasted each other with rounds of drinks, played trivia, enjoyed one another’s company and rallied around a crew (who was now “sleeping” outside because their rooms on lower decks were unbearably hot). We began a fund to try to help the injured crew

Redirecting negative feelings to constructive behaviour and keeping active as to divert one’s mental focus away from negative thoughts is arguably a desirable reaction during incidents at sea. Within Lazarus’ and Folkman’s (1984) taxonomy of stress-coping mechanisms, applied altruism represents a problem-related coping approach which constructively increases the levels of perceived control over the situation. In turn, this is likely to lead to reduced anxiety levels, contributing to the overall well-being of passengers. Volunteering and contributing to the welfare of others is regarded to be a mature and effective reaction to anxiety and stress. This is particularly relevant for the elderly, because it provides them access to social and psychological resources (Musick and Wilson 2003). Social connectedness, pro-social behaviour and solidarity have been repeatedly associated with psychological well-being and act as a buffer for the consequences of disruptive events (Delle Fave 2014).

In the context of incidents at sea, allowing space for (or even encouraging) the active involvement and initiatives of passengers is worth serious consideration. This is also inexorably related to the passengers’ perceived self-determination, reducing anxiety levels and the occurrence probability of anti-social destructive behaviour.

3.3.2.2 Positive Recollection & Positive Interpretation (Optimism)

Indicative codes:

This is our first trip on a cruise holiday and after what has happened, you would think we would not want to go again but you are so wrong

You can roll with it, since you cannot control it; or you can upset yourself and lose sight of an otherwise 'adventurous time'

The unconscious distortion of reality so that outcomes and consequences seem reasonable and/or not as bad in retrospect, is termed in psychology literature as: 'Rationalisation' and 'Rosy Retrospection'. 'Rationalisation' is defined as conjuring a plausible explanation for otherwise unacceptable feelings/behaviour to maintain one's self-esteem (Vaillant 1992). In this sense, it is very similar to 'intellectualisation' the main difference being that it aims at providing justification for one's feelings (instead of repressing them with abstraction). During an incident at sea, some passengers may have felt that they behaved insensitively and egoistically towards others (see 'Observed anti-social behaviour' and subsequently justify it by playing down the severity of the event.

Another facet of positive recollection and interpretation could be the presence of a cognitive bias, known as 'rosy retrospection' (or 'impact bias'). According to Wilson et al. (2003), people tend to overstate the emotional impact of positive events and understate the one of negative ones. Although this could be easily categorised as optimism ('When life gives you lemons, make lemonade'), it could potentially entail negative aspects for others ('Drinking lemonade when everyone else is thirsty'). The public over-display/over-expression of optimism and well-being of certain passengers during an incident, inevitably questions and disqualifies the anxiety and stress felt by others; rendering it 'unacceptable'. In turn, rendering such feelings unacceptable may encourage other, indirect ways of expressing them (see dramatisation below).

3.3.2.3 Dramatisation

Indicative code:

People were playing it up for the cameras. When we saw the first helicopters with cameras, people were running into their cabins to grab their bathrobes and life preservers

Behaving in an attention-seeking, often socially inappropriate manner enables people to express feelings they are otherwise incapable of doing so. This type of behaviour reflects an emotion-related coping approach and could be psychologically perceived as the less-constructive, negative version of 'active involvement'. From an individual perspective, dramatising can help venting negative emotions (i.e. stress, anxiety), but on a collective level during an incident at sea it may act as

an anxiety multiplier for others and redirect attention from constructive behaviour during a crisis (e.g. active involvement).

Exaggeration and the corresponding bizarre behaviour may well irritate others, corroding social connectedness and solidarity during the incident. Live media coverage of such incidents, in conjunction with the ubiquity of information and communication technologies amplify this type of behaviour and extend its negative effects beyond those affected on board to their relatives and friends on land. Presumably, this could be a reason for the restrictive official information policies during and after sea emergencies, widely practised by cruise operators; and inhibiting an effective crisis management (see 'Primary appraisal: Information processing'). Transparent and open communication with official stakeholders and the provision of direct communication platforms between the affected passengers and their relatives could be an effective countermeasure against the negative effects of media sensationalism in such a context, reducing anxiety and stress for those directly and indirectly involved.

3.3.2.4 Generic Attribution

Indicative code:

If something is going happen it doesn't matter if it is a plane or a ship

Assigning a negative incident to systemic risk, serves also as a psychological defence mechanism aimed at dealing with the felt lack of control. 'Intellectualising' a threatening situation represents a self-detachment approach, aimed at removing negative feelings and emotions from the situation (Bennet 2012). Intellectualising a negative event is not necessarily problematic, unless it becomes a dominant character trait (Auchincloss and Samberg 2012).

Together with altruism, intellectualisation is categorised as a so-called 'adaptive' and 'mature' psychological defence (Vaillant 1992).⁴ It could be asserted that this type of reaction is related to 'attribution specificity' and 'past events comparison' during the primary appraisal phase. In other words, sufficient information and indirect experiences related to similar events may enable a more detached interpretation of the causes potentially leading to the existing situation.

Having discussed the different types of passengers reactions emerging from the data collected, their implications can be discussed.

⁴ As opposed to 'maladaptive', 'immature' defences such as dramatisation (acting out).

3.3.3 *Synthesis: Towards a Conceptual Model of Managing Incidents at Sea*

The findings presented and discussed in the previous section correspond very closely to the Transactional Stress/Coping Model of Lazarus and Folkman (1984). In this sense, within the context of a cruise incident, there is little to add from a theoretical perspective. At first sight, the model appears adequate to provide an interpretation of the passengers' reactions during prolonged incidents at sea. But this first impression may be misleading.

3.4 Theoretical Implications: Passenger Shipping Safety and the Human Factor

Safety-related in passenger shipping seems predominantly concerned with evacuation analysis, adopting a positivistic approach and aided with causal models and simulations (e.g. Lee et al. 2003; Vanem and Skjong 2006). Despite their usefulness and measurability, emergency simulations and deterministic models are limited by the very complexity of human behaviour.

According to Lee et al. (2003, p. 869):

Unfortunately, current human behaviour models have limitations in simulating human behaviour. It is generally very difficult to understand and quantify human behaviours since the factors involved vary significantly due to different types of accident and the environment.

Moreover, the focal predominance on evacuation mechanics is becoming increasingly questionable in terms of relevance. With an ever-increasing size of cruise vessels and demographic diversity on board, safety-related technologies and scenarios are expected to migrate from the post-titanic evacuation principle, rendering the vessel itself as the lifeboat. Notwithstanding, the actual scenario of a cruise ship sinking is relatively infrequent in comparison with other, less dramatic disasters at sea. In any case, a better understanding of human behaviour during an incident at sea could prove valuable. The research presented here, proposes a tentative model of passenger behaviour during incidents at sea (see Fig. 3.4). In the core of the model lies the 'transactional model of stress and coping' elaborated by Lazarus and Folkman (1984). Perhaps the theoretical contribution here is the transference of the model's premises and its applicability in a collective crisis context: How does one's individual perceptions of the situation and coping behaviour interplay, with those of others leading to a collective perception and the accompanying behavioural outcome?

To illustrate this point more clearly, two scenarios are described below:

3.4.1 Positive Scenario: 'Passengers as a Resource'

Following an incident at sea, reliable, consistent, sufficient and frequent information is provided to the passengers. The crew is visible and seen to be acting in consistence with the information provided. Passengers are informed on the progress of the rescuing operations. Following the emergency protocols, provisional, situation-specific, regulations are announced to facilitate an equitable distribution of resources (assuming there are restrictions) and passengers are invited and organised to actively contribute to no-risk relief activities (e.g. medical support by trained healthcare professionals amongst the passengers, child care/animation, hotel staff support with passenger care, peer support, etc.). At the end of the day, apart from encouraging problem-focused, constructive coping, utilising passengers' capabilities and skills effectively means tapping on a valuable resource during a time of crisis. Moreover, the crew (hotel personnel) is assuming a leadership role, organising the passengers' initiatives/activities, as opposed to appearing passive and over-challenged with requests and complaints. Following the resolution of the incident, passengers having actively and positively contributed to the situation may well feel a sense of achievement and solidarity (also with the cruise line's staff and by extension the brand), retrospectively classifying the event as an adventurous and self-developing experience.

3.4.2 Negative Scenario: 'Passengers as Liability and Disruption Factor'

Passengers are given concise instructions and as little context information as possible, to avoid panic. Passenger mobility and freedom of action onboard are restricted as to enable crowd control. In the absence of sufficient information and available attention-diversion options, passengers engage in information- and opinion-sharing with one another, increasing in that way the situational interpretation complexity (i.e. diversity of perceptions, conflicting information). Resources are made freely available (i.e. not distributed or managed), allowing passengers to engage in selfish and/or hoarding behaviour. In this situation the passenger-facing personnel maintains their 'service-orientation' behaviour, assuming the role of a publicly-visible, inviting 'venting buffer' for passengers' frustrations, complaints and requests. Whilst others are watching, passengers 'abuse' service staff to vent their frustration and may exaggerate in order to secure some kind of privilege and/or compensation. Those observing the anti-social, destructive, selfish behaviour of others are presumably increasingly concerned about the controllability of the situation and the resulting anxiety may facilitate imitation of negative behaviour. Following the end of the event, the helplessness experienced and the self-criticism of one's own reaction may result to post-traumatic stress and/or the attribution of blame to other parties; primarily the cruise operator.

Obviously, the two scenarios described above are purely hypothetical and represent generalisations. They do however graphically illustrate a number of interesting points emerging from this piece of research:

3.4.3 Anxiety Emergence Effect ('Small Measures Can Make a Big Difference')

Within a 'social cocoon' such as a cruise vessel (Vogel 2004), individual perceptions of a threatening situation and the resulting coping behaviour interrelate to those of others, resulting to a collective aggregation. Under such conditions, relatively insignificant incidents (e.g. a passenger overfills their plate in a buffet) can have disproportionate impacts to the well-being of others. Similarly, low-effort measures (e.g. regular announcements) may prevent/solve an array of challenging situations.

3.4.3.1 Contextual Information Effect ('Understanding Breeds Safety')

Communication in the form of instructions and emergency procedures is inadequate for an individual's primary appraisal of how threatening a situation is and of the potential implications for one's well-being. Attempts to fill the resulting informational gap increase the risk of peer-misinformation, misinterpretation and selective observation, unnecessarily increasing anxiety levels. Contextual richness and explicit justification of observable activities can significantly reduce this risk, whilst supporting regulatory and procedural compliance during an emergency.

3.4.3.2 Anxiolytic Participation Effect ('Action Reduces Anxiety')

In the presence of stress and anxiety, inability and/or restrictions in engaging with problem-focused coping is likely to promote other, less constructive and maladaptive forms of coping behaviour such as dramatisation and anti-social behaviour. Involving passengers in the relief operations would hypothetically foster a feeling of solidarity with the crew (and by proxy the cruise operator) potentially resulting a reduction of post-incident compensation claims. In other words, enabling and managing passenger participation may entail psychological benefits for the passengers as well as economic benefits for the cruise operator.

Finally, it is worth mentioning that the above-mentioned effects can also have a reinforcing interrelationship between them.

3.5 Practical Implications: ‘Soft’ Incident Management

The above-mentioned main propositions of this paper imply a number of practical implications for the management of emergencies on board.

3.5.1 Hotel Staff Role Re-Definition

To begin with, the ‘underestimated’ role of guest-facing staff requires a more critical consideration and potentially a re-definition. Perhaps a minimalistic training on emergency evacuation procedure implementation (as a support for nautical personnel) and passivity/reactivity in dealing with distressed guests, could be extended to include psychological support training and the development of leadership skills. Preparations and/or emergency guidelines could be extended to collect information on and evaluate passengers’ potential of contributing to a potential emergency (e.g. collect relevant professional skills, medical training, etc. during the booking process). Communication guidelines, platforms and new technologies (e.g. Smartphones, wearable technologies) could be modified to deliver a continuous and ubiquitous flow of information during an emergency.

3.5.2 Tourist Citizenship

Most importantly, and beyond emergency management, empowering passengers to constructively participate and positively contribute to the holiday experience, not only improves safety on board, but also fosters the so-called ‘tourist citizenship’ (Liu and Tsaur 2014) enriches the holiday experience for both guests and crew. The confined space and inherent egalitarian interaction during a cruise journey represents a highly appropriate environment for guest participation (Huang and Hsu 2010). Worth mentioning is that a number of the previously identified ‘maladaptive behaviours’ can also be observed under normal, non-emergency conditions (Papathanassis 2012). Thus the infrastructure and competence enabling improved incident management could also be effectively utilised within daily front-office operations to deliver a higher standard of service and contribute as a differentiating factor.

3.6 Concluding Remarks

Within the scope of this piece of research it has been attempted to shed light into the passengers' reactions during a disabling incident at sea. Given the relative lack of qualitative research in cruise safety and the corresponding cruise passenger behaviour within this context, we hope that this paper will serve as a starting point and trigger for further research. The tentative model and the three effects mentioned in the synthesis (i.e. Anxiety emergence, contextual information, anxiolytic participation) readily lend themselves to further quantitative research and experimentation.

Moreover, underlining the relevance of behavioural and social psychology within the interdisciplinary area of cruise tourism, serves as a counterweight against the predominance of 'managerialism'. The research focus on business- and economic-related issues in cruise tourism has been held accountable for 'theoretical poverty' in this domain (Papathanassis and Beckmann 2011).

Despite the contribution and implications of this research, there are a number of limitations which need to be explicitly stated. To begin with, the methodological focus is explorative-qualitative, which in turn implies that the corresponding findings and their discussion cannot be generalised; as they are tentative in nature and dependent upon the researcher's subjective interpretation. As already mentioned, to ameliorate this inherent shortcoming, the results were presented during the 5th International Cruise Conference (Bremerhaven, 25th of January 2014) and subjected to the criticism of approximately 90 cruise academics and professionals. The feedback provided was incorporated in the research presented here.

Another potential limitation could be attributed to the relatively small number of data sources (28) mined for the subsequent coding. Although an extensive amount of search effort was required to filter out first-person statements/comments of incident survivors, the data sources employed proved adequate for a sufficient number of open codes (i.e. data richness) and categories (i.e. repetitive codes, 'saturation').

The fact that extracting affected passengers' statements ex post from the media may have a distorting effect on the findings. Firstly, it mirrors feelings and perception after rescue-relief and secondly, it excludes the perceptions and views of those not interviewed and/or not willing to express them. Nevertheless, even with the improbable option of conducting this type of research first-hand during an incident, biases and respondent availability would still be present. At the end of the day, directly obtaining qualitative data on affected passengers' own perceptions of such incidents represents a significant challenge due to data protection and confidentiality agreements following compensation. The approach adopted here is arguably a realistic methodological alternative for this type of phenomenon.

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Part II
**Cruise Design: Business Models,
Destinations & Products**

Chapter 4

Rise of Alternative Business Models in the Era of Expensive Megaships

Mehdi Mozuni and Wolfgang Jonas

Abstract Ships build the main structure of cruising businesses of any kind. Their technical attributes are determined in advance to fulfill the long-term business strategies of their respective operators. However, decision-making in terms of new orders will increasingly become an issue, as it is expected that two future trends will be inconsistent: ships growing in size (costs per ship) and the increasing pace of future changes (market uncertainty). This paper discusses the position of the ship among the cruising business architecture and compares it to similar business concepts with alternative enterprise policies and stakeholder-network arrangements. The alternative businesses are categorized in four models: Onboard Hospitality and Entertainment (OHE) Condominium/Residential Model (CM), Shore To Shore Floating Services (SSFS) and Limited Onboard Involvement (LOI). The models are then compared with each other through a Morphological Analysis (GMA) based on the role of the ship in their respective businesses. Multiple scenarios are generated, ranked and interpreted to demonstrate which configurations of different ship attributes will best match to the studied business models to be driven by cruise companies. The scenarios picture a 15 years perspective up to 2030. The results can be utilized by cruise providers as a business expansion strategy or a stock of alternative plans in case of a market shock.

Keywords Service innovation • Business model expansion • Cruise sector • Shipyard • Strategy design • General morphological analysis

4.1 Introduction

After abandoning the competition on a share in the long distance transports market to jet services in the 1960s and adopting a gradual service “transformation” (Jonas 2011) by offering excessive onboard-entertainment to their conventional transportation services, the sector proceeded its evolution in the 1980s and 1990s with the

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“economy of scale” policy (Rodrigue and Theo Notteboom 2012), i.e. bringing Mega Cruisers and a variety of on-board services into action.

Ships, building traditionally the main structure of the business, now claim a much higher proportion of the entire enterprise and a demand to long-term investments based on ship’s lifecycle. Their size, speed, interior architecture and other physical characteristics are to be determined in advance to fulfill long-term market prognoses and business strategies of their respective operators.

In this paper we try to (a) discuss the “economy of scale” and the growing “bug” in this business strategy, (b) shed light on emerging alternative business concepts and their stakeholder mechanism, and (c) estimate under which scenarios these new models might challenge the dominance of conventional cruising market by 2030.

4.1.1 Economy of Scale

During the last decade, large-scale business actions based on optimistic long term prognoses seemed to be favored in the sector. Owners of expensive liners were “eager to add bigger and pricier ships to trump their competitors” (Satchell 2014). However, iterative market shocks caused by post 9/11 effects, the financial crisis of 2007–2008 and the *Costa Concordia* disaster revealed a considerable bug in the cruising business model and the need to reconsidering the “economy of scale” policy: the bigger the ship, the more complex becomes a prognosis on its long-term lifecycle, and therefore, the riskier the investment for the operator and its associated investors. According to Saleth (2010) the 2009 overcapacities in European fleet was mostly due to the launch of new ships, ordered in the booming years of 2005–2006.

As for research and development, it seems that mainstream cruise providers still follow a “path dependency” paradigm, and lay the majority of their potential exclusively on developing the current business frames and rejecting or marginalizing alternative out-of-box business concepts. The result is a continuous global growth in average ship dimensions and subsequently in investment needed per vessel since 1990s without any remarkable innovation. The same trend applies to the border of technical possibilities, as the title of “the biggest Mega-cruiser of the year” held by a ship, is being taken by another one, shorter than expected (Fig. 4.1).

Between 2000 and 2015 the border of largest cruise ships has grown by 61 % in capacity and 64 % in the gross tonnage. From a financing perspective, an increase in building costs per unit would be connected to an increase in total business risk (in case of a market shock). Saleth (2010) discusses that the number of ship owners who can finance independently their new orders declines globally, and banks and other credit institutions gradually claim a bigger share.

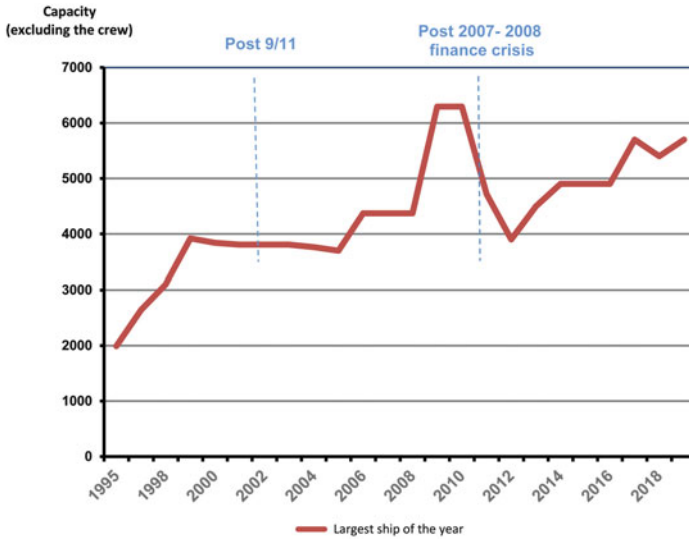


Fig. 4.1 Maximum capacity of the largest Megaship launching in a certain year. Reference: authors, based on CLIA data

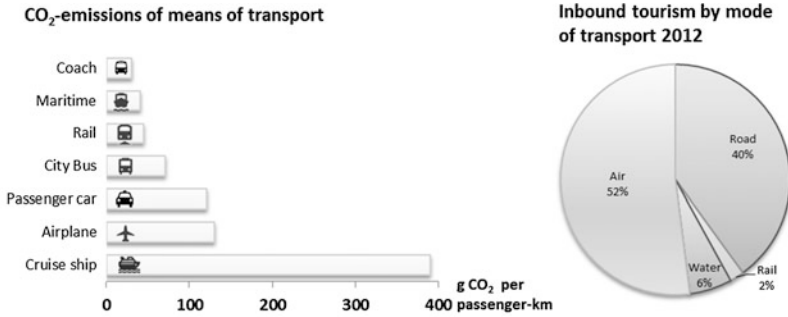
4.1.2 “Mega-Cruising”, an Unsustainable Model

The sector has drawn strong criticism for its negative ecological impacts and unsustainable tourism policies. According to World Tourist Organization, a sustainable tourism development should meet the needs of tourists and host regions by protecting and enhancing opportunities for the future. However, according to Saleth (2010), while maritime ways are still the most efficient services among international cargo transport systems, in the passenger section, cruise ships produce three times more greenhouse emissions than long haul airplanes (Fig. 4.2).

The difference between emissions produced by cruise and freight ships displays a deficit in the cruise business model regarding energy management. Interestingly, the root of inefficiency in the cruising concept is, unlike other tourist segments, most probably not in the transportation part but in hospitality services (Walnum 2001).

4.1.3 Growing Bug in the Business Model

New orders are strategic long term investments based on “actual capacity openings and proper financing terms”, says Stewart Chiron (Satchell 2014). While from one side the uncertainty inherent in tourism market barely allows cruise lines to have any prognosis of their future five financial years ahead, ships as the major tool of the



Source: Inrate (2013), based on data from European Environment Agency / UNWTO 2013: UNWTO Tourism Highlights, 2013 Edition.

Fig. 4.2 Market share and emissions of cruise sector, compared to other modes of transport. Source: Spescha and Reutimann (2013) (Inrate Sept. 2013), based on data from European Environment Agency/UNWTO 2013: UNWTO Tourism Highlights, 2013 Edition

sector require to be planned for an operation mainly around two decades (Schmid 2010).

This shows that the current model might be a successful but nonetheless a sensitive cluster in tourism business which can easily fall into recession and overcapacity. As the ships grow in size, the bug exposes itself accordingly. In a struggle to avoid these issues, some start-ups and newcomers in the marine business have embraced new alternative business concepts, arguing that risking and initiating an entirely unproven new model, would not exceed the risk of ordering a mega-cruise and investing in the conventional cruising business.

4.2 Alternative Models

As mentioned, with mega-ships growing in size, the ability of cruise providers to finance their new ships will decline and their central role among the stakeholder network will probably be shifted to the banks and other finance investors. Banks will initiate new projects independently, change the setting of business model or stakeholder arrangements and even marginalize the administrative role of cruise companies.

In a struggle to keep the self-reliance, some start-ups and new-comers in the marine businesses have embraced new alternative business concepts, arguing that risking and initiating a totally unproven new model would not exceed the risk of ordering a mega-cruise and investing in conventional cruising business (McCartan and Edens 2013).

There are different semi-cruising business models practiced by ship-owners, having two characteristics in common: first the ship being the main appliance of the business and second serving to end-users. They differ basically in the position of

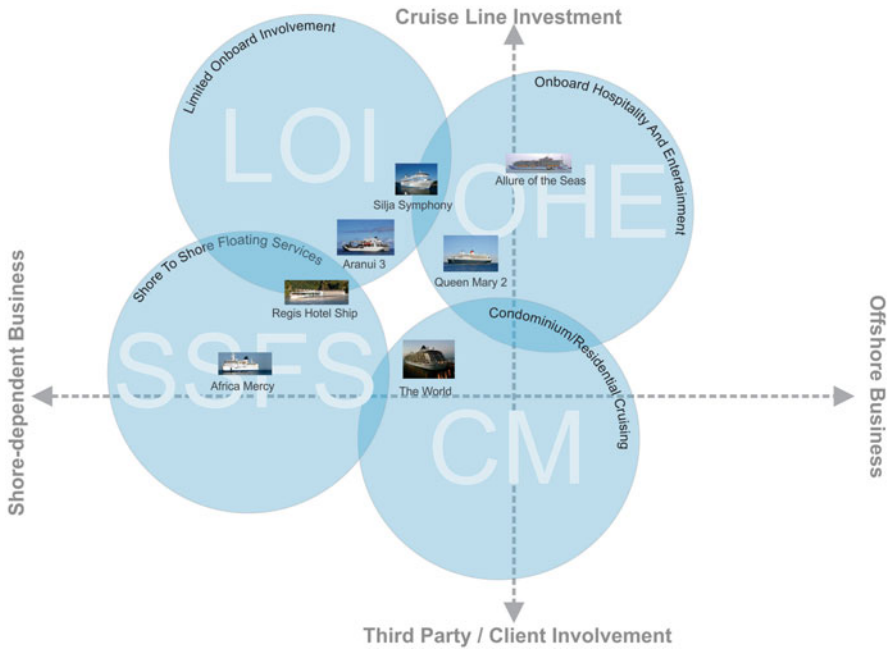


Fig. 4.3 Current cruising business model and its adjacent domains

the ship among the business architecture and their enterprise policies and stakeholder-network arrangements (Fig. 4.3). In the conventional model, such as in Royal Caribbean, the cruise provider owns the ship and is responsible for the entire business capital, others e.g. “The World” share the investment with their clients or third part investors. In terms of mobility a series of businesses are shore-oriented and the vessel serves basically as transporter, therefore vessel’s mobility range and speed are important, in return there is businesses in which the ship is itself the destination and transportation is of secondary value.

The model that is used today by major lines, is basically an evolution from the classic transportation services, especially the luxurious ocean liners with long travel schedules and passengers demand for gastronomy services. Today providing Onboard Hospitality and Entertainment (OHE) builds the core business of the mega-ship operators while the transportation part is seen essentially in charge for serving to entertainment. This policy has been dominating the North American market since 1970s and later the European market (Wild 2012).

A small but evolving niche is Condominium/Residential Model (CRM). In this concept the cruise line (or the ship owner) shares the ownerships with the users and in this way offers a floating residency and takes over the administration and operation of the cruise/residency program. ResidenSea operates MS-The World from 2002, the operation of Blueseed is scheduled for 2015.



Fig. 4.4 USNS Mercy-San Diego Bay. Source: blog.daum.net

Shore to Shore Floating Services (SSFS) is another less known business model in the maritime industry. This model is based on mobilizing conventionally land-based services on a floating infrastructure and is seen in commercial and non-commercial branches. “Mercy ships” with operating hospital ships and Regis Hotelschiff which provides floating event-hotels are of this kind (Fig. 4.4).

A service focused mainly on transportation and mobility services with no or Limited Onboard Involvement (LOI) is less favored among major liners, and is still widely driven by companies with small scale vessels i.e. ferries, expedition ships, etc. Here the ship’s dynamic and technical features such as speed robustness are crucial to the business.

Therefore, among cruise and semi-cruise businesses, ships can roughly be utilized in four models:

- Onboard Hospitality And Entertainment (OHE)
- Condominium/Residential Model (CM)
- Shore To Shore Floating Services (SSFS)
- Limited Onboard Involvement (LOI)

With the LOI being the pre-1960 model (passenger ships) and OHE representing the current model used by Mega cruises, the CM and the SSFS are relatively new to the sector. However, a majority of commercial ships are designed for providing dual services, but celebrate one model over the other one (Fig. 4.3). For example in

the ferry segment, the Estonian Silja Symphony with her tax free shops and spa facilities swings between OHAE and LOI, the ferry Villum Clausen of the Danish Bornholmerfærger stays loyal only to the LOI policy, eventually to be able to keep the title of fastest ferry in the world.

4.3 Business Model Comparison

In order to compare three alternative models with the OHE and evaluate their chances of getting a market share from it, we need to split each business into its ship attributes and evaluate their future potential. This is done via a General Morphological Analysis (GMA), which enables us to evaluate the performance of these four models when different megatrends occur.

In this inquiry GMA provides a multidimensional mathematical means for demonstrating possible permutations between the four selected business models from one side (Fig. 4.5), and their impact on four crucial ship attributes from the other sides, adding the time as the third dimension. The matrix helps us to judge under which future circumstances a certain business model can reach its optimal performance. Two software engines ScenLabv. 1.7 and MA/Carma™ are used for mathematical modelling and analyzing the relationships between these variables¹ and assigning the best possible ship attributes to either of four business models studied.

4.3.1 Ship Attributes

Ships are complex systems characterized by their attributes. Ship attributes are either assigned to dedicate a business concept or are a result of technical circumstances, or an outcome of both, e.g. vessel speed (Hauser and Clausing 1988).

Column A	BUSINESS MODEL BIASING	Realized sample
A1	Onboard Hospitality And Entertainment(OHE)	Mein Schiff
A2	Condominium/Residential Model(CM)	Ms World
A3	Shore To Shore Floating Services(SSFS)	Mercy Ships
A4	Limited Onboard Involvement(LOI)	Bornholmerfærger , Tallink Group

Fig. 4.5 Column A: Four domains of business models studied

¹ Ship attributes and business model.

The numbers of attributes assigned to a ship can increase to an unlimited quantity. In order to reduce the attributes to a calculable amount within our matrices, we reduce them to the four crucial ones: the ship's mobility (see column B), the ship's performance (see column C) the ship's capacity (see column D) and the ship's investment scheme (see column E).

4.3.1.1 Column B: Mobility Performance

Mobility is one of the crucial attributes of a vessel. It determines the main characteristics and functionalities of the ship (and the business) and is carefully decided according to the business intentions. For the majority of "party-ships", the voyage speed remains around 17 knots for the sake of fuel efficiency. In return for ferries and expedition ships, a fast speed up to 35 knots is essential to give them a better performance in the business. For service ships which might be stationary ashore for a long period of time, mobility is per se of minor importance.

4.3.1.2 Column C: Ecological Factor Emissions/Energy Efficiency (Passenger-Day)

Regarding ecological factors, three different policies can be applied, which consequently results in three different scenarios. These policies are not arbitrary but are an inevitable result of decisions in other domains like speed and capacity. The status quo of the current cruise model is between 169 and 340 kg per passenger-day (Walnum 2001; Howitt et al. 2010).

Among the four business models introduced, we identified four classes of mobility performances, which roughly embody all vessels present in the current maritime industry (Fig. 4.6).

We assume that a hypothetical offshore business should have a similar energy efficiency performance as its equivalent land-based business and place it as the second category (Fig. 4.7). A third category is also based on the assumption that with commercializing low-price generators of renewable energies, maritime units

Column B	Mobility performance and speed class	Sample
B1	Predominantly immobile	Mercy ships, blueseed
B2	Slow ferry class avg 15 ± 2	MF Storegut, MV Chetzemoka
B3	Cruise class avg: 20 ± 2	Oasis of the Seas
B4	Fast ferry class avg ≥ 35	MV Napa

Fig. 4.6 Column B: ship attribute, mobility performance categorized in four classes

Column C	Ecological factors: emissions/energy efficiency	Sample
C1	Minus (status-quo) worse than onshore	Island Princess
C2	Neutral (similar to an equivalent onshore activity)	The Float at Marina Bay
C3	Plus (better ecological factors than onshore)	Helios Cousteau

Fig. 4.7 Column C: ship attribute: ecological factors, energy/emissions rate

Column D	Average Capacity (capacity of crews and passengers per ship)	Sample
D1	Highly decrease (BPS \leq 150)	Blue & Gold Fleet
D2	Status quo (BPS \sim 3000)	Regal Princess
D3	Highly increase(15000 \leq BPS)	The Float at Marina Bay, Freedom Ship (concept)

Fig. 4.8 Column D: ship attribute: average capacity of crews and passengers per ship

will have a better access to energy resources, so that they will be even more efficient than land based activities (Olthuis and Keuning 2010:98).

4.3.1.3 Column D: Average Capacity (Capacity of Crews and Passengers Per Ship)

Capacity is together with the speed one of most determining attributes of a maritime vessel. In the cruise sector the average dimension of ships has almost doubled due to the economy of scale from 60,000 GT in 1999 to 110,000 GT by 2008 (Schmid 2010:199). From 2013 to 2016, a number of 22 ships have been scheduled to be added to the worldwide cruise fleet, providing 66,917 berths, which indicates a capacity of 3000 berths per ship (CLIA 2013). In the matrix input, we consider three conditions: a status quo (\sim 3000 BPS), a drastic raise (15,000 and beyond) and a drastic decrease (150 BPS and less) (Fig. 4.8).

4.3.1.4 Column E: Vessel Ownership

According to CLIA, shipbuilding has had a 25 % share of all expenditures of European lines (CLIA 2013:19). During 2013–2016 European lines will pay \$172 million for every 1000 beds, an average of \$520 million for every new ship. Since the recent decade, smaller providers have tried to overcome the dilemma of acquiring larger lucrative but risky ships by examining the condo model. Condominium strategy permits small providers to share shipbuilding costs and risks with

Column E	Cruise line investment share (for providing 1000 beds)	Sample
E1	CL entirely (m\$150-250/1000p)	Oasis of the Seas
E2	CL only administration (m\$5≤/1000p)	MS Grand Holiday (Weisman2005)
E3	CL partially owner (m\$ 5-150/1000p)	The World

Fig. 4.9 Column E: Share of cruise line in pre-investment for every 1000 beds

the cruisers. This is based on giving the passengers an actual resident status by enabling them to buy apartments and cabins on board. In the Column E we categorize the ownership status of the ship by ranging the investment share of the cruise provider itself between \$150 to 250 million for every 1000 beds. An extreme scenario of a ship being acquired by its residents and the cruise line shares less than \$5 million for only administration and operation of the cruise concept has been entered as second condition and a moderate situation of residents partially owning the ship is placed as the third condition (Fig. 4.9).

4.3.1.5 Mega trends

Regarding the importance of mega trends would the statement suffice that many current drivers present in the cruise industry have been identified as global trends one decade ago by trend research organizations. Due to heavy costs of adding new ships to the fleet and the long life cycle of ships, cruise lines are particularly obliged to have long term strategies and therefore are heavily reliant on trend researches to best “exploit opportunities, to keep up with the accelerating pace of change in technology and to improve business results” (Singh 2012:227).

In order to provide a trend input for a 15 years perspective by 2030, two studies from the Z-Punkt institute conducted on future of tourism are used (Burmeister and Jannek 2010; Z-Punkt 2012). Five related trends, which most probably will meet the cruise industry are extracted and entered in Columns F, G, H, I and J, respectively (Fig. 4.10). This permits opening up in the GMA² Inquiry beside business models and ship attributes a third dimension: the time perspective.

4.3.1.6 Calculating GMA Matrix

After reducing the data to a calculative amount, the most crucial key factors which can affect the cruise industry were entered as parameters to the GMA matrix.

²General Morphological Analysis (GMA) permits an easy visualization of the complex interactions between the business model and the ship attributes.

Mega Trends inputs		Source domain
Column F	Emerge of cheap renewable energy	learning from nature
		Energy Prices
Column G	Dominant one-person families	Individualisation
		Urbanisation
Column H	Fall of work / leisure separation	Digital culture
		New patterns of mobility
Column I	High level eco-tourism trend	Reorganization of healthcare systems
		Decarbonization
Column J	Fall of middle class in Europe (shift to wealthy china)	Demographic change
		New political world order

Fig. 4.10 Mega trends affecting cruise industry in medium term. Source: Authors, Z-Punkt (Die Zukunft des Tourismus (2010)/New Chinese Tourist In Europe from 2017 (2012))

Accordingly, three or four possible conditions³ were assigned to each parameter. The matrix consists of 10 columns of parameters. The first Column (A) is dedicated to the four types of business models identified i.e. OHE, CM, SSFS, and LOI (see Fig. 4.11). Attributes defining the ship functions are positioned from Column B to column E, each filled by minimum, average and maximum conditions. Columns F to J represent the megatrends, which will reflect a time perspective up to 2030.

Our matrix of problem complex consists of one column of business models with 4 possible conditions and four columns of ship attributes with total of 13 different conditions. Megatrends are also 5 items with two conditions each (occurs/not occurs). Therefore, there are 3456 mathematically possible solutions for each business model.⁴ After conducting a cross consistency analysis (CCA) this amount is reduced to 692 logically possible solutions.

³ The quantities entered as conditions are allocated according to the status-quo of the parameter and then the estimated maximum and minimum possible amounts.

⁴ For more details about algorithms and calculation procedures used in Scenlab and Carma engines see respectively Gauger and Stoffels (2007:21) and Ritchey (2011a:85) in a Parameter activity check, we fix a variable (e.g. fall of middle class in Europe) and see how the behavior of other parameters would change in the matrix. For more information see Ritchey (2011b).

Rows	Column A	Column B	Column C	Column D	Column E	Column F	Column G	Column H	Column I	Column J						
	Business Model Biasing	Ship Attributes				Megatrends										
1		Onboard Hospitality and Entertainment (OHE) (status quo)	Mobility performance	Ecologic Factors	average capacity	CL investment share	emerge of cheap renewable energy	dominant one-person families	fall of work/ leisure separation	high level eco-tourism trend	fall of middle class in Europe (shift to wealthy china)	occurs	occurs	occurs	occurs	doesn't occur
2	Condominium/ Residential Model (CM)	avg 15 ± 2 knots	Neutral	CPS ~ 3000 (status quo)	m\$150-250/1000p (status quo)	occurs	occurs	occurs	occurs	occurs	occurs	occurs	occurs	occurs	occurs	occurs
3	Shore to Shore Floating Services (SSFS)	avg 20 ± 2 Knots (status quo)	Plus	15000 ≤ CPS	m\$ 5-150/1000p	occurs	occurs	occurs	occurs	occurs	occurs	occurs	occurs	occurs	occurs	occurs
4	Limited Onboard Involvement (LOI)	avg ≥ 35 knots														

Fig. 4.11 The data source of GMA matrix consisting of 3 dimensions in 10 columns

4.4 Results and Discussion

A so called “parameter activity check” (PAC) in GMA Matrix gives us the answer to our initial question, under which ship attributes and in presence of which mega trends, our four studied business model could gain their optimal performance (Fig. 4.11).

If the economy of scale continues to grow in a linear trend, by 2030 there will be huge cruisers by over 10,000 passengers and 0.4 million of gross tonnage. Comparing results in Fig. 4.12 shows this won’t happen if even one of the mentioned five megatrends occurs.

This is understandable, since with the increasing costs of fuel and current growth rate, bigger and slower ships with a capacity of 9000 and beyond are needed, which in this case, only a fraction of cruise provider could provide the financing credits, and others will inevitably have to tend to the condominium model.

The share of banks in financing new ships has already started to increase meaningfully in the last 10 years. If this trend continues, the value of finance investors will exceed the value of ship operators among the business stakeholders. By 2030 banks might independently initiate new ship projects. As a result, ships will emerge with mixed ownerships of banks, cruise provider and private residents and having long term fixed cruising schedule (Fig. 4.13).

This scenario could be empowered by two global changes. Firstly, because of the emergence of digital societies, a separation of work and leisure time is not possible (see Column H). The higher middle class would tend to keep its virtual presence at work during the vacation period.

Second, when the European middle class fails to fill the whole capacity and ship owners have to face to the new coming market from China (see Column J).

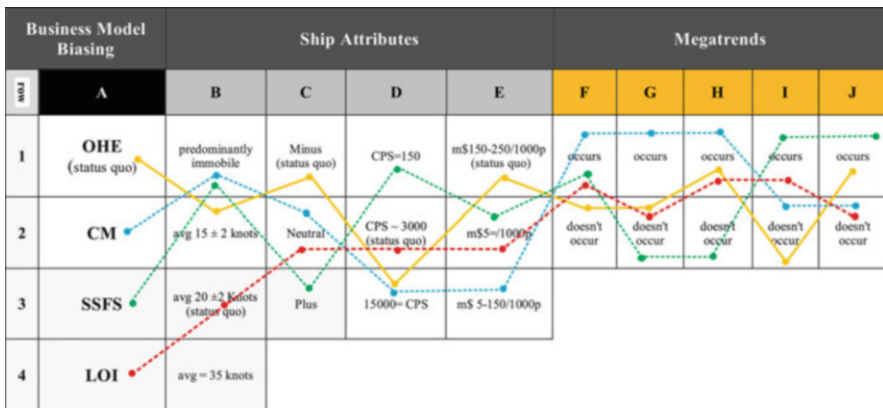


Fig. 4.12 Single driver parameter activity check, outlining optimal possibilities for either of studied business models. Source: Authors, ScenLab engine

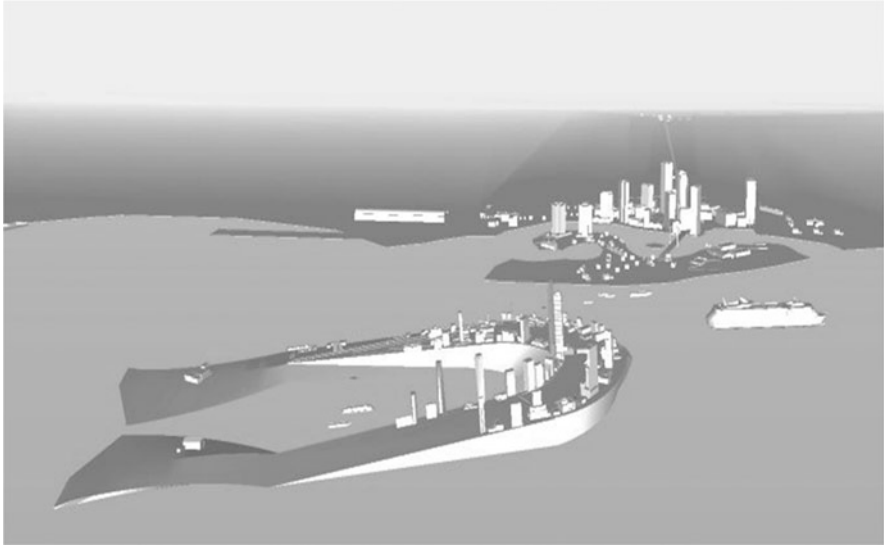


Fig. 4.13 Huge cruise ships with 15,000 beds and a joint ownerships plan illustrated by authors

Business Model Biasing		Ship Attributes				Megatrends				
Row	A	B	C	D	E	F	G	H	I	J
1	OHE (status quo)	predominantly immobile	Minus (status quo)	CPS≤150	m\$150-250/1000p (status quo)	occurs	occurs	occurs	occurs	occurs
2	CM	avg 15 ± 2 knots	Neutral	CPS ~ 3000 (status quo)	m\$5≤/1000p	doesn't occur	doesn't happen	doesn't occur	doesn't occur	doesn't occur
3	SSFS	avg 20 ±2 Knots (status quo)	Plus	15000≤ CPS	m\$ 5-150/1000p					
4	LOI	avg ≥ 35 knots								

Fig. 4.14 The optimal configuration of other conditions when OHE is locked_ Scenario produced by Carma Engine

These two trends will reduce the average of voyage speed and accordingly opens new capacities for onboard hospitality (Fig. 4.14—blue boxes show ideal circumstances).

For a business expansion biased to condo model or providing maritime residencies, the best scenario could be gained with a very large and slow ship with more than 15,000 beds and a speed of less than 5 knots, the ship being partially owned by the cruise line and has relatively good emission factors. CM will especially threaten the dominance of cruise providers, when the trend of the so-called one-person families escalates and individuals and small families are more flexible in choosing their residence style.

Very large ships tend to focus on their onboard entertainment and activities rather than destination-based activities. As a result, by 2030 there will be ships which abandon the multiple-coast-check program and offer long term ocean-only cruises. Artificial islands or ocean-stations will be also a new trend.

Shore to Shore Floating Services can gain more popularity, when the cruise line undertakes only the administration of a predominantly immobile ship with emission factors not exceeding local shore standards. If the business policy is to concentrate only on transportation services, optimal ship attributes are as follows: an average of 3000 beds or more, 20 knots of speed, and the share of cruise provider is less than \$5 million per 1000 beds, which is only dedicated to the administration of the ship, not to owning it.

The tool has proven its usefulness for a comprehensive and multi-dimensional elaboration of alternative cruise business models. However, the scenarios are raw innovation-oriented models. As a common approach in GMA inquiries, the findings can be consequently interpreted further and be upgraded to feasible strategies.

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Chapter 5

Port Dues as an Element of Cruise Port Competitiveness

Antun Asic and Tihomir Lukovic

Abstract During development of maritime cruise industry, cruise companies carefully selected attractive destinations for their itineraries. There are few studies about cruise ports and destinations suggesting that this element of cruising has been scientifically neglected. Simultaneously, researches on cruising indicate that there are two main motives supporting tourists' decision for choosing cruise tourism among many other tourist products. One of them is the pleasure of cruising and another one is visiting attractive tourist destinations. Both reasons are equally supported between decision makers, indicating equal research value. Analyses of cruise passenger consumption indicate a uniformity of cruise passengers' consumption on board the cruise vessel and in destination. Previous studies show that ratio between cruise price and cruise passenger expenses for port dues is from 1:3 to 1:4, meaning that total passenger cost contains cost of cruise trip and port dues. Port dues vary at ports and destinations therefore the decision of a cruise company to visit a specific destination is also influenced by port dues. Accordingly, subject of our study are port dues as an element of cruise port or destination competitiveness. Purpose of this study is to promote research of cruise passenger port dues expenses which has not been studied in the past. Simultaneously, our goal is to evaluate port dues in correlation with attractiveness of cruise destination. Logical hypothesis set up on the basis of aforesaid, is that any increase of port dues directly affecting cruise passenger expenses has substantial influence on selection of cruise destination. Our study will show whether or not, how and to which extent the port dues influence port competitiveness.

Keywords Cruise destination • Decision • Dues • Port competitiveness

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5.1 Introduction

Cruise business, in terms of research on cruise passenger preferences, is based on the services provided onboard and the attractiveness of a destination. Between cruise ship and destination, in case when it represents the goal of travelling for tourists, there is a port, which should be specialised for acceptance of cruise ships, and, what is most important, it should provide destination visit for tourists. In order to properly accomplish the task, the port has its costs, and these costs are charged to the cruise company, i.e. passenger/tourist. It is exactly the problem of costs and their influence on decision to go on a cruise, which represents the subject of our research. The aim of this research is analysis of port cost structure and tourist dues in order to determine whether the increase of these costs would significantly influence the decision to travel. With regard to the circumstances and world economic crisis which have affected citizens' standards, the hypothesis to be tested in this research states that every cost increase would significantly influence the decision of a tourist to go on a cruise. In order to confirm or disprove this hypothesis, cost structure and cost contents analyses will be applied. Besides, cruise passenger survey will be carried out in order to reach the most objective conclusion.

5.2 Cruising Subjects as Customer Determinants

Cruise industry, as one of the sub-industries of nautical tourism, represents a phenomenon which has a broad sense in research as well as in practice. In nautical tourism the cruise industry is positioned as one of the three sub-industries, within which it demonstrates its own special classification.

Figure 5.1 shows the position of cruising within nautical tourism. In the smaller circle the ports for accommodation of large cruise vessels are indicated and they are the subject of our research. Hereby we must point out that cruise ships and ports are the main objects on which cruise tourism relies. It should also be noted that, in this particular research, we are dealing with ocean cruise ships and sea ports, although it should be emphasised that river cruising is not less significant. Therefore, cruising should be explored in a much broader sense than it has been in practice, i.e. most research studies deal with large ocean-going cruise vessels. Cruising is still much more than that.

It was especially important to focus our research on the ports accepting large cruise vessels due to the following reasons:

- There are few studies where the subjects of research are ports accepting large cruise vessels, at least in Europe.
- Ports are facilities which connect the cruise ship to a destination, and we must not forget that destinations are a crucial element in cruise business, as well as an important cruise tourist's motive.

NAUTICAL TOURIST INDUSTRY				
Secondary types	MAIN TYPES			SUPPLEMENTARY
	Ports of nautical tourism	Charter	Cruising	
<ul style="list-style-type: none"> • Diving • Surfing • Diving-bells • Rowing • Robinson tourism • Lighthouse tourism • Etc. 	<ul style="list-style-type: none"> • Anchorage • Moorings • Dry Marinas • Marinas: <ul style="list-style-type: none"> ◦ 1st category ◦ 2nd category ◦ 3rd category 	<ul style="list-style-type: none"> • Motor yachts: <ul style="list-style-type: none"> ◦ with skipper ◦ no skipper • Sailing Yachts: <ul style="list-style-type: none"> ◦ with skipper ◦ no skipper 	<ul style="list-style-type: none"> • Cruisers: <ul style="list-style-type: none"> ◦ worldwide cruisers ◦ local cruisers (old timers) ◦ daily cruises ◦ longer cruises 	<ul style="list-style-type: none"> • Ports of call for cruisers: <ul style="list-style-type: none"> a) Ports for large cruisers: <ul style="list-style-type: none"> ◦ specialised ports, members of "MedCruise" ◦ non-specialised ports b) Ports for local old timers: <ul style="list-style-type: none"> ◦ shore ports in small places, ◦ island ports
	SUBJECT OF RESEARCH			

Fig. 5.1 Classification model of nautical tourism industry according to activity (Source: Prepared by the author T. Lukovic)

Cruise price consists of three segments which are contained in tourist budget when deciding to go on a cruise:

- Cruise price, which is determined by cruise company, i.e. cruise ship,
- Budget at tourist’s disposal for consumption on board and in a destination and
- Port fees and charges (dues), which are charged to the tourist on board.

Therefore, it is necessary to give more attention to the segment of ports in future research. From the aspect of the tourist, the first part of the budget, which the tourist is planning upon decision to go on a cruise, represents the price formed by cruise ship, i.e. cruise company, when creating cruise route. This price has a wide range, from low to high, depending on the comfort bought by the tourist, which makes it attractive at the time when the tourist decides to go on a cruise.

The second part of the budget, planned by the tourist, represents the assets which the tourist is planning to spend on a cruise. In this part, the width of planned assets for consumption is divided into consumption (1) on board and (2) in a destination. The research studies show that these assets, depending on purchasing power of the tourist on cruise ship, vary in a wide array from almost 0€ up to 9.000€ per passenger (Lukovic and Bozic 2011).

The third part of the budget, planned by the tourist, which still ultimately, along with two prior parts of the total budget, influences the decision to go on a cruise, relates to port dues (fees + charges), which are also charged to the cruise passenger. In this part cruise ship management adapts the distribution of port dues to the cruise price according to the principle “the higher the price, the higher the port dues per passenger”.

Therefore, when going on a cruise, the passenger forms the budget and plans it according to three cited parts. Since the subject of our research is precisely the third part, it is necessary to explain it better. During creation of the cruise tourist product, cruise route, the cruise companies, i.e. cruise ships, form the route on the basis of the destination attractiveness. Hence the destination attractiveness is the basic factor for the product formation and the cruise prices. It should be taken into consideration that the port for acceptance of cruise vessels is the basic connection between the cruise ship and the attractive destination. This means that for the cruise company, as well as for the tourist who plans and forms the budget, the level of port dues represents an important fact. However, the manner in which this value is formed in its entirety is not equal for the cruise ship and for the tourist. The cruise ship observes port dues, their items one by one and each one respectively, which is important, while the tourist receives the information as a unique whole value without the possibility of insight and influence on its segments. They have in common only the fact that they both find their interests if that value is as low as possible! Here a question is raised: to which extent and how does the cost of port dues manifest on tourist's decision to go on a cruise, and how on the cruise ship's decision to include or exclude a certain destination from its offer?

5.3 Structure of Cruise Price as a Travel Decision Factor

Research studies show that total cruise cost, i.e. budget formed and planned by a visitor, is not inelastic (Lukovic and Bozic 2011). The price in its entirety, however, for a large number of tourists, is decisive when deciding to go on a cruise. This can be seen by a wide range of planned expenditures, i.e. budget, as well as by other results, for example, 1/3 of the passengers cruise for pleasure on board, 1/3 for visiting a destination and 1/3 is indecisive, so they consider both destination and cruise ship equally important. It is exactly in this area that the competitive relationship between cruise ship and destination has occurred, and the same research studies demonstrate that in the domain of the part of the budget which covers expenditures on board and in a destination, consumption is so far equally distributed. While 50 % of that part of the budget remains on board, the other 50 % is distributed among destinations with huge differences reaching a ratio of 1:3 (Institute for Tourism 2006). Having studied the development of consumption phenomenon, we came to the conclusion that in the competitive relationship of "cruise ship vs. destination", the destination is slowly losing. There are various reasons for this phenomenon and they imply that destination management is weaker than cruise ship management. This issue opens the problem area of overall costs related to a destination, from the aspect of the cruise ship and from the aspect of the tourist.

Logically, the attractiveness of a destination should be reflected through the cost of port dues for the cruise ship as well as for the tourist. Here it must be taken into account that cruise ship management, when creating the product, for example a 7-day cruise, must consider port dues in each destination, and judging by that fact,

decide whether to include a certain destination in the offer or not. On the other hand, the tourist is informed about the total cost of port dues which should be considered in the stage of planning the budget.

In order to analyse and compare port fees, it is necessary to identify, explain and compare them in their equalities and differences among the cited ports. Port dues referred to in these papers that are charged to the tourist—cruise passenger, consist of (1) port fees and (2) port charges. Port fees have a tax character and represent port authority revenue, while port charges are expenditures of a cruise ship which refer to private sector services. The question is: do the port fees reflect the attractiveness of a destination or not, and if not so, why? Previously we have assumed that they should, but it is still to be analysed whether they do or do not reflect it. The best way to answer this question is to carry out a case study research. We shall analyse cruising in the Adriatic. Cruising in the Adriatic is set due to two world elite cruise destinations, Venice, at the north point and Dubrovnik at the south point of the Adriatic. Surely they are preceded by the attractive tourist destination of Athens, but we shall concentrate on the comparison of Venice and Dubrovnik. Both destinations are generally equally famous worldwide. Both destinations possess their own well-equipped port infrastructure for large cruise ship accommodation, and they continue to invest in development of port receptive facilities. A significant difference which occurs in these two ports lies in constructed superstructure, due to the fact that Venice has developed superstructure for acceptance of cruise passengers, while Dubrovnik still has not. Both ports are at the very top among Mediterranean cruise ports, and both ports are in the group of top-10 world cruise ports according to the number of cruise calls. Therefore, it is to be assumed that their port dues are very similar, if their management is well executed. Is that the case? The analysis carried out by MedCruise association shows that there are huge inequalities in port dues of the cruise ships, i.e. ultimately of the tourist (Tercek 2010). There are especially major differences in port dues of the most attractive destinations in the Mediterranean: Venice, Athens and Dubrovnik. A huge part of cruise itineraries is based exactly on these destinations. The analysis carried out by MedCruise is amended by the latest data and new research which has witnessed the same differences.

As shown in Fig. 5.2, total port fees of a cruise ship, i.e. tourist on a cruise ship, at the port of Venice amount to a total of 26.462€ on average/per cruise ship, while at the port of Dubrovnik these costs amount to 10.847€. Therefore, it is obvious that the dues per passenger are in the same proportion. The question arises regarding port dues distribution per passenger. Generally speaking, port dues in the total budget of obligatory tourist dues (cruise price + port dues) vary on average for about 30 %. However, this average does not show the real state of cruise passenger/tourist charge. For analysis purposes we shall set four groups or cruise ship supply levels (Fig. 5.3).

Therefore, port dues which form approximately 30 % of obligatory tourist dues are distributed in the ratio 1:2.5 between Dubrovnik and Venice. The question is why is that so and what would happen if that disproportion were to decrease.

	Vecine (€)	Dubrovnik (€)
Lumpsum fee	695.56	550.00
Port fee per GT	-	6,528.00
Passenger fee	12,274.93	-
Security surcharge	3,227.46	-
Boarding bridge day	911.69	-
Pilotage	2,400.62	928.87
Mooring/unmooring	1,250.00	770.26
Lights/anchorage dues	1,195.31	1,920.00
Towage 2 tugs	4,224.46	-
Garbage removal min. charge	282.00	150.00
Total (Σ)	26,462.03	10,847.13
Index Venice/Dubrovnik	243,95	

Fig. 5.2 Simulated comparative analysis of port dues at the ports of Venice and Dubrovnik for a 64.000 GT cruise ship with the capacity of 1.917 passengers (*Source*: Processed by the authors Antun Asic and Tihomir Lukovic)

Category of cabins	Share of port dues (%)
Balcony Superior	15-20
Balcony	20-25
Window	25-30
Interior	40-30
\emptyset	30

Fig. 5.3 Share of port dues in the total amount of obligatory dues of a tourist on a cruise ship (*Source*: Prepared by the authors Antun Asić and Tihomir Luković according to MSCCruises data)

5.4 Port Dues in the Function of the Tourists' Decision

The reasons for disproportion in tariff schedules of these two ports should be sought in the organisation of the port business activities. The port of Dubrovnik is a landlord port whose owner is in charge of using the infrastructure, but the superstructure is still not developed. The port of Venice is a port in private property with elements developed, both infrastructure and superstructure. The elements of superstructure in private property offer the possibility of providing additional services to passengers and cruise companies. In this way, port tariffs “flow” between port fees (infrastructure fee) for quay usage into a set of port charges for additional services, thus enabling the flow of costs for cruise ship at the port from cruise company onto the passenger. Private sector as the carrier of concessions at the port of Dubrovnik still hasn't developed the elements for added value supply which it could offer to passengers; therefore the construction of a passenger terminal represents a prerequisite for providing added value services.

On the other hand, at the port of Venice, cruise companies negotiate with one dominant partner who provides the most important services to passengers and ships with a spectrum of services which allow negotiation flexibility. At the port of Dubrovnik cruise companies have a partner relationship with the port authority, prices are defined on the basis of cruise ship GT, regardless of the number of passengers on board and concessionaires only provide basic port services without any significant added value.

The question arises: what would happen if the port of Dubrovnik, meaning both cruise ports, would increase the existing port fees and charges? The analysis conducted has shown that total average port dues expense within tourist's budget for a cruise, is around 30 %, but ranging from 15 % up to 40 %.

The tourist balances the budget by adjusting the cabin quality, and the cruise ship offers a large enough selection of types and quality of cabins, in order for the tourists to adapt the quality to their budget, but also to the decision "to go or not to go on a cruise and satisfy the needs in an alternative way for the same amount of money, because an alternative always exists, even for cruising". Therefore changes in obligatory dues need to be approached with caution. For such analysis it is necessary to take into consideration that the average port dues amount to around 14.850€ (Tercek 2010), which means that Venice is 78 % above the average, and Dubrovnik is 27 % below the average. Simultaneously, if we should take a simple Adriatic route, from Athens to Venice, with five ports for example, it means that Venice participates in the total port dues with 45 %, and Dubrovnik with approximately 20 %. The question is how much would the increase of port dues influence the tourist in total, if Dubrovnik would increase port dues by 50 %? It is very easy to calculate that if Dubrovnik would increase port dues by 50 %, the total port dues would increase only by 10 %.

The question arises: would the increase of port dues at the port of Dubrovnik significantly influence the decision to go on a cruise?

5.5 Port Dues in the Function of the Cruise Company Decision to Call Dubrovnik

The surveys carried out in Dubrovnik within the past few years (2010, 2011, 2012 and 2013), show that the question "Are you satisfied with Dubrovnik call?" is answered in 10 % of the responses for the mentioned years with the same answer: "No, but we will certainly return, though not by cruise ship". If we ignore the fact that such an answer opens the problem of the whole cruise industry existence and development, for our research it means that Dubrovnik is the target destination for the majority of cruise passengers. This very fact may serve as justification to seriously consider increasing port dues in Dubrovnik. Nevertheless, it is necessary to approach this problem with utmost caution because it represents a significant item in the tourist's planned budget when deciding to go on a cruise. Precisely for the reason to avoid the possibility of the port fees increase to jeopardize the decision

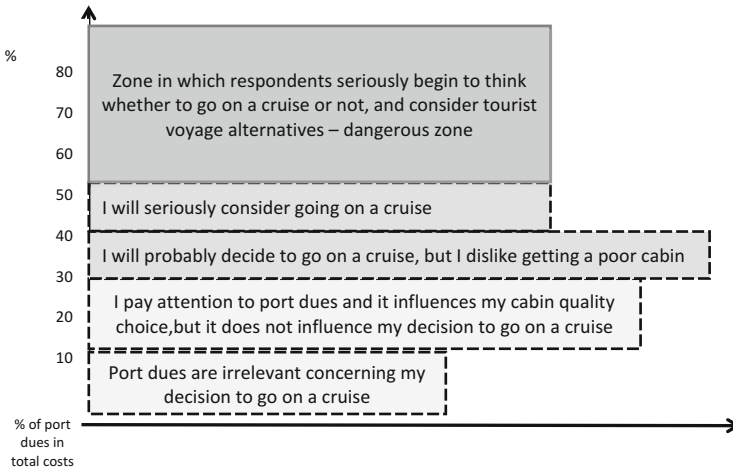


Fig. 5.4 Port dues in the function of decision to go on a cruise (*Source*: Prepared by the authors Antun Asić and Tihomir Luković according to the survey carried out in autumn 2013)

to go on a cruise, the research has been conducted to identify how the increase of port dues would reflect onto decision to go on a cruise.

For the purpose of this conference, the research was carried out in Dubrovnik in autumn 2013 on a sample of 200 cruise passengers showing some interesting results (Fig. 5.4).

As shown, the survey indicates that if port dues participate in overall dues up to 15 %, they are almost not considered at all as a factor in decision making to go on a cruise. Even though they enter between 15 % and 30 % of port dues share in the overall obligatory dues budget, the reflexion and calculation begins in relation with “port dues and cabin quality”. In case that port dues combined with cabin quality exceed 30 % and reach up to 40 %, the tourist will probably decide to go on a cruise, but most likely on that occasion he will have to choose a poor cabin quality. If port dues should enter the zone between 40 % and 50 %, in that case consideration of cruising begins: “to go or not to go”. If they enter the zone of over 50 % of the port dues share, then the cost of port dues significantly influences the decision on cruising, contemplating the option “I will not go on a cruise”.

5.6 Conclusion

Port dues currently do not significantly participate in the decision to go on a cruise, and despite the global crisis cruising testifies favourable further developments. The differences within the cruise industry, especially in the ports and port dues, i.e. fees and charges, are therefore very pronounced.

In the Mediterranean, especially in the Adriatic region, cruising occurs due to two historical elite tourist destinations, Dubrovnik at the entrance of the Adriatic and Venice at the uppermost point of the Adriatic. Given the importance of tourism, there are no significant differences in the attractiveness of these two destinations, but they differ in the port dues. The reasons for this lie in the fact that business profitability of the port of Dubrovnik is not a business priority, indicating that it is a transition country.

The research carried out and presented in this paper, does not confirm the hypothesis that the increase of the port dues automatically influences the unfavourable decision to go on a cruise trip. The reasons for this are multiple. The first reason is that the budget formed by the tourist consists of three parts, out of which two are fixed—the cruise price and port dues, and one is variable—expenditure in the destination and on board the cruise ship. Within the fixed part of the budget, a combination of cabin price and quality is possible, which is highly differentiated, and the port charges which are to some extent related to cabin quality. However, the research carried out indicates that the existing relation of the port dues and the cruise price does not endanger the decision to go on a cruise, but certain significant disorder of that relation could visibly affect it. Nevertheless, the increase of the port dues at the port of Dubrovnik, even if reaching 50 %, would remain within the acceptable framework and budget and it would not endanger the decision to go on a cruise.

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Chapter 6

Cruise Tourism in Northeast Asia

Hyunju Lee

Abstract Northeast Asia consisting of China, Japan, and South Korea has recently shown a phenomenal growth in the cruise industry. Chinese demand for cruising has been increasing significantly and South Korea has strengthened its position as a ‘must-visit’ destination while the Japanese cruise industry is ready to welcome another period of prosperity. Yet cruise tourism in this region remains untapped. This paper aims to shed light on the current scenario in the industry by reviewing the past and outlining the existing situation in the core markets. The paper, thus, is the starting point for insights into the region and provides the foundation for further research. Both an extensive literature review and interviews on experts were performed to fulfil the purpose of the research.

Keywords Cruise industry in Northeast Asia • China cruise industry • Japan cruise industry • South Korea cruise industry

6.1 Introduction

Asia’s cruise industry has become significant as both a cruise destination and a source market. Traditionally, Asia is divided into the Southeast and Northeast regions; the main cruise markets in the Northeast are China, Japan, and South Korea.

According to the Cruise Line International Association’s (CLIA) recent report, the cruise capacity supplied to Northeast Asia in 2013 reportedly took up 3.4 % of the total worldwide cruise capacity, expected to increase up to 4.4 % the following year. The Chinese cruise market, the largest within the region, is anticipated to rank second after the U.S. by 2017, according to World Travel Market and Euromonitor International. South Korea, another main market, has been attracting more cruise ships, gaining reputation as a ‘marquee’ destination, while Japan is making concerted efforts to revive its cruise tourism.

In spite of this, Northeast Asia’s cruise industry is still relatively unknown; studies on the cruise industry have so far focused on North America or Europe

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where the industry has been thriving (Wang et al. 2014). As for the region's cruise industry, apart from in-depth analysis, even access to relevant information is hard to come by. This is not only because of the absence of an association in the region such as CLIA North America, which fosters a safe and secure cruise environment, but also for the fact that the industry is still in its infancy.

This paper aims at providing an overview of Northeast Asia's cruise industry, focusing on China, Japan, and South Korea by integrating the available literature and statistics. As part of the study, qualitative semi-structured interviews were conducted with several industry experts.

The main questions for this research were how the cruise industry of the region has evolved and what its future prospects are. The findings of the study helped us obtain an insight into Northeast Asia's cruise industry that has been shrouded in a veil.

6.2 Development in Northeast Asia Cruise Industry

6.2.1 *International Suppliers*

The pioneer cruise liner was Star Cruises, which decided to explore business opportunities in Northeast Asia after making its mark in the Southeast Asia market in the 1990s. In 1998, the company launched Superstar Taurus, which primarily targeted the Japanese and South Korean consumer markets, homeporting at Pusan in South Korea and Kobe, Fukuoka, in Japan. In 2003, however, the company decided to withdraw from the region due to a massive deficit, which primarily resulted from the operator's lack of understanding of the market, the consumers' unfamiliarity with cruise products, and worst, the outbreak of SARS in the early 2000s.

Star Cruises returned in 2013 with Superstar Gemini exclusively targeting the Chinese market. However, the company failed again to woo customers due to lack of competitiveness compared with other ships operating in the region. In 2014, the company is reported to have pressed its entire fleet to Southeast Asia and unmoored from Northeast Asia.

In 2006, Costa Cruises, one of the brands of Carnival Corporation & plc, cast anchor in the region with Costa Allegra, a 28,000 ton vessel, to capture the Chinese market. Since then, it has focused on augmenting its fleet with bigger vessels in accordance with market growth. Its liners—Costa Atlantica and Costa Victoria with a capacity of 2114 and 1928, respectively—have been sailing from Chinese ports since 2013. Costa Atlantica, offering four to six cruises to South Korea and Japan from March to December, is berthed in Shanghai mainly targeting the Chinese market while Costa Victoria is trying to diversifying its target markets by setting several ports like Shanghai, Tianjin, and Xiamen in China and Yokohama in Japan as a homeport.

Royal Caribbean International (RCI) made its appearance in the region in 2008 with *Rhapsody of the Seas*, mainly targeting the Chinese market. Arriving with a strategic vision similar to Costa Cruises, that is, explore the Chinese market, RCI has a competitive advantage over Costa Cruises in capacity and ship size. In fact, *Mariner of the Seas* and *Voyager of the Seas* equipped with innovative onboard facilities such as ice rinks, aqua theatres, and rock climbing walls are currently the biggest fleet in the entire Asian region. In 2014, *Mariner* is to sail from Shanghai to South Korea offering 3–5 day cruises from May to October while *Voyager* sails from Tokyo, Taiwan, Shanghai, and Tianjin from April to September.

Princess Cruises, which showed up in the region last, has been catering to the Japanese market since 2013. *Sun Princess* and *Diamond Princess*, in 2014, from three Japanese ports' Yokohama, Kobe, and Otaru; they offer nine different itineraries of 7–9 days, calling at South Korea, Taiwan, and Russia. Additionally, Chinese passengers can enjoy cruising from ports near their homes with *Sapphire Princess* making its homeport in China from May 2014. Tailor-made onboard services include world leaders' dinner menu and activities such as Tai Chi to meet the preferences of Chinese customers. The fleet is to set sail from Shanghai, offering 3–7 day cruises to South Korea.

Meanwhile, there are several other cruise lines such as Holland America Lines, Azamara Cruises, Silversea Cruises, Hapag Lloyd and so on coming to Northeast Asia. Yet most of them depart from ports in Southeast Asia, Europe, or North America, marketed to the local demand, and visit ports in the Northeast on an irregular basis. Therefore these cruise lines are not regarded as suppliers to the region in this study.

Table 6.1 shows deployments schedules of each cruise vessel of several major operators in Northeast Asia. As illustrated in the table, the cruising season in the region is from early spring until fall or early winter, with three main repetitive routes: China-South Korea (or/and Japan or Taiwan)-China, Japan-South Korea (or Russia or Taiwan)-Japan, Taiwan-Japan-South Korea-Taiwan.

6.2.2 Regional Cruise Operators

Considering cruise operators' discretion in selecting cruise ports (Gui and Russo 2011; Lekakou et al. 2009; Manning 2006), it may be crucial to encourage national-based cruise lines to boost a nation's cruise industry. For instance, *Harmony Cruise*, South Korean-based cruise line, entered service in 2012 with *Club Harmony* formerly named *Costa Marina*, targeting the domestic market by supplying itineraries to Japan. However, after its first year of business, it announced a temporary cessation of operations due to deterioration of profitability (MOF 2014) (Fig. 6.1).

Henna Cruise, China's first cruise line, launched its cruise business with *MS Henna* in 2013. The medium-sized ship with a passenger capacity of 1965 called *Carnival Jubilee* until 2003, and then renamed *Pacific Sun*. Initially, its cruise schedule was from Tianjin (a port city in northern China) to South Korea from

Table 6.1 Cruise ship deployment in Northeast Asia—2014

Operator	Name of vessel	Route	Length	Season	Main market	Sub-target market
Costa	Costa Victoria ^a	Shanghai-South Korea-Japan-Shanghai	4,5	March–October	China	Japan, South Korea, Taiwan
		Shanghai-South Korea-Shanghai	4			
		Shanghai-Japan-Shanghai	4,5			
		Tianjin-South Korea-Tianjin	3,4,5			
		Xiamen-Taiwan-Xiamen	4,5			
		Taiwan-Japan-South Korea-Taiwan	5,6			
		Tokyo (Yokohama)-South Korea-Tokyo	5,6			
		Seoul (Incheon)-Japan-Seoul	5			
	Costa Atlantica	Shanghai-South Korea-Shanghai	4,5	March–December	China	–
		Shanghai-Japan-South Korea-Shanghai	5,6			
RCI	Voyager of the Seas	Tokyo-South Korea-Tokyo	6	April–September	China	Japan, Taiwan
		Taiwan-Japan-South Korea-Taiwan	6			
		Shanghai-South Korea-Shanghai	4,5,6			
		Tianjin-South Korea-Tianjin	4,5,6			
	Mariner of the Seas	Shanghai-South Korea-Shanghai	3,4,5	May–October		
Princess	Sapphire Princess	Shanghai-South Korea-Shanghai	3,4,5,6,7	April–October	China	
	Diamond Princess	Tokyo-Russia-Tokyo	9		Japan	
		Tokyo-South Korea-Tokyo	9			
		Tokyo-South Korea-Taiwan-Tokyo	9			
	Sun Princess	Otaru-Russia-Otaru	7		Japan	
		Kobe-Taiwan-Kobe	8			

^aCruise departures from Incheon and Taiwan are chartered by local tour operators as a one-off itinerary

Source: Brochures and leaflets for domestic distribution; official websites of the cruise lines: <http://www.costacruises.com>, <http://www.rccl.com>, <http://www.princess.com>, <http://www.travelweekly.com>, <http://www.cruisetimetables.com>

Int'l Brands										
									Diamond(2,670)	
									Sapphire(2,670)	
									Sun(1,990)	
Princess Cruises										
									Gemini(1,530)	
Star Cruises										
RCI										
	Rhapsody (2,435)		Rhapsody (2,435)		Legend (2,076)		Legend (2,076)		Voyager(3,138) Legend(2,076)	
	Voyager(3,138) Mariner(3,114)		Voyager(3,138) Mariner(3,114)		Voyager(3,138) Mariner(3,114)		Voyager(3,138) Mariner(3,114)		Voyager(3,138) Mariner(3,114)	
Costa										
Allegra (820)	Allegra (820)	Allegra (820)	Romantica(1,356) Classica(1,680)		Classica (1,680)		Victoria (1,928)		Victoria(1,928) Atlantica(2,114)	
Atlantica(2,114)		Atlantica(2,114)		Atlantica(2,114)		Atlantica(2,114)		Atlantica(2,114)		
2006 2007 2008 2009 2010 2011 2012 2013 2014										
Japan: MOL, JCP, NYK, Crystal Cruises										
Domestic Brands					South Korea: Harmony Cruise					
					China: Henna Cruise					

Fig. 6.1 Cruise capacity in Northeast Asia (Note: Capacity shown below is based on a lower berth and domestic cruises such as coastal cruises and river cruises are excluded). Source: Brochures and leaflets of the cruise lines for domestic distribution; MOF, 2014

April until November and between Sanya (the southernmost port city on Hainan island in China) and Southeast Asia in winter. However, in September 2013, the ship was detained at Jeju port (South Korea) by the local court over a financial issue. In the aftermath of the incident, South Korean ports were excluded from the cruise routes (Henna Cruises 2014).

Japan’s cruise industry has a relatively long history compared with its neighbours. Among the national-based cruise lines are Nippon Yusen Kaisha (NYK), founded in 1989, with Asuka II (50,142 ton) formerly named Crystal Harmony, and Crystal Cruises, wholly owned subsidiary of NYK, operating Crystal Symphony and Crystal Serenity, targeting the international market. Others include Mitsui O.S.K. passenger line (MOL) started in 1990 which owns Nippon Maru (22,472 ton), and Japan Cruise Line (JCL), set up in 1990, with Pacific Venus (26,594 ton) offering from short voyages to a world cruise exclusively catering to domestic demand.

The year 2014 saw seven cruise ships from three main cruise operators in Northeast Asia with 17,614 lower berths. It is noteworthy that none of the local-based cruise ships in both China and Korea sailed, whereas local operators in Japan kept their cruise business afloat.

6.3 Methodology

Generally, cruise itinerary planning begins up to 2 years in advance (G.P. Wild (International) Limited (GPW) and Bermello 2002). Yet itineraries departing from Chinese ports have made an exception. Costa Cruises had not yet confirmed its 2014 sailing-from-China schedules until February the same year. Even if schedules

are provisionally fixed, last-minute modifications in routes occur at times. This is largely due to instability of the cruise industry and diplomatic rifts between China and Japan. Furthermore, local tour operators who charter a vessel from either Costa or RCI are sometimes granted rights to select ports; these rights result in discrepancies between originally planned itineraries and practically sailed ones.

For this reason, people who actually possess accurate information about cruise itineraries is limited to of the following groups: firstly, inbound tour operators who arrange land-based tour services in each port; secondly, shipping agents who look into the immigration process; thirdly, cruise lines' shore excursion managers; and lastly, general sales agent (GSA) of cruise lines.

For the purpose of this research, the author selected eight experts currently working for any of these groups in Korea. Of the eight experts, five agreed to be part of the research for which qualitative semi-structured interviews were conducted by e-mail, telephone, and real time chatting between December 2013 and January 2014.

The interviewees comprised three inbound tour operators based in South Korea; an executive manager from L tour, one of the official land operators of Costa; CEO of C company, shore-excursion programme provider of Crystal Cruises, Hapag-Lloyd, Oceania Cruises, SilverSea Cruises, and Japanese liners; and a senior manager of A tours, official tour operator of RCI. Additionally, Costa Atlantica's shore excursion manager and CEO of Korea's GSA for RCI were interviewed. The two from L tour and A tours affiliated with Costa and RCI, respectively, were asked to forward the practically sailed cruises and charter departures as well. All the interviewees were also requested to describe in detail the current cruise business circumstances, the distribution system within the region and features of cruise products in terms of onboard service, itinerary, crew, and shore excursions. The length of the interviews depended on the interviewee's area of work and the interview lasted until all the queries were answered and doubts clarified.

6.4 Core Markets in Northeast Asia

6.4.1 Welcoming 'Cruise Golden Era'

6.4.1.1 Development of the Chinese Cruise Market

The rapid growth in Chinese outbound tourism, with an average growth rate of 16.9 % between 1999 and 2011 (CNYA 2013; Chon 2010), makes China both a strong source market and a destination in the global cruise industry.

The main cruise ports in China are Shanghai, Tianjin, Sanya, Xiamen, and Hong Kong. Shanghai, the most flourishing cruise port, has witnessed rapid growth over the years, receiving nearly 600,000 inbound and outbound cruise passengers in 2013 (China Tourism 2013). In all, 285 international cruise ships departed from or visited Chinese ports, and the number of cruise passengers departing either from

Shanghai or Tianjin was estimated up to 660,000 in 2012 and 1 million in 2013 (CCYIA 2013). Furthermore, Shanghai General Station of Immigration Inspection expects more than 550 ships to visit in 2014, and this figure is likely to increase up to 2 million by 2020 (China Tourism 2014).

In keeping with the cruise boom in China, an 83-day world cruise, departing from Shanghai in March 2014 was announced early in 2013. The route had 23 ports of call in 16 different countries on 5 continents across three oceans. The cruise, however, did not materialise due to lack of demand for such a long journey. Nevertheless, the Chinese cruise business is expected to reach 4.5 million by 2017 and become the second largest cruise market after the U.S. (CCYIA 2013).

Meanwhile, the Chinese tourism industry, especially outbound tourism, relies heavily on central government support and policy (Mondou and Benjamin 2012). When Coast Cruises made its debut in the region in 2006, there was neither cruise infrastructure nor recognition of this new form of tourism. With rising awareness of the cruise industry's significance in China's economic development, the government has declared mid- and long-term implementation strategies to boost the industry. In 2008, the government declared 'Directions on China's cruise industry development' to generate domestic cruise demand; in the following year, the Council of International Affairs supported it by claiming the necessity to develop the cruise industry. In October 2010, the Ministry of Transport and Communications has officially announced five plans for developing the industry. These include allowing foreign cruise lines to make more stopovers in China after government's approval and to establish and manage an independent department in China. On its part, the government intends to build port infrastructure for cruise ships for the next 12 years (IPA 2013; Mondou and Benjamin 2012).

The government's support in port infrastructure has resulted in upgrading of several cruise ports like Shanghai and Tianjin. Shanghai today has the capacity to deal with a customs clearance of 608,000 a year with two international ship berths; this development resulted in the increase in numbers of visiting ships and passengers in 2014 (China Tourism 2014). Founded in 2006, the China Cruise & Yacht Industry Association (CCYIA), an organisation affiliated with the National Association of Secondary Development and Reform Commission, performs research in cooperation with the government, academics, and industry for formulating relevant laws, administrative regulations, industry policies, and standards in the cruise industry (CCYIA 2014; IPA 2012).

6.4.1.2 Distribution System

Cruises organised from Chinese ports rely heavily on a few major domestic tour operators (MDTOs). The majority of RCI and Costa cruises in China are circulated by MDTOs; in fact, RCI and Costa do not have to their credit any cruises that have been chartered wholly or partially by them. It was reported that in 2013, nearly 75 % of Costa voyages in July and August and 64.3 % of Costa Atlantica journeys from May to July were wholly chartered by MDTOs. Costa Atlantica's world cruise

originally planned to set sail in March 2014 was also chartered and programmed by Shanghai Airline Tours, an MTDO and a division of China Eastern Airlines. Even most of the non-chartered departures are also sold through MDTO's nationwide sales network. In short, what the international cruise lines sell in China is not cabins but ships, and their precious guests are not travellers but MDTOs. For this reason, information regarding cruises departing from China is scarce on the homepages of cruise lines.

MDTOs take full responsibility (and risks as well) for sales and marketing of ships they charter. Poor sales performance means loss of profit; thus all sales networks and resources converge on one aim—'selling out'. In a desperate bid to fill all berths, marketing gimmicks such as slashing prices are employed, resulting in generating demand in a positive way. However, the excessive pressure on sales has its tradeoffs with compromises made on the menu, the language spoken onboard and the destinations covered to lure more Chinese customers.

With communication cited as one of the most serious concerns by Chinese outbound travellers (KTO 2012), cruise lines have hired Chinese-speaking staff to mitigate the language barrier onboard. Following this, more than 80 % of crew members on the two Costa ships—Costa Atlantica and Costa Victoria—from F&B and hotel department to most of the head positions such as information desk managers, safety officers and cruise directors have gradually been replaced by Chinese.

At times, MDTOs are granted the exclusive right to choose a land operator, although subject to each contract, for organising shore excursion programmes. They, thus, often sell their products in the form of a package, combining cabins and shore excursion programmes. This arrangement is beneficial to both the MDTOs, who can garner maximum profits, and Chinese cruisers, who can enjoy shore excursion tours in their language.

Under this oligopoly distribution system in the China market, cruise products in China have inevitably accelerated the tendency toward being localised both on board and on shore. This may result in diminishing not only the multi-national nature of the cruise,¹ which is regarded as one of the attractions, but also in creating a new cruise concept 'of the Chinese, by the Chinese, for the Chinese'.

6.5 South Korea: A Marquee Destination in Northeast Asia

Cruise tourism in South Korea took off in 1998 with cruises to Mt. Kumgang, a special administrative region of North Korea. This trip inspired Star Cruises to expand its business in the region; between 2006 and 2012, Pusan and Incheon were

¹ According to the managers of A tours and L tour, an absolute majority of the passengers on Costa and RCI ships departing from Chinese ports are Chinese whereas only a handful of Westerners are on board, who reside temporarily or permanently in China.

chosen as ‘semi-home ports’ on several select voyages of *Costa Victoria* and *Legend of the Seas*. This allowed South Koreans to embark and disembark at ports near their homes because all departures had originally designed to sail from Chinese ports mainly targeting the Chinese market.

During the cruise boom, Club Harmony operated by South Korea-based Harmony Cruises launched its cruise business in February 2012, catering to the South Korean market. The fleet set sail from Pusan offering an array of itineraries to Japan; however, after its first year, the company announced a temporary cessation of ship operations as the business had run into a deficit (MCST 2010).

South Korea’s relatively insignificant cruise demand when compared with China’s dramatic growth in the sector had suppliers turn to China; thus, since 2013 no South Korean port has served as a homeport. Some cruise lines have been skeptical about the business brought by their GSAs in South Korea, and it certainly needs a breakthrough as stated by the CEO of RCI’s GSA in South Korea, ‘We will have to prove the reasons of our being to RCI for the next few years.’

South Korea has been firmly positioned as a ‘marquee’ destination with a brand awareness and sites of known value while China and Japan constitute the largest source markets in cruising in Northeast Asia. It is noteworthy that in 2013, despite no cruise ship departing from any South Korean ports except two charter departures from Incheon, the number of cruise passengers visiting the ports was estimated to be nearly 650,000, exceeding by double the previous year’ figure when it was homeported by two cruise vessels: *Costa Victoria* and *Club Harmony*. Over one million cruise passengers are expected to visit the South Korean ports in 2014.

Despite South Korea’s limitation as a cruise home port, the dramatic growth in cruise passengers stems not only from its geographical location, but also from the benefits of sudden route modifications in the wake of the 2011 tsunami and diplomatic conflicts between China and Japan. Given the geographical locations of Pusan and Jeju, it seems inevitable for cruise ships departing from ports in either China or Japan and offering only 3 to 5-day itineraries to visit at least one port in South Korea for making the routes attractive and following cabotage rules. Additionally, the traditional enmity between China and Japan has been exacerbated by a territorial dispute over the Senkaku islands and the Japanese Prime Minister Shinzo Abe’s rightward policy over the last few years, which, in turn, has become beneficial to South Korea.²

Most of all, South Korea has cultural and natural beauty as a cruise destination. Jeju island—a volcanic island off the southern coast of South Korea with its outstanding aesthetic beauty—is one of the most attractive tourist destinations in Northeast Asia. It received more than 10 million tourists in 2013 and ranked the hottest and most beloved cruise destination by Chinese cruisers (MCST 2012).

² ‘Several Japanese ports were primarily included as ports of call for *Costa* and *RCI* ships in 2013, but the Chinese government banned all cruise ships departing from Chinese ports to land on Japanese territory because of the territorial dispute. As a consequence of the sudden measures, all ships had to replace their planned Japanese ports with South Korean ports.’—A senior manager of L tours.

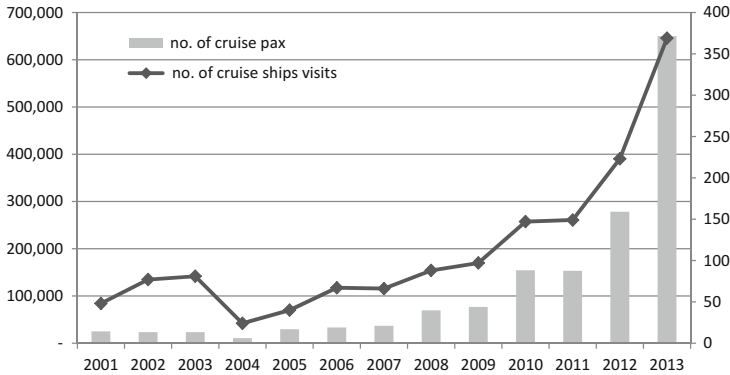


Fig. 6.2 Growth of the cruise industry in South Korea 2001–2013. Source: MOF, 2014

Approximately 350,000 cruisers visited the island last year, and it is expecting about a half million in 2014. Pusan, as the largest port city located on the southeastern-most tip of the Korean peninsula, attracted around 200,000 cruisers mostly Chinese and Japanese in 2013; in 2014, it is expecting 250,000 visitors with 131 ship visits (MOF 2014) (Fig. 6.2).

According to the latest report of Korea Tourism Organization (KTO 2012),³ Chinese cruisers turned out to be ‘very important and precious customers’. It showed that they spent \$998 on average at a single port in South Korea whilst the average expenditure of Japanese and American were \$399 and \$81, respectively. The average expenditure of the total cruisers in a South Korean port amounted to \$512 in 2012. Given the average spending of a cruiser visiting European ports was \$70.12 and C\$177.11 in New York in 2013 (Oxford Economics 2014),⁴ the cruise industry will function as an economic catalyst (Chase and McKee 2003; Diakomihalis et al. 2009; Manning 2006) at least in South Korea for a while.

6.6 Cruise Tourism in Japan

Japan has a relatively long history in the cruise industry and the market is by far the most mature in entire Asia. Japan also features an advanced cruise ship building industry and most ships owned by Japanese domestic cruise operators like MOL, JCL, NYK, and Crystal cruises were built in Japanese shipyards (IPA 2013). Furthermore, the cruise-related law regulates Japanese cruise lines to operate only Japanese-flagged ships and to take on Japanese nationality holders on board the ships, which has led to the rise in cost and price.

³ KTO has published an annual report on cruise passengers visiting Korean ports since 2009.

⁴ The unit shown is based on Canada dollar.

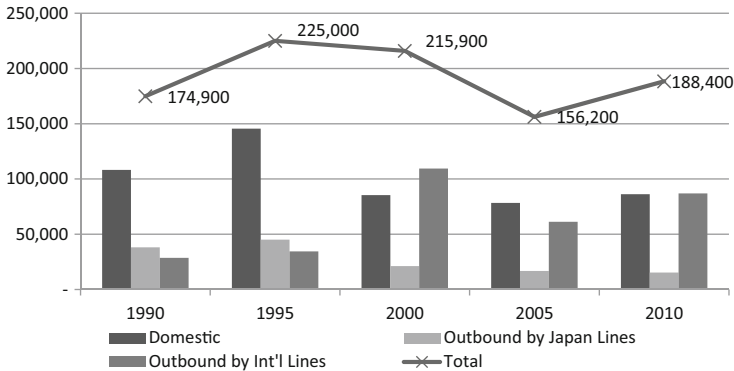


Fig. 6.3 Growth of Japanese cruise demand 1990–2010

Consequently, only a select few can afford costly cruises, and Japanese cruise operators are forced to customise onboard services to the client’s tastes and maintain a high level of service quality. Cruise products in Japan, therefore, have been recognised as luxury holidays solely for the elderly, retirees and wealthy people, showing just slight fluctuations in the total number of cruise passengers since 1990.

Japanese demand for cruising falls into three categories: (1) cruising to domestic destinations (Group 1), (2) cruising to foreign destinations by domestic lines (Group 2) and (3) cruising to foreign destinations by international lines (Group 3). As indicated in Fig. 6.3, the numbers in Group 2 gradually dwindled to 1300 in 2010 while Group 3 has been growing since 2005. There is a sharp increase in numbers in Group 3 due to Star Cruises’ large promotions at a low price.

In this context, Princess Cruises’ decision to deploy its two bigger ships to Japan in 2014 by providing ‘Princess standard’ service flavoured with ‘Japanese tastes’ at an affordable price will provide the much-needed fillip to the hibernating industry and raise hopes of welcoming another renaissance in the coming years.

6.7 Conclusion

This research provides an overview of the cruise industry in Northeast Asia by being a starting point for insights into the region. The relatively few studies on the cruise industry and its significance to the economy of the region have encouraged this research. In practice, Northeast Asia has shown a phenomenal growth in the cruise industry and China as the largest source market has been leading the growth momentum within the region. Given the sudden surge in Chinese cruise demand and the government’s substantial support to the industry, it will not be an exaggeration to assume that the Chinese cruise industry will thrive in the coming years. As Chinese cruisers accumulate their cruise experience, they are likely to expand their

cruise destinations from Northeast Asia to the Caribbean and Mediterranean region, which has been voted as the most-willing-to-visit cruise destination by Chinese (Cai and Shi 2013). As for South Korea, the government should consider feasible mid- and long-term strategies that promote cruise visits to South Korean ports as ‘must-visit’ ones. And for Japan, the year 2014 may witness a new phase in the island nation’s cruise industry.

This paper primarily provides facts on the current scenario of the cruise industry in Northeast Asia. The information is derived from available literature and interviews with industry experts. However, this paper is more on the lines of ground-work for further research on the industry in this region. Research focusing on destination marketing, socio-psychological and cross-cultural issues within the regional or global context, along with studies on features and differences in three main source markets’ expectations from those of North American or European passengers remain to be explored.

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Chapter 7

Information-Knowledge-Experience: Heraklion Port Case Study

**Maria Lekakou, Evangelia Stefanidaki, Ioannis Bras,
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Abstract What tourists expect when visiting a destination is to obtain memorable experiences accompanied by domestic goods and services. In this context, destinations are positioned as “experiences” while tourist motivations and experiences are as diverse as the characteristics of the destinations. In the case of cruise tourism the term “destination” can receive multiple interpretations, since apart from the ports of calls included in an itinerary, the cruise ship is also perceived as destination. In touristic literature, the study of motivations and experiences of visitors is extended, whilst studies related to onshore experiences and behavior patterns of cruise passengers are limited and existed research focuses mostly in the well established destinations. The aim of this paper is to investigate the reengineering process followed by a well known cruise destination, Heraklion. Key elements are studied regarding changes in infrastructure, introduction of services, storytelling and information technology applications. Customer-satisfaction is accessed to correlate the level of passenger’s satisfaction, with port’s strategic goals.

Keywords Cruise passengers experiences • Destinations • Storytelling • Port of Heraklion

7.1 Introduction

What tourists expect when visiting a destination is to obtain memorable experiences. But what actually makes the difference? What makes an activity from just an ordinary event in somebody’s life to a memorable experience (positive or negative) which recalls shares and ultimately recommends (or not!)?

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Pine and Gilmore (1998) at the end of the nineties introduced us in the era of the *Experience economy*, where the characteristics and attributes of goods and commodities—alone—are no longer enough to attract and retain the contemporary, well informed and experienced consumers. With products and services becoming commoditized and the widely applied policies of price differentiation no longer effectively influence consumer's choices (Oh et al. 2007), it is recommended that companies should focus on accompanying their products and services, with specific experiences. Pine and Gilmore (1998) suggested that staging experiences is the next step in the process of creating economic value and commented that an increased number of companies—especially the large ones—intentionally or not have already started to provide their commodities within certain experiences settings. This emerging trend is unavoidable and as annotated by its founders, the main query is not if companies will enter this new era but when and how will do it.

“Experience” is a term frequently used; but what an experience actually is? The Oxford Dictionary provides the following definitions “*Practical contact with and observation of facts and events*”. In this definition, the knowledge and skills obtained by practicing on something is highlighted and observation is referred as “mean” of experiencing. Respectively, the second one refers that experience is: “*An event or occurrence which leaves an impression on someone*”. These two definitions imply that a person can have either an active or passive involvement to an activity and that there is a final outcome which generates specific perceptions to the person involved to it, making the experience not only a physical event but a mind process, that generates multiple emotions. To that extend different perceptions lead to the personalized interpretations of facts and ultimately the gained experience depends exclusively on individual's profile, needs, expectations and emotional state.

In literature the experience terminology is used across multiple industries and disciplines in combination with the status of the person experiencing and thus terms like “customer experience”, “user experience”, “tourist experience”, etc. are broadly used. Despite the extensive usage of these terms, it is commented that the content not only is not well defined but also elusive and confusing (Law et al. 2008), lacks of “solid foundation” (Caru and Cova 2003) and paradoxically focus is given on improving customers' experiences, while ignoring what the term includes (Richardson 2010).

The founders of the “experience economy” argue that:

An experience is not an amorphous construct; it is as real an offering as any service, good, or commodity. . . experiences are inherently personal, existing only in the mind of an individual who has been engaged on an emotional, physical, intellectual, or even spiritual level (Pine and Gilmore 1998).

Merholz (2009) trying to determine the content of customer experience highlights that this includes the “*totality of experience a customer has with a business across all channels of touch points*”, implying that experience is an ongoing process consisting of the interaction of the user with more than one of the components of the product or service provider (e.g. web-site, sales services, staff member, etc.).

Similarly, Arnould et al. (2002) classified the consumption experience into four stages (pre-consumption, purchase experience, core consumption and remember consumption experience) stressing that the experience of a consumer can continue even if the action of consumption is completed. This approach comes in contrast with Fredrickson's (2000) view, according to which an experience can be evaluated by the "peak and end" of selected moments and that the duration of the experience is not a critical factor.

Pine and Gilmore (1998) categorized the type of experiences along two dimensions, the degree of participation (passive or active) and the connection of the customer with the event taking place (absorption or immersion). The combination of these two dimensions generates the spectrum of four alternative types of experiences categorized as:

- **Entertainment:** involves passive participation and absorption of customers' attendance
- **Education:** involves active participation and absorption of the customers
- **Aesthetic:** experience occurs when customers are immersed passively in the experience
- **Escapist:** experience involves active participation of customers immersed in it

Experience staging is not only about making a customer more satisfied but also returning to the company a sustainable competitive advantage. A satisfied customer becomes a "*customer advocacy*" meaning a promoter of the company's product (Allen et al. 2005). Experiences bond the consumers with the companies, making the experience a contemporary driver of loyalty (Chang and Chieng 2006) and a mean to avoid "commodity trap" (LaSalle and Britton 2003). Stamboulis and Skayannis (2003) argue that experience is a dematerialized commodity generating increased returns, whilst Candi et al. (2013) found that services with experiential core can improve the image of a company, enhance its attractiveness to employees and its ability to enter to new markets.

The tourism sector can be considered a prominent example of experience economy (Quan and Wang 2003). In the touristic literature the study of experiences is central which while widely referred, remains an area under-research (Larsen 2007), ill defined (Caru and Cova 2003), with not unified definition and operationalisation (Oh et al. 2007). Larsen (2007) defines the tourist experience as "*a past personal travel-related event strong enough to have entered long-term memory*". Stamboulis and Skayannis (2003) correlate experiences with the various activities that can differentiate individual's daily life. The distinction from everyday life and routines is point of convergence among the different approaches studying touristic experiences (Quan and Wang 2004). The interaction of tourists with the touristic system is fundamental element for the construction of individuals' experiences (Mossberg 2007). However, Larsen (2007) asserts that the experience of a tourist cannot be understood from its interaction with the system, as this is a "*psychological phenomena, based in and originating from the individual tourist*". From a different perspective Quan and Wang (2004) suggest that the touristic experience derives from the synthesis of two parameters "peak experience" and "supporting

consumer experience” implying that the attributes of a destination can affect the final outcome.

People select a tourist destination and participate in different events and activities in order to satisfy certain needs and fulfill specific goals (Manthiou et al. 2011). Oh et al. (2007), comment that the variety of the experiences offered by a destination is determining the value of the destination and note that the selection of a touristic place is not only the result of the characteristics of the destination but the *pre-experience the tourist has for the expected experience at the destinations* (Richards 2001). The decision making of a tourist is influenced both by extrinsic (extrinsic motivation) and intrinsic factors (intrinsic motivations) (Sharpey 1994), with the different conditions in individuals’ lives affecting their perceptions and respectively needs and expectations. An indicative example is portrayed in the work of Crick-Furman and Prentice (2000), according to which age and marital statuses influenced the activities tourists were involved to and ultimate their experience.

Cruise industry, by contrast to other touristic segments, *‘has a poor knowledge in understanding cruisers’ experiences and postconsumption evaluations’* (Petrick 2004). Andriotis and Agiomigriannakis (2010) note that in the cruise literature, the study of visitors’ motivations and onshore experiences in port of calls are limited and existed research focuses mostly in the well established destinations. Similarly, Brida et al. (2012) in their research note the lack of studies investigating the experiences of cruise passengers in home ports.

To that extend, the aim of this paper is to investigate the re-structuring process followed by the Port Authority of Heraklion, through an integrated program called *“Customer Experience Enhancement”*. Certain elements such as changes in infrastructure, introduction of services and technological applications are studied. Findings of a customer survey are analyzed, indented to assess the level of passenger’s satisfaction in correlation to port strategic goals. The paper is organized as follows; first there is an introduction to the cruise experience concept. Section 7.2 describes the central pillars of the new “five senses” model implemented by the Port Authority, while in Sect. 7.3 main findings are presented. Last section concludes with possible implications and future research.

7.2 In the Era of Memorable Cruise Experiences: From Everything to Nothing

Cruise tourism can be easily characterized as an “experienced” generator industry and as Beltagui et al. (2012) note the services provided by the cruise liners have experiential core while their consumption aims at delivering certain emotional outcomes. The cruise experience is comprised by two components: the onboard experience and the onshore one. The ship is core element of the cruise product and field of competition among large cruise companies. Ships become bigger, more luxury offering various alternative facilities and numerous activities (Di Vaio and

Varriale 2013). Cartwright and Braid (1999 cited in Hosany and Witham 2010), note that luxury environment and entertainment are two commonly referred reasons of someone when choosing a cruise. Currently, companies design new services, so as to attract new comers, retain repeaters and create a base of loyal customers, given that past experiences influence future decisions (Petrick et al. 2007). Chin (2008) notes that the industry has managed to offer customized services within a mass market and thus multiple passengers of different statues and motivations are receiving different experiences, while using the same services and products. Guest to guest interaction and the social dynamics developed onboard are also referred as influential factors of passengers' on board experience (Papathanassis 2012).

In the case of cruise tourism the term “destination” receives multiple interpretations, since apart from the ports of calls included in an itinerary, the cruise ship is perceived as a destination, and this is why companies apart from traditional cruise itineraries, also design cruises to nowhere. The ‘destinization’ of the cruise ships (Weaver 2005) is not a random phenomenon but a trend deriving from the managerial decisions of the companies, which intend to increase on board revenues. Kwortnik (2008) examining the onboard service environment and passengers corresponding behaviour concluded that the man-made environment, atmospheric conditions and ship design (referred as ‘shipscape’) can impact the overall experience.

On the other hand cruise companies search for new destinations for differentiating their itineraries. Currently, the Caribbean is considered a mature market and cruise ships are repositioned to new geographic segments. To that extend, the query emerged is which is the most influential factor for passengers' experiences; the destinations or the cruise ships and it is annotated that the role of port of calls in the overall cruise experience is gradually reducing (Keynote 2008). Furthermore, the current world crisis and the emergence of new source markets like Asia and Australia, divert cruise companies interest to such market since the profit margin due to higher demand is increased. In 2014 five cruise companies operated in Asia waters with 24 ships compared to only one company 4 years ago. An indicative example of the aforementioned is also the fact that cruise lines own their private islands (Jaakson 2004). To that extend Jaakson (2004) highlight the experience passengers have on board the luxury cruise ships in contrast to the one onshore of not wealthy destinations. Moreover, it is stressed that not all passengers are experiencing the destinations. As indicated in the study of Brida et al. (2012) the majority of the passengers that participated in their research, did not had an overnight stay in Cartagena—home port—and thus did not interact with destination system. This might be an indication of a possible correlation between the type of destination (home port or port of call) and passengers' experience. Alike, in the case of Greek islands it is observed that a not negligible percentage of cruise passengers (varying from 10 to 30 % dependent upon the profile of the company), do not exit the cruise ships and thus are not becoming visitors to the destinations.

Either onboard or onshore, the industry is being criticized for the way cruise passengers' experiences are generated, characterized as ‘cocoon’ (Vogel 2004)

meaning that these are created within a controlled environment. Characteristically, Jaakson (2004) comments that cruise passengers exit one bubble (ship) to enter another one (in the destination).

7.3 The Port of Heraklion: A Brand New ‘Traditional’ Destination

7.3.1 Cruise Port Evolution

The Port of Heraklion is the largest port in Crete. Located in the crossroad of the Eastern and Western side of the Mediterranean, the port has a long cruise history whilst the modern era for the cruise port started 40 years ago, with intense efforts recorded after 2000 (Heraklion Port Authority 2014). In the 1980s almost 40 thousands passengers visited the island, a number doubled by the end of the next decade. The year 2002 is referred as a nodal year for the evolution of Heraklion as cruise destination, since the cruise ship ‘Aida’ selected Heraklion for home porting. During that year the number of cruise passengers reached 120 thousands, and a positive trend in the number of cruise ship calls followed with the number of passengers reaching 317 thousands in 2009. After ‘Aida’, another cruise ship the ‘Ocean Village’ selected the port for starting its itineraries (2006). During that period major technical interventions took place allowing the berthing of larger cruise ships and enhancing the security of the port.

Year 2009 is referred as a peak year, after which a declined trend was observed in the number of calls, which partially is attributed to the global financial recession, the instability of the national economy and the negative publicity the country received. Prevailed conditions also affected cruise companies decisions and three major companies withdrawn from the destination. In 2010 the port authority, introduced a Business Re-engineering Process for re-designing cruise port strategy. As a result of the this new strategy, in 2012 Costa Cruises—a company left from the port 4 years before—announced its decision to use Heraklion for home porting. In 2013 the cruise activity presented signs of recovery and Heraklion received 177 calls and 270 thousands passengers (+25 %), placed in the seventh place of most popular Greek cruise destinations (Hellenic Ports Association 2013). For 2014 the number of passengers is estimated to 340 thousands and the number of home-port passengers’ 68 thousands respectively.

7.3.2 The Re-design of Cruise Port Policy

Port’s strategy has been built on two pillars (a) an experience-focus approach, termed “Customer Experience Enhancement”, where the cruise passenger and its

Table 7.1 Five-senses activities applied in Heraklion port

Activity	Description
<i>The “Elia” project</i>	A 400 years olive tree was re-planned in the port area. Visitors have the opportunity to observe the valuable plant of the Med, while informed for the traditional production of Crete and its contribution to island’s economy.
<i>“Neoria”</i>	Placement of signs at the shipyards at the southern part of the Venetian port, which was used during the fifteenth and eighteenth century. The use of gravures and photographic material demonstrate the historical evolution of the shipyards till modern times.
<i>“Plants and Herbs of Crete”</i>	15 aromatic plants and herbs are planted in the port zone. Signs inform visitors about the characteristics and the qualities of the herbs and how these are used in local cuisine.
<i>“The Thread of Ariadne”</i>	A yellow line on the pavement—like the mythological thread—is leading the visitors to the city center.
<i>“El Greco Exhibition”</i>	Transportable photo exhibition, presenting the diachronically presence of Crete in painting art.

Source: Port of Heraklion

satisfaction becomes the guide for the design and the delivery of new services based on a five-sense model and (b) a cluster approach aiming at networking all the local actors involved in the provision of services to the cruise passengers.

The dominant concept of the applied model is that the promotion of the special characteristics, attributes and competencies of the region such as history, culture, local production, etc. are combined so as to stimulate all the senses of the visitors, while the experience starts by the time the cruise visitor enters the port area. Table 7.1 summarizes the “five senses” activities currently applied in the port of Heraklion.

7.3.2.1 Story Telling

The core of port’s strategy combines local history and myths intending to involve and to engage passengers, through a learning experience. Those Passengers that do not participate to any excursion (almost 50 % of passengers’ traffic) and select to explore the city by themselves can follow *the Thread of Ariadne*, a special designed pedestrian path which connects the port with the center of the city. A yellow signed line is becoming the thread of the myth of Ariadne, facilitating passengers to find their way to the city. Trained personnel equipped with segways are moving along this route providing to the visitors information and relevant material (hardcopy maps, port’s app, info about the interactive signs placed along the route, etc.).

Apart from the provision of practical info to the guests the qualified personnel is also narrating some of the most emblematic histories of Heraklion. One of them is about the *Neoria*, the old dockyards located within the port zone, built when Heraklion was under the procession of the Venetians (fifteenth–seventeenth

centuries). During the Venetian era the port become an export center and naval station of the Venetians for the Eastern Mediterranean.

A second myth narrated is this of *Leonton Square* also known as *Morosini Fountain* after the name of F. Morosini the governor of Crete during the Venetian era. Through the *Leonton Square* story visitors can learn the history of the town, the practical value of the monument, as it was built for supplying the city with fresh water while photographic material is provided so as the guest to follow the changes occurred in the legendary monument throughout the centuries.

Based on port's new strategy the history of the island is animating aiming at staging certain experiences from the destination. To that extend, "**Storytelling tourism**" could be defined as a collective storytelling system in which the performance of stories is the key part of tourists' sense making and a means to allow them to supplement individual memories with destination memory (Vintzileos 2014).

The storytelling technique is capable of connecting the total tourism offering creating a verbal and visual metaphor which accompanies tourists throughout their visit. Story needs a landscape, heroes, and a sequence of actions that go along a dramatic timeline. Destinations can be seen as storyscapes i.e. the port of Heraklion where the narrative are negotiated, shaped and transformed through the interaction of heroes, in our case service or product providers and tourists. Stories immerse people in plots and characters and this is of importance since contemporary visitors not only encounter the physical space of a destination but also they create their own experiential space using their individual motivations and interpretations. Experience is a conglomeration of all sorts of sense data and feelings. The emotional dimension of the experience is very important because while reasoning leads only to conclusions, feelings lead visitors to action and action means involvement in everyday life which results in positive economical outcomes in the destination.

The moment the visitors live in the story they connect every experience to the story thread even the not planned ones. A well told story at an entry point, such as a port, can accommodate and transform even "bad" experiences which might happen in the rest of the visit. The reason is that storytelling has a strong reframing function which alters, filters and jettison context as the customer moves along, inviting a different sense making of the experience.

When viewing tourism in the light of storytelling, the customer is becoming co-producer in the tourism experience as they are not merely interested in buying the product but also buying the stories behind the product (Mossberg 2007). Storytelling allows this coproduction, creating attractive offerings to the tourist across industries and occasionally across destinations. Storytelling may be a useful tool for this goal.

7.3.2.2 Access to Information

Passengers' access to the information is core element of a cruise port's present strategy. Internet is an effective instrument for marketing both for the promotion of local attractions and for tourism proposal to cruisers (Gui and Russo 2011). The

port of Heraklion has combined traditional (hard copy maps) and contemporary (apps application, interactive web sites and i-signs) means of information, aiming at improving visitors level of knowledge, providing not only information about the history of the destination, but also about the alternative activities they can have while being in the port. The use of different means aims at corresponding to the diverse needs of different targets of visitors (e.g. elderly) who wants to have access to the information in a friendly way. 'HER City Guide app', 'InfoCloud' and 'Crete'—an interactive game—are some examples developed and applied by the port authority. It has to be noted that all this plethora of information is only “given out” after the decision of the passenger to go or not on an organized excursion.

7.3.3 Passengers' Opinions

A purpose made questionnaire was conducted on behalf of the Port Authority of Heraklion, aiming at investigating the level of satisfaction of cruise visitors. The questionnaire conducted during three different periods (July, September and October) of 2013. Finally, 1,626 quests were collected from 16 different cruise ships.

The questionnaire focused on:

- 1) How informed cruise passengers were about the destination
- 2) How cruise passengers evaluated their experience while being in Heraklion and finally,
- 3) Visitors spending patterns

The great majority of the cruise passengers were from Germany (42 %), Great Britain (11) and U.S.A. (9 %) and only a small percentage of 4 % were from Greece.

Most of the respondents (81 %) visited Heraklion, were fist comers, while from those who had visited the destination in the past, almost 60 % have been in Heraklion in the context of a cruise program.

Regarding the “information” items, passengers were asked about the level of information they had prior to their visit in Heraklion. Based on visitors' responses, almost one third of them stated that they were very well informed about the destination while more than 50 % of them referred that they had a good knowledge for the destination prior to their visit. The rest 16 % evaluated their knowledge as poor (compared to the experience gained after their visit). The second quest focused on the information provided on board regarding port-city's attractions. Forty percent of the respondents answered that they received relevant information from onboard video projections, 28 % were informed again onboard but from the tourist information office, while the rest used other sources such as touristic guides, travel magazines and other passengers. The last quest concerned the usability of available information sources. Specifically, 42 % of the participants agreed that the use of websites is the easiest way to access information for the destination, while the second easier option was the use of info-kiosks at the port site and in the city (27 %).

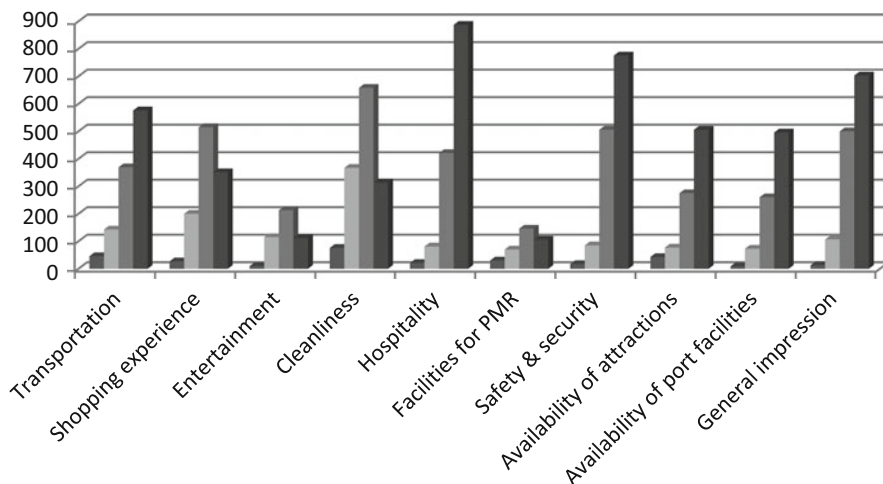


Fig. 7.1 Cruise visitors' satisfaction on destination system. *Source:* Port of Heraklion

The rest answers concerned mobile applications (9.4 %), info-signs (9 %) and other means (travel guides, promotional material, etc.) (12.6 %). It is noted that in a similar research conducted in 2010, it was revealed that cruise passengers expressed low satisfaction levels for the on-shore info-centers (Andriotis and Agiomigriannakis 2010).

The third cluster of questions concerned the evaluation of specific destination parameters such as transportation, attractions, infrastructures, security, etc. Figure 7.1 illustrates the different evaluations of cruise passengers on different components of the destination.

More than 80 % of the respondents evaluate the transportation item as satisfied and very satisfied and only a limited percentage of 5 % stated not satisfied from the usage of taxi services. It is stressed that 90 % of the users of local transport means believed that the cost of provided services was affordable and it was further commented that they did not receive any information on board regarding public transport network. The great majority of the cruise visitors (67 %) had a shopping experience, positively evaluated by 79 % of them (47 % 'good' and 32 % 'very good'). It was stressed though that the stores were not always open during cruise calls. Shops' hours have been referred as a factor influencing visitors' experiences, also in other cruise surveys in Greek island destinations (e.g. Chios island, see Lekakou et al. 2011).

Regarding the cleanliness item, the average evaluation is estimated to 2.9, meaning that there is a general "good" impression among visitors. It is note that 26 % rated cleanliness as "fair" commenting abandoned areas and the bad image of parks and streets. Hospitality factor concentrated the great majority of "very good" evaluations. Particularly, 63 % rated hospitality and welcoming as very good and another 30 % as "good". Similarly, security was positively evaluated by 93 % of the

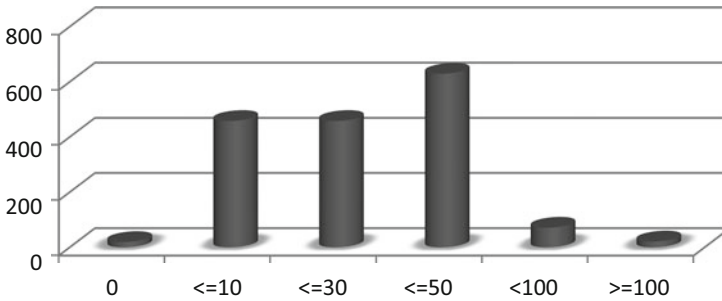


Fig. 7.2 Cruise passengers spending patterns (euro). *Source:* Port of Heraklion

respondents receiving 36.5 % of good rating and 56 % of very good appraisals. It is stressed that the items of security and friendliness of locals received the highest evaluations also in Andriotis and Agiomigriannakis (2010) research. Regarding the overall impression from their visit in the destination, cruise passengers agreed (90 %) that their experience was “good” and “very good”.

The next cluster of questions concerned the spending patterns of passengers. Figure 7.2 illustrates the spending trends of cruise passengers during their visit in the port.

The majority of the cruise visitors (78 %) spent up to 50 euro (included transportation expenses) and only a limited percentage spend more than 100 euro, with the average spending estimated to 65 euro per person.

Other items examined, which could affect the onshore experience of the passengers was *time available at the destination*, *knowledge about local production* and the *off-airport check in services*. More than half of the passengers stated that they needed more time for visiting the popular attractions of Heraklion, whilst 40 % felted that they wanted more time for shopping without the anxiety of departure. Regarding, local production, 66 % of the participants responded that they had either knowledge or had tasted local products. Moreover, 60 % answered that they would like to learn more about these products either on board or upon their arrival at the destination, or through other information channels such as websites, travel guides, etc. Finally, the great majority (almost 80 %) agreed that local products could be promoted onboard, while the rest of the respondents commented that they wanted to explore local market by themselves. Sampled cruise passengers expressed their intention to return back in the Heraklion during conventional vacations in a percentage of 76.5 %.

7.4 Conclusions

A cruise passenger usually has only a few hours available on each destination and as such he/she will reasonably select to visit the “must see” attractions of a place. To that extend, the question emerged is whether current types of onshore activities can stimuli memorable experiences in such a short term. Furthermore, under which circumstances a repeater passenger is motivated to exit the cruise ship and to explore the destination for the n-time.

Gabe et al. (2006) argue that the experience gained by a cruise passenger during a visit in a port can affect their intentions to return back to the destination. As highlighted by Chandralal and Valenzuela (2013) past memories can influence current decisions making and suggest that marketing strategies which focus predominately on destination attributes require revision so as to integrate experiential elements in order to raise the probability of a tourist to obtain a memorable experience. Their research findings revealed that accurate information about the destination, provision of opportunities to learn about the local peculiarities, novelty and interaction with locals are some of the components that can configure a memorable experience. To that extend in operational and managerial level; the creation of the appropriate conditions in a destination is becoming critical.

The port of Heraklion is a well known cruise destination, which has experienced a decline in the number of cruise calls during the last years, due to mostly exogenous factors such as the global economic recession and the negative image of the country abroad. The Port Authority in 2010 re-designed its cruise policy focusing on the enhancement of cruise passengers’ experiences. Culture and knowledge has become core elements in the transformation process of port’s image facilitated by the use of ICT applications. Port Authority is using the “knowledge–innovation dipole” (Stamboulis and Skayannis 2003) for staging in-port experiences and facilitating the access of cruise visitors, to destination’s attractions To that extend story telling is chosen as a technique using current stimuli of the environment to draw out old memories and combine old and new sense data with feelings in a meaningful way, binding individual memories with destination memory and building strong liaisons between destinations and visitors. In that way, the present experience is associated to old memories and it is transferred from short-term memory to long-term memory for more permanent storage.

These interventions had a positive impact on port’s and respectively city’s image imprinted to cruise passengers responses regarding their overall satisfaction and their intensions to recommend the destination. The cooperation among the port authority and local stakeholders involved in the policy process has resulted to the better coordination and use of financial and human resources enhancing the performance of the sector, the quality of provided services and ultimately visitors’ experiences.

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Chapter 8

Vacation Promises in the Visual Language of Cruise Catalogues

Wolfgang Jonas and Carolin Kowollik

In the civilizations without ships, dreams run dry, espionage takes the place of adventure and the police replaces the privateer.

Michel Foucault

Abstract The text presents an approach to cruise research from a designerly perspective, consisting of the documentation of a small research project regarding the visual language of cruise catalogues, and, building on these analytical findings, the presentation of design-driven research strategies. The purpose of this contribution is twofold: first it serves as a means—mainly for the authors—to gain a general overview of a new field of inquiry. Secondly, it intends to demonstrate the still unrecognized potential of design thinking and designerly strategies to the cruise research community and the cruise industry. Thus the text cannot be regarded as a fully developed empirical study, but rather as a programmatic framework for design research in the cruise field. If it sounds normative or even slightly polemical in parts—this is intended. Design is a normative endeavour, aiming at “transferring existing situations into preferred ones”, as Nobel laureate Herbert Simon stated.

Keywords Cruise catalogues • Design thinking approaches • Vacation promises • Visual language

8.1 Introduction

8.1.1 *Maritime Mobility at ITD/Braunschweig University of Art*

The authors are newcomers and late beginners in the cruise research field. The Institute for Transportation Design (ITD) at Braunschweig University of Art has been working on land-based mobility futures for more than 10 years. The visionary

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and explicitly normative aim can be characterized as a new post-fossil mobility culture in an equilibrium economy. The ITD considers mobility as one of the most important fields for social and cultural transformation processes. The working areas of the institute have recently been extended into the field of Maritime Mobility. Several contributions in this volume illustrate the scope of themes.

Working in an art school context implies positive and negative side effects: the broader social and cultural context is relevant for the research, which means that innovation is not reduced to its economic and technological parameters and drivers. This widens the scope of possible futures. Experimental and unorthodox methodical approaches beyond the strictly scientific (neo-positivist) paradigms (such as phenomenological or hermeneutic methods) are legitimate, which results in different and richer—if not better—results. But, of course, cruise researchers located at an art school run the risk to be considered as exotic outsiders in an otherwise strongly conservative, technology- and market-oriented maritime industry. Trust has to be built up gradually without giving up our specific views and values.

Maritime Mobility is a very old and highly symbolic, sometimes even mythical field. We think that re-considering these rich and strong cultural connotations can help to develop the neglected potential regarding innovative, but also sustainable and meaningful mobility solutions. In the Maritime Mobility working group at ITD we put forward the strong hypotheses—which cannot be tested comprehensively in this paper—that (1) the vulnerability of the maritime industries stems from the narrow technical and economic understanding of innovation, that (2) the potential contribution of the maritime industries to a more sustainable world have hardly been recognized so far, and that (3) the technological as well as the symbolic power of the maritime culture provides the potential for the maritime industries to become the new leading innovative sector for the twenty-first century.

8.2 Design and Design Research: An Extended Understanding

“Design” as presented in glossy lifestyle-magazines sounds familiar to the wider public. In the cruise industry design is mostly associated with interior design and architecture and the whole range of graphic design tasks from advertisement to on-board guidance systems. Therefore it is essential to introduce a somewhat extended understanding of the term, which focuses on the process and methods of design and the ethics of use rather than the aesthetics of products. Design is aiming at change, at “transferring existing situations into preferred ones” (Simon 1969). Design is increasingly concerned with broader, more strategic and therefore more complex and fuzzier subject matters and covers the whole spectrum of products, services and systems in their relation to human users. This relational aspect implies the notion of design as an interface-building discipline. It integrates Technology, Economics and Human Factors in order to create interfaces between the world of

Table 8.1 Triadic concepts of Practice-Based Design Research, particularly emphasizing the framework for Research Through Design (RTD, Jonas 2007) and the relation to transdisciplinarity studies

Authors	Phases/components/domains of knowing in Design Research		
	Jones (1970)	Divergence	Transformation
Archer (1981)	Science	Design	Arts
Simon (1969) and Weick (1969)	Intelligence	Design	Choice
Gausemeier et al. (1996)	Scenario field analysis	Scenario prognosis	Scenario building
Nelson and Stolterman (2003)	The True	The Ideal	The Real
Jonas (2007) RTD	ANALYSIS	PROJECTION	SYNTHESIS
Fallman (2008)	Design Studies	Design Exploration	Design Practice
Brown (2009)	Inspiration	Ideation	Implementation
Nicolescu (2002) <i>Transdisciplinarity Studies</i>	<i>System knowledge</i>	<i>Target knowledge</i>	<i>Transformation knowledge</i>

artefacts and their contexts of use. The notion of design as a change agent highlights the normative components of the designerly process of inquiry (what is vs. what should be). In consequence, the researchers’ involvement in the process has to be reflected. This shift from Design to *Design Thinking* (Brown 2009) shows the necessity to think about a design-specific research paradigm, which is obviously different from that of the Social Sciences.

Other than traditional research, which tries to exclude contexts and values as far as possible, *Practice-Based Design Research* (PBDR) considers three central systemic dimensions: (1) the wider context, (2) the design/inquiring system (which is comparable to the scientific research situation), and (3) the driving force. It thus acknowledges the inherent context-dependency of designerly inquiry and, furthermore, it integrates facts and values (Jonas 2014). We will come back to this in Part 2 of this text. One of the main aims of PBDR is the exploration of new explanations and thus options for possible futures. In an economic sense this might be characterized as projecting “blue ocean” strategies (Kim and Mauborgne 2005). Therefore PBDR is not primarily analytic, but has a strong projective as well as a synthesizing component. It presents a research paradigm, which integrates three different domains or ways of knowing:

- ANALYSIS or the True: facts, asking “how is the situation?” → analytical scientific methods.
- PROJECTION or the Ideal: values, normative visions, asking “how do we want to live?” Exploration of possible future options → projective methods.
- SYNTHESIS or the Real: exemplary realizations, asking “how might the vision look like?” → traditional design skills and methods.

Table 8.1 demonstrates that this “trinity” of components/domains/phases is a generic quality of a variety of “Sciences of the Artificial” (Simon 1969).

The middle column is the essential designerly part, because it explicitly introduces the abductive (as opposed to the inductive and deductive) way of reasoning. Furthermore, the table suggests that the logic of the “Sciences of the Artificial” may serve as a model for new emerging forms of transdisciplinary research.

8.3 Part 1: The Study

8.3.1 *Research Motivation and Purpose*

In a sociological and future-oriented perspective, cruise tourism will have to change in the foreseeable future (Oschmann and Vogel 2011). Indisputable *megatrends* (Z-punkt 2008) such as the shortage of resources, the rising awareness for environmental issues (WBGU 2011) and possibly also a trend towards new, post-traditional communities and patterns of living and working are contrasting today’s characteristic image of cruises. Cruise cultures today are building massive protecting walls against the everyday world, they promise luxury and opulence and place the individual customers with their distinct needs into the sole centre of attention. In this regard the cruise industry is conservative and protective, avoiding fundamental questions regarding their portfolios and business models. The business magazine *brandeins* (Böttcher 2014, translated by the authors) leads enlightening interviews with leading representatives of the German cruise industry. The main issue of the article was that cruise companies are wondering what will please their passengers in 10 or 20 years from now and what they are doing in order to come closer to an answer of this question. The head of marketing of a cruise company says: “I think we should not trust only this data [from market research, W.J.], but we should also listen to our gut feeling. No decision can bring you the absolute safety.” The head of Sales & Design of one of the leading shipyards talks about their strategic planning approach and argues: “Most people in my team are all mid-30s, it is believed that many ship-owners go for the age group 50 plus, we build the ships today for people like us.” A ship designer, specialized in cruise ship design, confirms these astonishing confessions: “They try to avoid risks, focus on what has been proven, not to expensive search for new ideas.”

We want to explore options for questioning and breaking these boring trajectories of bigger, more colourful, more luxurious and extravagant, cheaper, more exotic, more extreme, . . . We are interested in the “unknown unknowns”, things we don’t know we don’t know (Rao 2012).

8.3.2 *Research Question: Vacation Promises in Cruise Catalogues*

Design Research—in our understanding—always aims at the detection and generation of options for positive change in everyday-life environments. Therefore, social contexts, value changes and global trend developments are essential in the design process (Fehr and Jonas 2013). The present project was inspired, among others, by Royal Caribbean’s “nation of why not” campaign, the promise of artificial paradises, completely separated from all references to the complexities and oddities and restrictions of the real world. This is already close to Disney’s “Wall-e” vision (Fig. 8.1).

Our attitude can be characterized as realistic and pragmatic: relating to and starting from current issues and trends, as projective: opening up perspectives contrary to and beyond the current trajectories, and as critical: not in a moral attitude of knowing better than others, but rather Socratic and ironic in the sense of accepting and reflecting our own not-knowing (Fig. 8.2).

We have analysed the visual language of cruise catalogues. Catalogues are a marketing tool to communicate a customized vacation offer to specific target groups. They describe different carefully designed ideal worlds by means of words and images. The main questions were:

- Which vacation promises and which values are designed and conveyed by the companies?
- Which future potentials are hidden in/behind them and wait to be brought to light?



Attractions on board: This computer-generated image provided by the Royal Caribbean International cruise line shows a bumper car attraction planned for the forthcoming ship, Quantum of the Seas

Fig. 8.1 Entertainment at “Quantum of the Seas”, <http://www.dailymail.co.uk/news/article-2310045/Royal-Caribbean-pulls-stops-lure-customers-dry-land.html>, accessed 12.02.2015



Fig. 8.2 Film still from Wall-e. <http://www.chud.com/17383/dvd-review-wall-e-3-disc-special-edition/>, accessed 12.02.2015

8.3.3 Research Hypotheses, Process and Method

We put forward the following hypotheses:

- The actual communication practice of cruise companies implies that current trajectories and stereotypes are consolidated, in consequence restrictions are amplified and alternative options are reduced.
- Relating the issue to relevant real-world problem fields, creatively and consistently composed of megatrends such as ageing societies, ubiquitous networking, climate change, shift in lifestyles, personal health orientation, work-life balance, . . . helps to overcome these limitations and blind spots.
- *Design Thinking* provides new business opportunities for cruise companies. More generally: options for “social design” and positive transformation in Western consumer cultures emerge.

The study is primarily based on the above-mentioned scheme of ANALYSIS: evaluation of catalogues, the cruise world status quo, PROJECTION: transcending what is, asking “how do we want to live?” and SYNTHESIS: how to realize it? It focuses on the analytic phase, the syntactic and semantic evaluation of the visual material in order to understand the stereotypes. The projective and synthetic steps are roughly sketched in Part 2 of this text.

8.3.4 *Selection of Catalogues, Image Collection, Describing and Comparing the Catalogues*

We have examined 17 catalogues from companies such as AIDA, Celebrity Cruises, Hapag Lloyd (Columbus 2), Hurtigruten, Passat, TUI Cruises, Royal Caribbean Line, and others. The description of the catalogues was carried out with reference to Berger (2004, pp. 83–85), especially chapter 5: “Selling smooth sailing: advertising and marketing cruises”, which presents a useful guideline for analysing print advertisement:

7. How would you describe the people in the advertisement? Consider such matters as facial expression, hair color, hair length, hair styling, fashions (clothes, shoes, eyeglasses design, and jewelry), various props (a drink), body shape, body language, race, ethnicity, gender, age, signs of occupation, signs of educational level, relationships suggested between the male and female, and objects in the background.

8. What is happening in the advertisement? What does the ‘action’ in the photo suggest? Assume that we are seeing one moment in an ongoing narrative. What is the narrative and what does it reveal about the two figures? How do the cruise ship and the sea play a role in the advertisement?

9. Are any signs or symbols evident in the photograph? If so, what role do they play? How are images of cruise ships used? Images of luxury? . . .

12. What are the basic ‘themes’ in the advertisement? How do these themes relate to the story implied by the advertisement? What is being said about cruises? . . .

14. What values and beliefs are reflected in the advertisement? Sexual jealousy? Patriotism? Motherly brotherhood of man? Success? Power? Good taste?

We then created a comprehensive table for describing and comparing the 17 companies. A close examination of this table reveals that luxury, fun/events and excursions can be identified as a first set of important categories for comparison. We tried to visualize these findings in several diagrams, which did not really deliver new insights beyond well-known marketing categories. Therefore we tried to get deeper in our analysis.

8.3.5 *Analysing, Interpreting and Comparing the Catalogues*

First, the images of each catalogue have been reduced to a mood collage, which has been further condensed into an archetypical imagery of 2–4 pictures plus a short verbal description in a second step.

The vacation promise was then further examined and re-enriched by means of image analysis and the ethnographical tool of “thick description”. Geertz (1983) argues that anthropology’s task is that of explaining cultures through thick description, which allows to specify various details, conceptual structures and meanings. It is opposed to “thin description” which is a factual account without any interpretation. A thick description is composed not only of facts but also of commentary,

interpretation and interpretations of those comments and interpretations. The task is to extract meaning structures that make up a culture. Geertz believes that a factual account will not suffice because these meaning structures are complexly layered one on top and into each other so that each fact might be subjected to intercrossing interpretations, which ethnography should study. The subject of interpretation is the “flow of social discourse”. Interpretative ethnography according to Geertz should produce the codes required for decoding social events. The following specific questions were the main issues:

- Which action patterns and which lifestyles are transported by the images of cruise catalogues?
- Which value systems can be inferred?
- Which culture is created and offered on board?
- How sustainable is this culture?

We started from the qualitative reduction (see Figs. 8.3, 8.4, and 8.5), for example: “Celebrity Cruises is the ideal cruise line for wealthy couples that place much emphasis on exclusivity and design. Exuberance, enjoyment and conscious experience are in the foreground.” In comparison a brief example of an interpretative re-enrichment of the same statement by “thick description” might be: “Celebrity Cruises is the ideal line for wealthy, ascended, largely established couples. ‘Status anxieties’ are gradually allowed to fade into the background, serenity is increasingly allowed and called for. One presents as liberal and intellectual. Nevertheless, one still places a lot of emphasis on exclusivity, style and manners. Quantitative material consumption is refined in a more symbolic qualitative manner. There is a - still hesitant - approach to a culture of ‘less is more’. Yet, designer furniture and high-priced clothing are still important symbolic signs and triggers. It remains obvious in the imagery that the high status is, to some degree, still new and fragile. We see an advancement-oriented, but not yet fully saturated clientele. Controlled exuberance, cultivated enjoyment and conscious experience is key ...” (Fig. 8.6)

8.3.6 Differences and Similarities of Vacation Promises

The catalogues try to address the assumed target groups as exactly as possible by using the respective verbal and visual codes and triggers. It is obvious that the catalogues are using stereotypical representations of people, situations, activities, atmospheres and artefacts in their photography. These stereotypes provide the observers and the potential customers a very quick overall impression, and allow them to identify with the offer or to reject it. This corresponds with the observation (Douglas and Douglas 1999) that passengers bring their personal background with them like a piece of luggage. And it is just this characteristic “piece of luggage”, which first of all determines the choice of the ship. This may be trivial, but leads to



Fig. 8.3 Cunard: “For wealthy people of 40 plus, who appreciate class, Cunard with its British style luxury is the right cruise line. Value is placed on culture and theatre as much as on exquisite dining and selected company”



Fig. 8.4 Royal Caribbean: “The ‘nation of why not’ offers to each age group as much fun, adventure and variety as one could wish for. The boundless experience is paramount”



Fig. 8.5 Carnival: “Carnival ships promise fun and enjoyment of life. Various ships offer the highest entertainment value to different target groups”

the formation of largely homogeneous passenger groups on the respective ships, which is important for both passengers and companies in terms of predictability.

A comparison of the “vacation promises” of different providers shows significant qualitative differences. Yet, these differences perfectly fit with the socio-demographic consumer milieu. Figure 8.7 and Table 8.2 show that SINUS milieus, which reflect the status quo of the material status and value preferences of a consumer society, can be used for positioning the various travel offers. SINUS milieus are a perfect representation of the status quo of a society.

We can summarize that we understand the logic and the aesthetics of the cruise business offers, which perfectly reflect the current situation of the market, of course updated frequently, but nonetheless mostly blind to more far-reaching visions.



Fig. 8.6 Celebrity Cruises, catalogue 2013

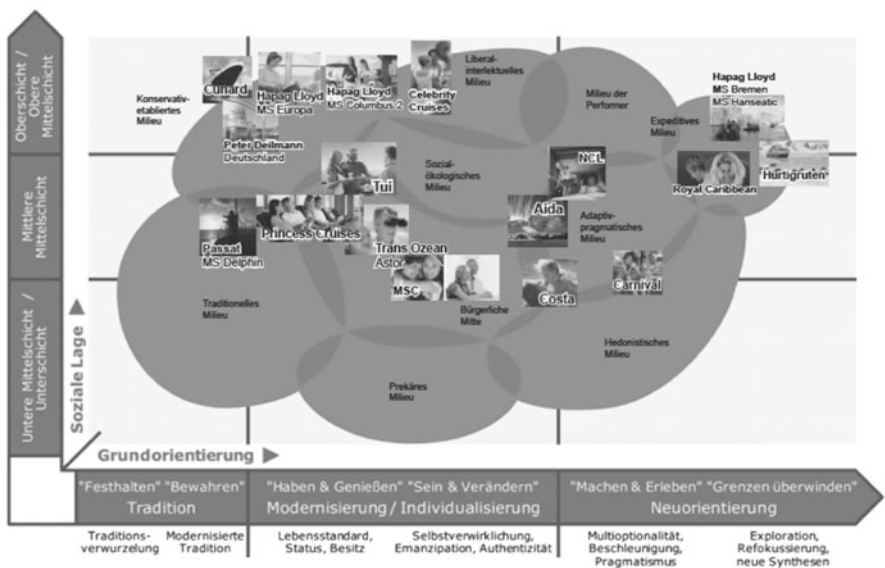


Fig. 8.7 SINUS mileus and cruise target groups. Mapping social status (income) vs. basic value orientation (from traditional to change-oriented). Source: <http://www.sinus-institut.de/en/home.html>, accessed 12.02.2015

We conclude that it does not make sense to follow this logic, for example by the detection of ever more specific target groups and sub-target groups and ever more specific offers for them, but that we have to change the perspective and question the marketing-driven approach more radically.

Table 8.2 Comparison of own descriptions and corresponding SINUS milieu descriptions

Company	Our description	SINUS description (our translation)
Cunard	“For wealthy people of 40 plus, who appreciate class, Cunard with its British style luxury is the right cruise line. Value is placed on culture and theatre as much as on exquisite dining and selected company.”	“Conservative established milieu. The classic Establishment: Ethics of responsibility and success, claims for exclusivity and leadership versus tendency to retreat and demarcation.”
Celebrity Cruises	“Celebrity Cruises is the ideal cruise line for wealthy couples that place much emphasis on exclusivity and design. Exuberance, enjoyment and conscious experience are in the foreground.”	“Liberal intellectual milieu. The enlightened and educated elite with a liberal attitude, post material roots, desire for independent living and diverse intellectual interests.”
TUI Cruises	“Personal wellbeing and care are the main focus on board of ‘Mein Schiff’. The offer for relaxation and entertainment is ideal for partner vacations. The customer is king.”	“Middle Class. The flexible bourgeois mainstream, willing to perform. General affirmation of social order; striving for professional and social establishment and secure and harmonious ways of living.”

In addition to the subtle differences, which we have detected, there is also such a thing as a typical cruise culture, which all mainstream suppliers share. In comparison with other forms of leave, these similarities and commonalities of cruise tourism products comprise (1) the paradox of promising individuality and exclusivity for a huge number of similar “individuals”, which (2) requires hermetic worlds for total control and the complete exclusion of disturbing real-world conditions (the “threefold cocoon” of protection, emotional stability, complexity reduction, see Vogel 2004). In consequence there is (3) the perpetuation of stereotypes and clichés, which leads to uninspiring perspectives of “more of the same”. These stereotypes have to be broken.

8.4 Part 2: Design Perspectives

8.4.1 So What? Design-Driven Innovation as a Way Out

Finally, further possibilities for development and potentials in terms of new and more sustainable forms of cruising are outlined. The catalogues have shown that we proceed in time by looking backwards, relying on the seeming causalities of the past. We try to understand the logic of the trajectories and extrapolate them into the future: the more quantitative the underlying reasons, the better regarding an alleged reliability.

Referring to Table 8.1 we argue that the knowledge gap between what is and what should be cannot be overcome strictly scientifically. Analysis is interesting insofar as it is useful for projecting change. But it cannot substantiate change since

there is no causal relation between knowing and understanding the situation and conceiving and creating improved situations. Analysis can be empirically grounded—projection and synthesis can only be grounded by means of the narrative quality and attractiveness of the new design proposals. That means we need *abductive* reasoning and *design thinking* approaches instead of marketing logic. We have to deal with strong, strange, improbable hypotheses in order to break the seeming causal chains, to accept uncertainty and to conceive future as a space of active design instead of reactive adaptation. This also means scepticism regarding the slavish focus on so-called “user needs” generated by marketing experts. “Avoid customer fetishism” might be a recommendation for strategic design planners. The critique is that mostly “more-of-the-same”-approaches are being pursued. Ever more isolated artificial spheres for specific target groups are conceived. Even when we refer to the so-called *megatrends* and pretend to plan providently for the future we neglect the fact that these megatrends are mere extrapolations of the past. In French there is the pertinent distinction between *le futur* (the progression of time) and *l’avenir* (future prospects and potentials). We are looking for the latter.

Design-driven innovation, as described by Verganti (2009) means the conscious shift away from market-pull strategies towards the generation of new products based on new meanings: Make implicit values explicit, question these values, create new value and meaning spheres, imagine preferred situations in these spheres. If this process is supported by technological innovation, the better (Fig. 8.8).

8.4.2 *Designing New Cruise Products: Imagining New Meaning Spheres*

We are aiming at the pragmatic and imaginative exploitation of the above findings from the catalogue analysis for design purposes. The hypothesis was that relating the product (the cruise) to relevant environments and thus opening the cruise experience instead of separating it from its social, cultural, historical contexts would generate new options.

How can this be done? By referring to the objective megatrends, which cannot be neglected, and by taking the subjective interpretations of the images seriously and build on them in our projections. Let’s start with the subjective interpretations of our empirical material. Select a couple of images from the analysed catalogues, preferably with people. Empathize with the people on the images. Try to go deeper in your explanations and interpretations. For example:

- De-construct the “professional smile” on both sides of the service relation.
- Question the “carnivalization” of vacation (Berger 2004).
- Be skeptical with the catchy hypotheses of oral regression, back to the womb, the paradise (Berger 2004). Is there something more behind?

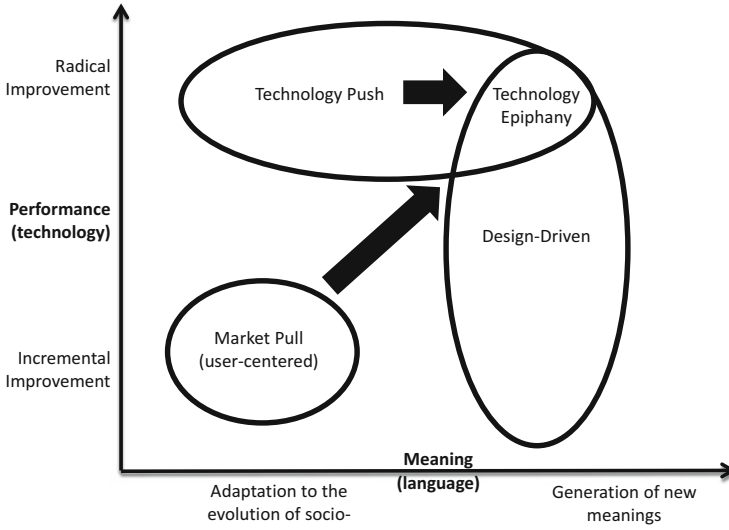


Fig. 8.8 Design-driven innovation (Verganti 2009)

- Imagine the specific situation dynamically, create an action pattern in time. Construct personas in order to contextualize the situation. What might be their actual concern?
- Sympathize with the permanent stress of passengers to enjoy, to relax, to experience, to consume, to be happy. What if that doesn't work?
- Feel the latent competitive situations with other passengers, the "status anxieties", the "seeming classlessness" (Berger 2004).
- Imagine the efforts, embarrassments, irritation and latent mutual humiliation in situations with "natives" during excursions.
- Realize the exaggerated expectations of perfection in furnishing and service and the pre-programmed situations of disappointment,
- and finally feel the threat of the end of holiday, the horror of being forced to leave the paradise, the scary re-entry into everyday-life.

Then relate this strong subjective proto-narrative to a relevant objective real-world topic. *Work-life balance* might be one of many issues of growing importance that come to mind when interpreting the image material. Social scientists and philosophers (Vasek 2013) have argued that this issue is extremely relevant especially for typical middle-class cruise customers. The perpetuation of the modern separation of work and life seems to lead to a dead end. Why does this topic, which seems arbitrary at first sight, make sense here? Because, for many centuries, the ship has been the prototypical location and laboratory for work-life balance experiences and experiments. Crews and passengers were forced to live and work on ships for weeks and for months. There should be starting points for new ideas. So why not explore working patterns and work-life balance models, different from the

traditional patterns of industrial modernity with their strict separation of work and leisure cultures?

8.4.3 *Practice-Based Design Research: Scenario Techniques as a Methodical Tool*

The projective aspect is still missing. In order to deal appropriately with future uncertainty these considerations have to be framed by relating them to realistic megatrend propositions. In consequence, new meaning- and value-spheres can be located on a map of future potentials/uncertainties. The PROJECTION part of PBDR requires methodical support. Scenario techniques are a promising way. Scenarios help us to chart possible futures in order to find new niches, new solutions (design), and new answers (design research). They also serve the purpose of forming intelligent hypotheses through abduction, imagination, and poetry. Creative and bold hypotheses are often more useful than inductively and pedantically constructed, tentative little theories. They help us to make better mistakes sooner. Normally scenario approaches operate with a number of *key variables* of high impact and high uncertainty. Comprehensive scenario techniques often require enormous effort and mathematical support, such as cross-impact analysis, cross-consistency analysis and cluster analysis. See for example Gausemeier et al. (1996).

“Quattro stagioni”/“otto stagioni” approaches, as first described by Schwartz (1991) provide simplified methods with two or three key variables and two alternative projections for each key variable. The “Cube of Future Uncertainty” (Fehr and Jonas 2013) builds on these simplified scenario techniques. It can be considered as a generalized designerly framework for scenario approaches, defined by the three central systemic dimensions of Practice-Based Design Research: the wider context, the design/inquiring system, and the driving force and thus establishes the systems-based connection between ANALYSIS and SYNTHESIS by means of PROJECTION (see Table 8.1; Fig. 8.9).

Figure 8.10 shows a simplified adaptation of the CFU scenario process. The idea is that new forms of work-life balance might be promising. We put this into a scenario framework of the following kind:

- (1) The wider context: The character of globalization—between conflict and harmony.
- (2) The design/inquiring system: Work-life patterns—between strict separation and new forms of integration.
- (3) The driving force is considered as fixed, the goal is the creation of business opportunities for cruise companies.

This means that two dimensions/key variables with high impact and high uncertainty open up a “quattro stagioni” framework of four different potential



Fig. 8.9 The “Cube of Future Uncertainty” (CFU, *left*) is a scenario framework built from three systemic dimensions (*right*): (1) the wider context, (2) the design/inquiring system (established by the involved actors), and (3) the driving force. A situation of Research Through Design

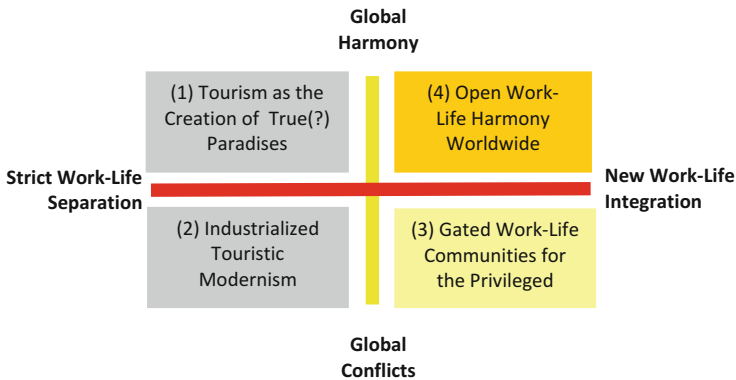


Fig. 8.10 A “quattro stagioni” scenario framework. *Vertical axis*: the wider context, *horizontal axis*: the design/inquiring system

futures. Images, powerful titles, and incisive stories intensify the communication about and by means of the scenarios (Schwartz 1991).

Scenario (2) is the status quo of the cruise industry, although tirelessly and with more and more effort pretending scenario (1). The two scenarios on the right hand side might be ideal backgrounds and starting points for the creation of new business cases for “Work-life balance at sea” in the cruise industry. Scenario (3) is already under development, for example by the Blueseed initiative (<http://blueseed.co/>), which is conceiving floating units of various forms for offshore companies and offshore communities. A whole range of other concepts from new forms of business trips to project ships to start-up ships are conceivable (Fig. 8.11).

8.4.4 Suggestion for Cruise Companies

Today design in the cruise industry appears as a sub-department of marketing, willingly executing the market-pull based concepts of risk averse managers. But how credible are the promises that are given by means of the artificial dream-worlds



Fig. 8.11 Bluseed concept, an example of work-life integration, <http://bluseed.com/ship/>, accessed 12.02.2015

that are produced? Are these promises still consistent with the wishes of the people? Which might be other promises? To approach these questions we suggest to:

- question the trajectories of business development,
- beware of “customer fetishism”,
- explore uncertainty more proactively,
- be more open to designerly future studies,
- create experimental spaces on existing ships as change labs,
- imagine roadmaps towards completely new vacation promises,

New initiatives might even contribute to move things forward towards scenario (4).

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Chapter 9

Quantifying Aesthetic Preferences in Cruise Ship Exterior Design

Jung-Hwa Jo and Wolfgang Jonas

Abstract The study of the aesthetic preference in the industrial field has been conducted regarding the qualitative expression with special focus on colour and shape. This research focuses on quantifying the aesthetic preference of people. Especially, the exterior design of cruise ship is the target of this study. The competitiveness of the items can be generally managed by the preference of people. The quantification of the aesthetic preference of people can make it possible that not only the aesthetic analysis but the industrial one can have an effect on the competitiveness in the market. The target for this study is to find criteria affecting the aesthetic preference of people about the exterior design of cruise ships. Therefore the method of quantifying the qualitative aesthetic preference with Fuzzy Modelling is applied. The results of this study can be used in cruise ship design considering the aesthetic preference of people as a guideline.

Keywords Aesthetic • Cruise ship • Exterior • Fuzzy modelling • Quantification

9.1 Introduction

The artefacts produced for convenience purposes need to meet the functional requirements first and foremost. Customers expect that the plane flies in the sky, the car is running on the road and the ship is voyaging properly. Nowadays most technical products meet the first requirement (functional requests). Because the satisfaction in the first need was increasing the human user wanted to have more, that leads to the emergence of the second desire, the beautiful and attractive appearance. Thus, the second requirement (aesthetic preference) can be the essential criteria to achieve competitiveness in the market. If we can quantify the qualitative aesthetic preference of the cruise ships, it enables ship designers to tackle these aspects and their economic potential in the market in terms of quantitative engineering criteria.

By the current ship building technology or ship design (ship construction), the achievement of functional requirements reaches up to its greatest level. But the

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consideration of the aesthetic preference, whose importance is increasing, does not have any quantitative evaluation criteria yet. To survive in world market it is necessary to develop the evaluation criteria considering the aesthetic preference also for the increasing market of cruises and the producing ship industry. Especially in the design of cruise ship aiming at excursion through sailing, the consideration of aesthetic preferences is essential.

Many precedent studies on people's aesthetic preferences regarding colour and shape have been performed (Lienau 1918; Jonas 1991; Shinoda et al. 1997), as well as researches on the exterior design of the ships (Lee and Byun 2007). Furthermore, there is the whole new field of emotional design (Donald 2003). Most studies cover only qualitative aspects. Ship designs have hardly been considered so far. To be able to respect the preferences in the early design stages will increase the overall satisfaction of later passengers because ship designer was able to adapt their preferences even in the functional design.

The paper proposes a theoretical and methodical framework, which evaluates people's aesthetic preferences about cruise ships; it can be reflected as a human-centred factor during the concept design phase. Through this proposed framework, the exterior of cruise ships is categorized by means of geometrical factors and visual image information. Using and assessing this information allows to quantify aesthetic preferences about the exterior of cruise ships.

By applying this framework to cruise ship design, a guideline about the consideration of aesthetic preferences can be proposed. It helps with the improvement of market competitiveness. Further studies will be performed to verify the validity of this framework. Namely, I will evaluate the exterior design of popular cruise ships quantitatively and make an analysis of the results.

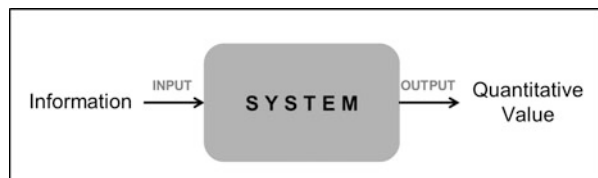
9.2 Methodology

This study proposes a methodology which evaluates people's aesthetic preference about cruise ships quantitatively.

The methodology proposed in this study proceeds as shown briefly in Fig. 9.1.

The qualitative information inputs about the ship design are transformed into the quantitative outputs. The input value is changed according to many conditions like design target, time, trend, purpose and passenger, etc. Accordingly, the system is changed flexibly, but the basic framework is maintained unchanged.

Fig. 9.1 Process



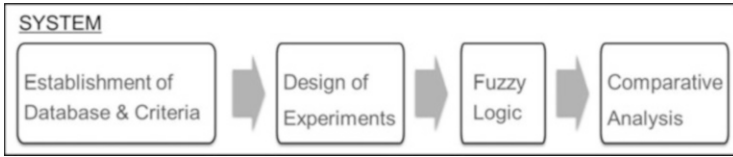


Fig. 9.2 Main system

The overall system is composed as shown in Fig. 9.2.

First a survey is conducted about exterior design characteristics, and the geometric factors are categorized in order to build a database to analyze people's aesthetic preferences. The survey collects the impressions of people looking at the exterior of cruise ships, which have a correlation with categorized geometric factors. Then the evaluation criteria about aesthetic preferences are established and the main evaluation factors are determined by using the design of experiments (DOE) approach. The evaluation criteria also include voyage time, trend, route and more about the cruise ship, which is the evaluation subject.

The established evaluation criteria and factors are quantified by using fuzzy theory. Fuzzy theory is the analytical method to quantify the uncertain and unbounded factors. Its process consists of setting of factors, fuzzy partitioning and fuzzy inference.

Through quantified evaluation criteria and factors, the exterior design of the cruise ship is evaluated, and then compared with the existing values in a database.

9.3 Database Building

9.3.1 Data Range

Because all ships including cruise ships have three dimensional freeform shapes, they can't be explained by simple and differential equations. For those reason, a drawing like a plan, section and profile is used to display information of the three dimensional freeform shapes. The geometric information reflected along the axes of an orthogonal coordinate system can be divided into four or five basic curves, which express the geometric boundary conditions. In these curves, the section and profile can express the features of the ship shape simply and strongly.

Since the scope of objects is extensive, this study restricts the scope to the two-dimensional profile (side view) from the beginning. Thus the profile, especially the visual part above the waterline is taken as the main subject of inquiry in this study. The exterior design of the ship is evaluated within the scope for maintaining their functionality and performance.

9.3.2 Categorization of Geometric Factors

This study categorizes the geometric factors of exterior in profile.

To be able to categorize geometric factors of exterior shape, a simplification of exterior lines is necessary. The simplification of exterior lines enables an objective expression and computer based analysis. After the simplification of the exterior lines, it should be represented by polygons. Finally geometric factors are arranged to identify these lines.

Figure 9.3 shows a tree structure, which means an arrangement of the geometric factors of the ship's exterior shape.

Figure 9.4 shows the geometric parameters of exterior line in a profile.

9.3.3 Survey

There are the observational techniques and the inquiry techniques in the data collecting method for the database-building. In the observational techniques are the videotaping, memo, diary writing, think aloud and computer logging, etc. In the inquiry techniques are the interview, FGI (Focus Group Interview) and survey, etc.

In this study the inquiry techniques are selected because of the needs of data on the aesthetic preference of people after watching the profile of the cruise ship. And the survey, which can get the relatively objective result is selected among the inquiry techniques. The reason is that it can be gained from many people. Through survey, people's feelings and preference are recorded when they look at the cruise ship.

For example, the test persons are shown the pictures of about ten cruise ships with similar building date and size. The people will mark on the most beautiful parts

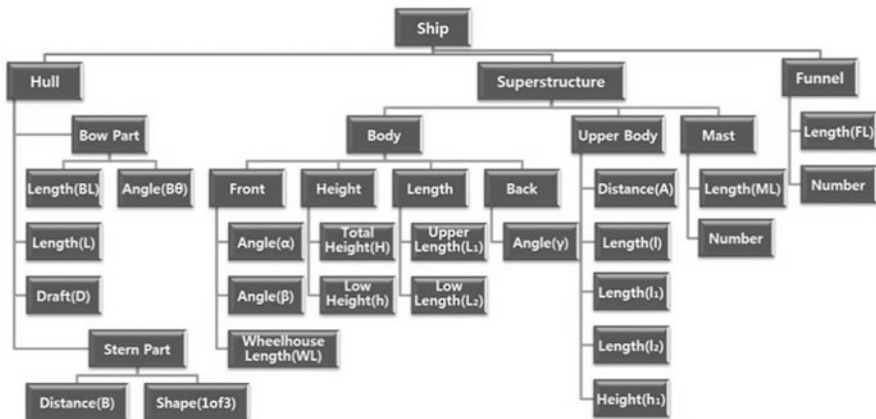


Fig. 9.3 Tree structure of geometric factors

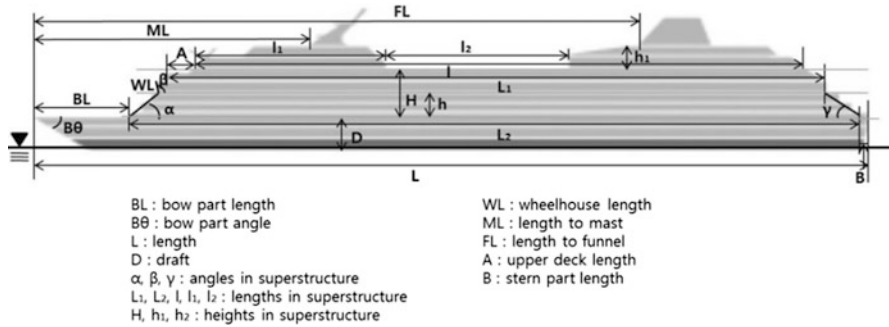


Fig. 9.4 Geometric parameters of exterior line

and give the score on a scale of 0–10. Then, we conduct an additional survey that focuses on specific marked parts like bow and funnel.

The target groups of survey should be classified according to characteristic of each group. It will be classified as the passengers, potential customers, cruise ship designers and ship engineers, etc. According to the specific target group and purpose of the inquiry the questions will be worked out in detail.

9.3.4 Database Building

This study builds a database which combines the geometric factors and the results of the survey.

The information of exterior line is entered, and it is stored in the database numerically. Then the evaluation criterias are established through data analysis. At this time, any geometric factors which affect the survey, no matter how small, have to be included.

9.4 The Design of Experiments (DOE)

Experiments are performed to investigate characteristics of a system. Responses or characteristics are the results obtained from these experiments. The responses should be analysed appropriately according to the objectives of the experiments. The factors are the sources that affect the experiments. It may not be easy to identify all the factors and give right values because there are many factors, with different distributions, which are affected by the variations of the environment.

Design of Experiments (DOE) determines the allocation and method of experiments to satisfy the objectives. In other words, it is an efficient procedure for planning experiments so that the data obtained can be analysed to yield valid and

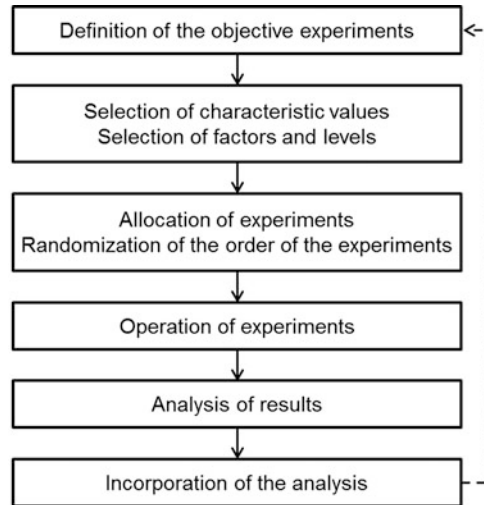
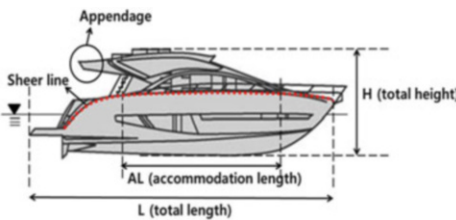


Fig. 9.5 DOE process



Factors	L/H	Sheer	Appendage	L/AL
Level 1	less than 3.0	banana, S-line	3	more than 1.736
Level 2	3.0 ~ 4.0	stairs, convex	1~2	1.5 ~ 1.736
Level 3	below 4.0	flat, concave	0	below 1.5

Fig. 9.6 Factors and levels

objective conclusions. Various factors are determined by analysis of the experimental results (Park 2007).

Generally, DOE proceeds as illustrated in Fig. 9.5.

When there are a lot of evaluation factors and criteria, the independent factors should be selected for objective evaluation. The main evaluation factors are determined by using the design of experiments.

For example, let's suppose we determine the geometric factors affecting aesthetic preference on the profile of a monohull yacht. First, we select characteristic values and factors and levels of each factors. At this time, we can select four factors (L/H: the ratio of the total length (L) and total height (H), L/AL: the ratio of the total length (L) and the accommodation length (AL), Sheer: the shape of Sheer Line, Appendage: the number of appendages) and three levels as shown in Fig. 9.6.

Then we allocate experiments randomly by using the orthogonal array table and operate it through a brief survey. Finally, we evaluate the relative influence and select the essential factors. The above steps are applied to this study equally (Deborah 1991).

The experiments are the survey about the aesthetic preference of people in this study. Through analysis and incorporation of results, we select the essential (independent) factors. Through this method, we can analyze the interactions between each factor as well as independent factors (Coleman and Montgomery 1993).

9.5 Fuzzy Modelling

Beauty can be defined as the flexible, qualitative, personal and inner sense a human can feel. Fuzzy theory is the method of analysis to quantify the uncertain and unbounded factors such as beauty. It is reasonable to solve the discontinuous progress to the conception of the boundary by the engineering set theory and to quantify the qualified factors.

The engineering set theory uses sharp distinctions. It forces us to draw lines between members and non-members of a class. For instance, we may say, Tom is tall because his height is 181 cm. If we drew a line at 180 cm, we would find that David, who is 179 cm, is small. Is David really a small man or have we just drawn an arbitrary line in the sand?

Set theory is a powerful concept in mathematics. The principal notion underlying set theory, that an element can (exclusively) either belong to a set or not belong to a set, makes it well-nigh impossible to represent much of human everyday discourse. Ordinary set-theoretic representations will require the maintenance of a crisp differentiation in a very artificial manner.

A fuzzy set, by contrast, permits membership in the interval between 0 and 1 while retaining the two qualitative states of full membership and full non-membership. Thus, the fuzzy set could include individuals who are “fully in” the set (fuzzy membership = 1.0), some who are “almost fully in” the set (membership = 0.90), some who are neither “more in” nor “more out” of the set (membership = 0.5, also known as the “crossover point”), some who are “barely more out than in” the set (membership = 0.45), and so on down to those who are “fully out” of the set (membership = 0). It is up to the researcher to specify procedures for assigning fuzzy membership scores to cases, and these procedures must be both open and explicit so that they can be evaluated by other scholars (Ragin 2000).

The process consists of membership functions, fuzzy IF-THEN rules and fuzzy inference.

9.5.1 Membership Functions

A membership function (MF) is a curve that defines how each point in the input space is mapped to a membership value (or degree of membership) between 0 and

Fig. 9.7 The membership function of triangular shape

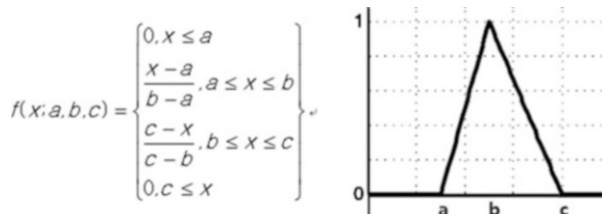
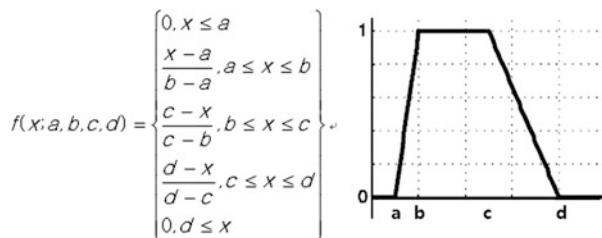


Fig. 9.8 The membership function of trapezoidal shape



1. The input space is sometimes referred to a fancy name for a simple concept as the universe of discourse (The MathWorks, Inc. 1994–2015).

Then each membership function about evaluation criteria is defined. For membership function partitioning each variables value is based on the database, and the membership functions are defined by combining a triangular shape and a trapezoidal shape because it can briefly mark the fuzzy number and the simple arithmetic operation.

Figure 9.7 expresses the membership function of the triangular shape. Figure 9.8 expresses the membership function of the trapezoidal shape (Jang and Sun 1997).

9.5.2 Fuzzy If-Then Rule

The fuzzy knowledge base can be established by several ways. This study takes Fuzzy If-then rule as an approach.

The Fuzzy proposition means that a variable value can be a factor of Fuzzy. For example, the proposition “A is big” is a kind of the Fuzzy proposition. The word “BIG” can be called as the linguistic label and known as the conception of Fuzzy.

If “Fuzzy premise”, then “Fuzzy Consequent” (Park 1990)

The If-then sentence having premise and consequent being Fuzzy propositions is called the rule of the Fuzzy.

The Fuzzy rule in this system suggested by this study is created by the database from each membership degree and inquiry at each input and output data. In other words, it includes the combinations of the factors affecting the aesthetic preference and the result of it.

The satisfaction of the aesthetic preference can be shown by the comprehensive expressions such as “the ship is spacious” and “the sheer line is flat”. To have the high aesthetic preference, it has to factor in that the ship has to have a smooth curve. Because if the shape of ship is discontinuous and rough, people feel uneasiness and is more likely to have an impression that it is not beautiful. On the other hand, if other factors influencing on the aesthetic preference give unstable feeling, the aesthetic preference is low although the shape of the ship has a smooth curve.

Thus, for example, the following rules are created.

- Basic rules
 - Rule 1: for L/H
 - If L/H is small, then BD is normal.
 - If L/H is medium, then BD is good.
 - If L/H is large, then BD is normal.
 - Rule 2: for Sheer line
 - If Sheer is curve, then BD is good.
 - If Sheer is normal, then BD is normal.
 - If Sheer is flat, then BD is bad.
 - Rule 3: for Appendage
 - If Appendage is many, then BD is bad.
 - If Appendage is average, then BD is normal.
 - If Appendage is few, then BD is good.
 - Rule 4: for L/AL
 - If L/AL is small, then BD is bad.
 - If L/AL is medium, then BD is good.
 - If L/AL is large, then BD is bad.

Even though the basic rule for the input variation was created, it is too simple to express the feeling for the items. As a result, the rule considering the various input variable needs to be subdivided.

- Subdivision rules
 - If L/H is small and Sheer is curve and Appendage is many,
 If L/AL is medium, then BD is good.
 else BD is normal.
 - If L/H is medium and Sheer is normal and Appendage is few,
 If L/AL is medium, then BD is beautiful.
 else if L/AL is small, then BD is bad.
 else BD is normal.
 - If L/H is large and Sheer is flat and Appendage is average,
 If L/AL is medium, then BD is normal.
 else BD is bad.

(L/H: the ratio of the total length (L) and total height (H), L/AL: the ratio of the total length (L) and the accommodation length (AL), Sheer: the shape of Sheer Line, Appendage: the number of appendages, BD: the beauty degree)

9.5.3 Fuzzy Inference

In the fuzzy inference step, the membership degree is calculated by performing ‘AND’ operation with the data membership degree. The final result is obtained by combining the printed results for each rule and performing the defuzzification process. We use the method COA (Center Of Area) in the defuzzification, because it can’t guarantee the best function overall but is stable in the point of less change for inputs and superior to the others.

In other words, we establish the algorithms that calculate a numerical value of aesthetic quality out of the geometrical data of the design using fuzzy logic.

9.6 Application to the Ship Design

The left flowchart in Fig. 9.9 is a normal flowchart for ship design.

Design requirements and constraints are determined, and then the best alternative is found through many evaluations. This procedure includes consideration for only function and performance. But it needs to consider the aesthetic preference like the right in Fig. 9.9.

Figure 9.10 shows the ship design process applying the proposed methodology.

Through the proposed method in this study, the quantitative aesthetic requirements can be applied to this procedure. Through this, when designing a ship, we can consider function in combination with design.

In other words, the method can evaluate the aesthetic preferences quantitatively as to which a cruise ship is considered the most beautiful in a specific framework of requirements. The score that we calculate is derived from the aesthetic preferences of the people we have asked in our survey. The score depends on the target group

Fig. 9.9 Ship design flowchart

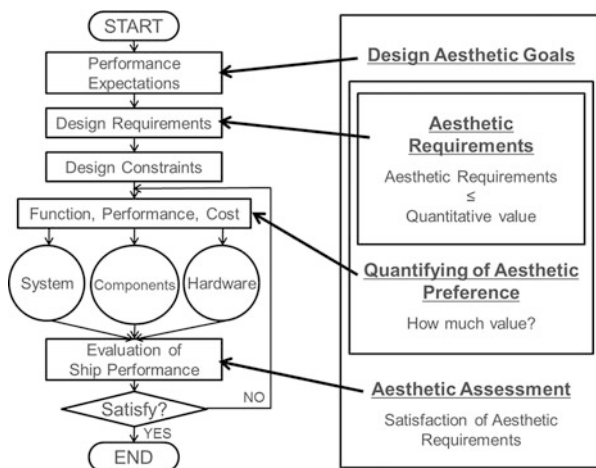
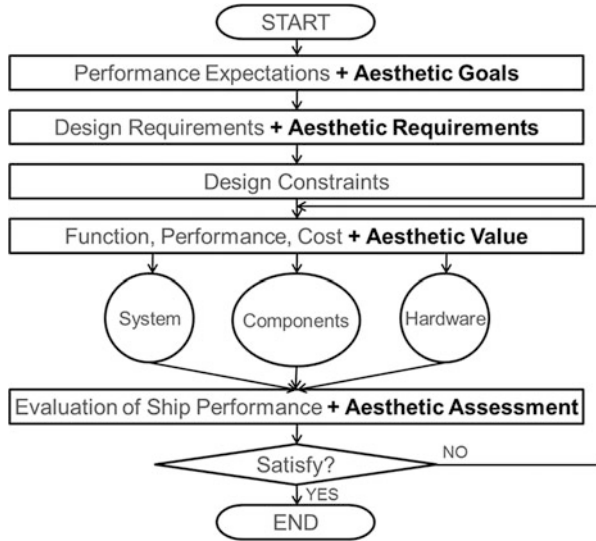


Fig. 9.10 Proposed ship design flowchart



and on every individual. That means specific observers or target groups with their specific purposes can be different from each other. The method provides a transparent tool to discuss these different assessments between the stakeholders of the design process in a rather objective manner.

So when designing a new cruise ship for a cruise company, the method guarantees that the beauty score reaches a certain standard. It enables the cruise ship designers to consider people’s aesthetic preferences in a very early stage of the process and thus to avoid conflicts with the functional engineering requirements.

9.7 Conclusion

This study proposes a framework, which evaluates people’s aesthetic preference about cruise ships. It can be considered as a human-centred factor during the concept design phase.

With this proposed framework, the exterior of cruise ships is categorized by means of geometrical factors and visual image information. With assessed information it allows to quantify aesthetic preferences about the exterior of cruise ships.

Through applying this evaluation system to ship design, it can propose a guideline about aesthetic preference in ship design. It contributes to the improvement of market competitiveness.

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Chapter 10

On-Board Cultures of Cruise Ships and Cruise Product Development

Carolin Kowollik and Wolfgang Jonas

Abstract Cruise ships are carriers of clearly defined, yet usually not explicitly addressed on-board cultures, which are mostly in dramatic contrast to the everyday culture of the destinations. Often the destination culture hardly matters on board, except for a few presentations of excursions. With the background of design research, the study explores the question of how to bridge the gaps between the designed artificial culture on board and the everyday culture of the destination. The research question focuses on identifying those factors influencing the cruise ship system, which have a potential for change in terms of cultural encounters. The study consists of three main parts: First, relevant actors in the cruise ship system have been synthesized into a theoretical model. Using a holistic approach, not only people were defined as actors, but also objects and organizational forms. Second, the design research method “cultural probes” and qualitative interviews were used in an empirical study. The statements of the participating passengers served as the basis for the description of the holiday cultures on board, as well as for describing the relationship to the everyday culture of the destination. Through redesigning the identified fields, the perception of cultures and cultural encounters can be influenced. Third, these findings from theory and practice were brought together in a “map of socio-cultural relations”. From this map, descriptors were developed that support the description of a cultural identity of a cruise and expand the imagination of possibilities for future cruises, so that cruise companies can differentiate their offers from competitors.

Keywords Cruise cultures • Design research • Destination cultures • New business opportunities

10.1 Introduction and Focus

Cruise companies are striving to let the passengers immerse into the holiday feeling as much as possible. The ship design and the organization of the trip are directed to keep the everyday lives of the passengers as far away as possible and to present

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them an idyllic heavenly environment instead (Wood 2000). The ship seals herself off from the outside world and forms a protective cocoon for the passengers (Vogel 2004). Douglas and Douglas (1999) found in a comparative study of cruise societies on three different cruise ships that socio-cultures in the microcosm cruise ship differ greatly. Although they conclude that no typical cruise society can be defined, the authors believe that on a greater level cruises can be characterized by luxury, carefreeness, relaxation, and fun.

The designed holiday culture on board meets the everyday culture of the local population in the target country. In contrast to the holiday culture, the everyday culture is shaped by work, family and friends, neighbours, finances, responsibilities, worries, decisions and politics. If a cruise ship moors in the harbour, not only do people from different nations come together, but also people who are situated in completely different states of mind.

There are also cruises that are not oriented inward that strongly. For example, on smaller vessels, expedition cruises, freighter cruises or cruises on sailing ships, nature and the cultures of destinations are much more linked to the journey. It is believed, however, that also on larger ships of the classic cruise, there are several different ways to strengthen the connection between the cruise experience and the shore excursions. The focus of the present investigation is on ships in the low to medium price range that are aiming at mass tourism and have a wide range of leisure and entertainment offers.

Various authors report negative social impact by cruise tourism in some destinations, which is especially noticeable in small destinations where carrying capacity is low. For example in Key West in Florida, tourism changed the cityscape as well as employment opportunities, for example by increased settlement of jewellery and clothing shops at the harbour (Klein 2008). In Vanuatu in the South Pacific, locals feared that mass tourism would convert local value systems so that sacred sites lose their meaning when they are opened for tourists (Niatu 2007). In the Caribbean, private islands and private clubs owned by cruise companies minimize the profit of local economies (Wood 2000). Another prominent example is Venice, where residents avoid central squares or crowded streets at certain times (Pichler 2012). This leads to misunderstandings, fears, and mutual incomprehension.

The proposition of this study is that besides a well-balanced number of tourists, it is important to bridge the cultural gap between the tourists and locals to generate respect and openness on both sides. In the cultural view of land-based tourism, Thiem (2001) differentiates between the culture of the source region, the holiday culture, the service culture and the culture of the target region. In transferring these categories to cruise shipping, the spatial separation between the holiday culture and the culture of the target region becomes evident. In cruise tourism, the culture of the target region is present only during the short land excursions. In contrast, the holiday culture is much more present than in land-based tourism, because passengers mainly travel in the staged holiday culture on the ship. The increasing deterritorialization of cruise ships (Wood 2000) leads to the situation that on many ships, the destination culture hardly plays a role on board, except for a few presentations of excursions (Mandel 2012). Having the background of design

research, the study focuses on the question of how to bridge the gap between the designed holiday culture on board and the everyday culture of the destination.

The study is based on the assumption that discrepancies between the “vacation” and “everyday life” states of mind can be softened by sensitizing passengers on board for other cultures and intercultural understanding. The research question for the study focuses on identifying those factors determining the cruise ship system, which have a potential for design in terms of cultural encounters. The results serve as a rich basis for the creative “projection phase” of a design process (Jonas 2001).

Providing solutions to this topic has three main benefits for cruise companies. First, through bridging the cultural gaps, companies improve their corporate social responsibility (CSR) and therefore improve their distinction towards competitors. The urgent need to implement sustainable strategies is underlined by megatrends that for example predict growing sustainable consumption patterns in the western countries (z-punkt 2008). CSR isn’t limited to responsibility towards employees and the environment like it is often treated today, but means “the responsibility of enterprises for their impacts on society” (European Commission 2011:6). Strengthening CSR holistically is therefore a future-oriented business strategy. Second, unsatisfied locals bear the danger of putting up a fight as happening in Venice with the “No Grandi Navi” movement (Pichler 2012). Passengers will feel less welcomed and eventually, the touristic experience will suffer. Third, those movements put a lot of pressure on local authorities and might eventually result in stricter regulations and stronger alliances between ports. There could be limitations to sizes of cruise ships for example which could strongly intervene into the current business models. This study has the intention to explore alternative ways of approaching this problem situation so that companies are prepared for future developments.

10.2 Research Design and Methodology

Design research is located at the very beginning of the product development process and aims at idea generation and concept development. It puts individual user worlds, social and cultural developments and creative future projections into the centre. From this perspective, the social interactions on board provide a significant resource for the development of new and innovative offers. The question “How do we want to live?” is central to the design process (Jonas 2001). Therefore, the designer has to understand the current situation as a first step, and investigate the actions as well as the manifested and latent needs, wishes, and dreams of the people.

The study comprises three main parts: The theoretical discussion of the relevant actors of the cruise ship system, the description of the cultures on board and their relationship to the everyday culture of the destination as well as a context analysis through a “map of socio-cultural relations”.

10.2.1 Actors of the On-Board Cultures

In a secondary research on the issues of cruise tourism, culture and design, the concept of culture has been sharpened and the key actors on board have been identified.

10.2.2 On-Board Cultures and the Relationship to the Everyday Culture of the Destination

The main part of the study focuses on the activities and perceptions of the passengers on board and in the destinations. It was analysed which actions take place on board, what relationships there are between actors and which impact the ship design has on the passengers' activities. It was also examined, what roles cultural aspects play on board and at which points passengers get in touch with residents of the destination. The inquiry is deliberately not about generating an all-over answer to these questions, or about describing an average passenger who can be classified. It rather aims at capturing the context by rich empirical data in a qualitative form, which allows developing empathy for different passenger types. In this study, qualitative interviews were combined with the design research method "cultural probes" (Gaver et al. 1999) to capture the thoughts, emotions and intentions of tourists and to analyse the backgrounds and interrelations of actions, decisions, and needs of travellers in terms of cultural aspects. Cultural probes are specifically designed packages of questions and tasks that encourage people to give insight into their daily life. A total of seven cruise tourists from Germany took part in the study. They took classic cruises with various companies: AIDA Cruises (five participants), Phoenix (one participant) and Costa (one participant). The participants, who were aged between 35 and 80 years, each got sent a work package called a "logbook" (Fig. 10.1). It contained questions and tasks to be worked through during the cruise. In a second step, the participants were interviewed after their holiday. The personal



Fig. 10.1 Cultural probe "logbook"

answers in the logbook were used to develop interview guides for each participant, so that valuable aspects could be addressed in more depth.

The phrasing of the questions in the logbook was supposed to inspire the participants to observe and reflect their actions, perceptions, opinions and emotions during their holiday in order to share it in the subsequent interview. As the study stretched out over almost 9 months, different participants received different cultural probes as a result of a learning process on the researcher's side. The logbook questions were checked and changed in an iterative process. This is feasible since the objective of this method is not the deductive evaluation of pre-established concepts regarding lifestyles and thought patterns concerning one hypothesis. The objective is rather to learn about motivations and values of individuals in an inductive, exploratory research. For design research, those statements that differ from the ostensible concept are especially interesting, as in these statements there is particular potential for change and innovation.

10.2.3 “Map of Socio-Cultural Relations”

In a further step, the individually interpreted statements were gathered and related to the initially identified actors of a cruise. Relationships and dependencies between the statements were identified, which resulted in the creation of a map that was named a “map of socio-cultural relations”.

10.3 Actors of On-Board Cultures on Cruise Ships

On the basis of a broad and general literature study about cruising, five actors of an on-board culture became more and more evident: media, passengers, staff, the travel concept and the ship architecture (Fig. 10.2). The characteristics of those actors lead to the formation of the holiday culture on board cruise ships, which, as described earlier, can clash with the everyday culture of the destination, when passengers disembark. Figure 10.2 summarizes the destination culture by the overarching terms “residents” and “surroundings”, because the attention is put on understanding the on-board culture. In both cultures, key concepts exist that can cause misunderstandings, fear and dislike when they converge.

Not only people were considered as actors but also the designed environment, because material objects are the form of appearance of every culture. Culture is “regarded as the whole complex of ideas, forms of thought, ways of perception, values and meanings produced by humans, which materializes in symbolic

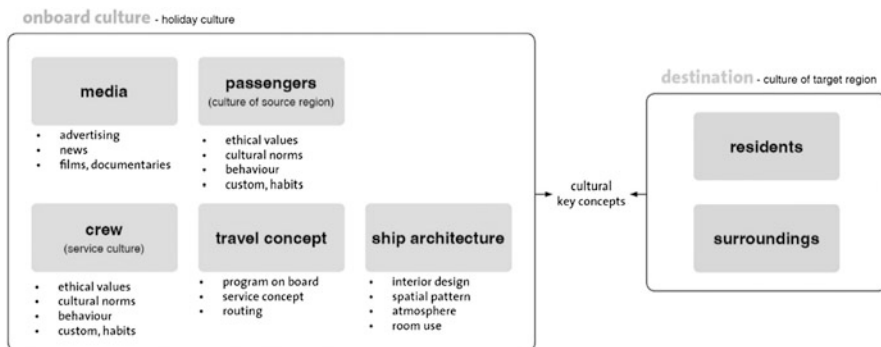


Fig. 10.2 Theoretical analysis of the actors of the on-board culture

systems.”¹ (Nünning and Nünning 2003: 6). So culture is caused by an interrelation of actions and artefacts with mind-sets and values.

In the following, the five actors of the on-board culture will be specified.

“Passengers” and “crew” can be described by ethical values, cultural norms, behaviour, custom and habits. These two groups are considered separately, since they play fundamentally different roles as customers and service providers. Douglas and Douglas (1999) found that the passengers carry their personal background like a piece of luggage on board and react diversely to the conditions and offers on the ship. They also note that this piece of luggage largely inspires the choice of the ship. This may create a homogeneous group of passengers on board. The crew, however, comes from different countries and social classes.

The travel concept strongly influences the activities of people on board by determining their leisure activities. The travel concept forms the character of the trip through the program on board, service concept, shore excursions and through the routing. Parts of the travel concept are usually the main reasons for the choice of the ship.

The ship architecture was designed for the specific purpose of a touristic cruise. Due to the spatial structure and the interior design, a particular use of space is stimulated. For example, the pool invites to sunbathe, swim and relax; a magnificent multi-storey theatre however, invites to spend a cultural evening in a sophisticated atmosphere. They generate quite different atmospheres that encourage certain actions or inhibit others.

The contents of media such as news, movies, documentaries and advertising are an expression of cultures, as they reflect the current problems, worlds of thought and innovations. On the other hand, they influence the culture in return through the dissemination of perspectives. In terms of cruise tourism, media have an impact on

¹Translated from German: “Demzufolge wird Kultur als der von Menschen erzeugte Gesamtkomplex von Vorstellungen, Denkformen, Empfindungsweisen, Werten und Bedeutungen aufgefasst, der sich in Symbolsystemen materialisiert.”

the expectations of passengers before the cruise. News about naval accidents might point to related risks, and films such as “Love Boat” or “Titanic” tell fictional stories about life on board. Advertisements from cruise companies formulate glamorous holiday promises. In an analysis of advertisements of various cruise companies, Berger (2004) argues that all lines except the most luxurious cruise lines stress gourmet food, freedom, adventure, fun and pleasure. Advertising creates ideal pictures in advance, which tourists take with them. This also affects the acculturation in the tourist resort.

10.4 On-Board Cultures and Their Relationship to the Everyday Culture of the Destination

In an exploratory approach, inspiring statements from the cultural probes and the transcribed interviews were identified and interpreted in terms of the research question. This very subjective approach is on one hand heavily dependent on the objectives of the respective researcher. On the other hand, the projective character of design research plays a role, which seeks to change the current situation. Therefore, statements either describe a relevant problem or represent a starting point for change. The statements describe the relationships between two actors of the cruise tourism system (Fig. 10.2).

10.5 Openness of Passengers Towards the Entertainment Offers

One participant talked about the art auctions, which he visited. He was interested in experiencing how an auction proceeds. It was entertaining for him to observe the bidding behaviour of other passengers as an uninvolved observer. He felt especially comfortable with the non-binding character:

Yes, exactly. Without commitment, I just had that in mind. Yes, exactly, because I could go there without obligation. Otherwise I do not go to an art auction. Right, exactly. And then it came to me, and then I took part. Yes, exactly, you can say that. Non-binding. And without much effort to do so. (P5; AIDA)

Although the auctioneer was “pretty weak”, as the respondent put it, he found pleasure in watching the people:

So it was just fascinating by the people that you observed. Who is now raising the hand, and how much is he bidding there? What does he look like? (P5; AIDA)

On the one hand, for this passenger, the non-binding nature was the trigger to participate. On the other hand it helped that it was without effort and the auction has virtually come to him onto the ship. It did not seem to be of importance to see an art

auction, but rather to experience something different than in his everyday life. In this case, the travel concept has greatly influenced the action of the passenger.

Another participant played shuffleboard for the first time on board. Asked if she also does her on-board activities at home, she replied:

Sports definitely. Shuffleboard, of course not, that's ship specific I guess. Um, [...] at least I haven't yet seen it anywhere, although it was real fun to us. We have never played it before. (P8, AIDA)

Obviously, people are visiting the entertainment program from very different motivation. These passengers seem to openly accept what is offered to them. There is a great potential for the formulated design goal in offering the passengers on-board services that are aiming at (inter-) cultural education. The statements of the passengers suggest that cultural offers would be accepted as long as the passengers are confronted with something new in a non-binding way that is entertaining. One might imagine that the passengers can for example learn traditional weaving or get an introduction to behaviour rules in a mosque, depending on each destination. It opens up countless low threshold opportunities to bring the cultures of the destinations closer to the passenger.

10.6 Intercultural Aspects on Board

The participants were asked what hints they find on board concerning cultures of the destinations. Responses included lector speeches or slide shows, information flyers like "AIDA Hafeninfo" (port information) that are available at the reception of the ship and the foreign currency.

AIDA also arranges the daily on-board program in an information sheet. A closer inspection of a board program revealed a random cross-cultural program: On a cruise from Greenland to Canada for example, the program offered a "Texas Hold'em" poker tournament, the band "Dukeland" of Austria as well as Rumba and Salsa dance classes (AIDA 2013). Apart from the tour presentations there was neither a reference to Greenland nor to Canada. Yet there are many ways to enhance the existing program with Greenland and Canadian artists, musicians and dancers.

A participant described that the lector told stories about the landscape at the entrance of the fjord, which she enjoyed very much (Fig. 10.3).

As we went into the Geiranger fjord, the lector told us many legendary stories about the particular landmarks from the bridge (I guess). That was great. We haven't experienced something like this on any other cruise. (P8, AIDA)

The fact, that the lector told something about the landscape and the sights while passing opened the ship to the outside and connected the on-board experience with the surroundings. Deeper background knowledge allows passengers to connect with the place before the arrival.

One can summarize that the entertainment on board is detached from the surroundings like the landscape, ocean and cultures of destination. On the one



Fig. 10.3 Legendary stories (AIDA). *Source:* photo taken by passenger

hand the entertainment provides many opportunities to employ representative artists and cultural workers of the target country. On the other hand, information about the passing scenery may be provided in various ways: its formation, history, or importance for the region. Through an opening to the outside, ties could be established between the cultures, because the travellers gather rich background knowledge.

10.7 Distance Between Passengers and Staff

An interesting statement of a participant was about the relationship between the passenger and the officers or the captain.

Well, just, that's sometimes these silly officers. [...] And also the captain, who was celebrated a bit. So a bit staged. But that is of course an interesting task, since he has the responsibility for 2800 people. So I would ... Well, I would have liked to talk to the captain for a few hours [...]. (P5; AIDA)

While the passenger expressed his respect for the captain, he used the word “silly” for the officers, which reveals different views towards the officers and the captain. The captain was celebrated, staged and thus the star of the cruise (Fig. 10.4). The captain is responsible for everything that happens on the ship and is represented in a positive way. The officers were, in contrast, part of the entertainment: on the AIDAbella they were mixing cocktails on stage (Fig. 10.5). In the moment of this public performance, the officers appeared as animators, so that their actual organizational responsibilities moved into the background.



Fig. 10.4 The captain is filmed (MS Artania/Phoenix). *Source:* photo taken by passenger



Fig. 10.5 Officers are shaking cocktails (AIDAbella). *Source:* photo taken by passenger

Probably passengers get irritated by the contrast between the honourable positions of the officers on the one hand and the animated stage show on the other hand. In the statement of the participant lies the implicit assumption that his respect for the officers has dropped and he no longer takes them seriously. It seems as though cruise companies try to transform seriousness into pleasure, so that the holiday fun is maximised.

The need to get in touch with the crew expresses itself in a further quote of the same participant:



Fig. 10.6 Inaccessible staff area (AIDAbella). *Source:* photo taken by passenger

So I would have loved to see the ship engineers, and the assisting Filipinos I would have liked to see, just the way something like that works. Because, you can already imagine that there is a lot of working in the background. What the tourists don't notice at all. And I would just have liked to get an idea of how they are working and how much they are working there at all. (P5; AIDA)

The respondent could not imagine how people work below deck, because he does not have access to this other world on the ship. Most cruise lines intend to separate the tourists and the service staff spatially from each other (Fig. 10.6), so that the hard world of work is kept away from the vacation paradise. Although it was very important for this participant to leave his professional life behind for the vacation, he would have found it enriching to learn more about the working procedures on board.

This implies an opportunity for the formulated design intention. The intercultural work environment below deck with people of different backgrounds is an exciting source for broadening one's personal horizon and enhancing the tolerance towards the unknown. It may be attractive for passengers to get in touch with the duties of the officers. There is a high potential for change in looking for solutions, which question the fun-based relationship with the officers and soften the rigid boundaries between passengers and employees below deck. Some lines already offer guided tours in the operational areas of a cruise ship. But these tours are organized and no personal meetings arise between passengers and staff. One approach could be to give the crew access to the passenger decks in their spare time, or there could for example be mixed dining rooms.

10.8 Public Perception of the Travel Concept

The following statement shows that some passengers also think about the luxury of a trip in relation to the consumption of resources:

And then, 2000 people are loaded on such a ship and they. . . within a few hours they have to put all the provisions, everything the people drink, or every beer they possibly drink, [. . .] and each piece of art what they might bid on or not, and everything has to be carted to this ship. [. . .] Actually, you cannot support that they cart so many luxury goods on this ship, with such an amount of logistics and energy and labour. [. . .] So I don't condemn it, but I register in a way that, yes, actually, yes, it is a waste of resources actually. (P5; AIDA)

The statement shows that the participant reflects which goods are transported on the ship for the pleasure of the passengers, for example the pieces of art that may be purchased during the trip (Fig. 10.7).

The participant described a possible public perception of a ship, which creates a very elite and lavish impression. If this image is perceived by the residents of a less prosperous region, it does not seem surprising that hostility or jealousy arise.

The respondent mentioned a little later that he does not deem necessary the offered diversity of restaurants and lounges against this background. Even though this passenger does not condemn the waste of resources, he is ready to do without the variety, if resources can be saved:

So I do not need somehow another bar and another swimming pool and another restaurant. So actually one of each kind would do. Right? [. . .] If there wouldn't be offered so much choice, it would be quite sufficient even with half the decks. (P5; AIDA)



Fig. 10.7 Luxury goods. *Source:* photo taken by passenger

It seems possible to implement changes that at a first glance appear to limit the holiday experience, if communicated well. One can suggest that it may be attractive for customers to support the process towards sustainability. Implementing changes that counteract the opulence of cruises would lead to a positive direction in terms of the public perception and communication to the destinations.

10.9 Relations Between Passengers and Residents of the Destination

When asked if he would have liked to stay longer in a destination, a 78-year-old passenger agreed because he observed that the cities come to life in the evening (Fig. 10.8):

Interviewer: “Would it have been desirable to remain longer in the country?”

P3: “Yes. I’d say especially in the evening the world to the locals opens up. During the day, they are all busy and have no time or no interest. But in the evening, [...] then the people are more accessible and you can chat with them when they have time, you know.” (P3, MS Artania)

The participant would have liked to stay longer ashore to get into touch with the local residents. As the time is short and the offered day excursions are organized to the last details, contacts with locals hardly occur. These city visits of passengers resemble visits to open-air museums, which can create tensions between residents and passengers.



Fig. 10.8 During the day, residents are busy. *Source:* photo taken by passenger

If the passengers had the opportunity to stay ashore in the evening, cultural experiences could intensify and passengers could get some time to acculturate. The ship could for example stay in a port longer than 1 day, or leave late at night.

10.10 Design Options

The previously discussed statements of the passengers point out fields of possible change. Stappers and Sleeswijk Visser (2007) underline the necessity for designers to understand the whole context surrounding a product. This way designers are able to create products or services that “fit into the relation between the user and his or her environment” (Stappers and Sleeswijk Visser 2007: 7). Following this approach, all interpreted statements and photographs of the passengers were clustered and links were denoted by arrows, following the general pattern of the previously defined actors of a cruise. It resulted in a so named “map of socio-cultural relations” (Fig. 10.9). It gives a first overview of the relationships and dependencies of essential factors. The solutions that emerged from interpreting the single statements have to be further developed with the background of the whole context.

After having gone through the analysis phase (which is the central theme of this paper), the projection is to follow, which tries to answer the question: “How do we want to live?” (Jonas 2001). Often, this question is faced with a narrow view on the solution space. The “Kreuzfahrt Guide 2014” (Bahn and Bohmann 2013) rated

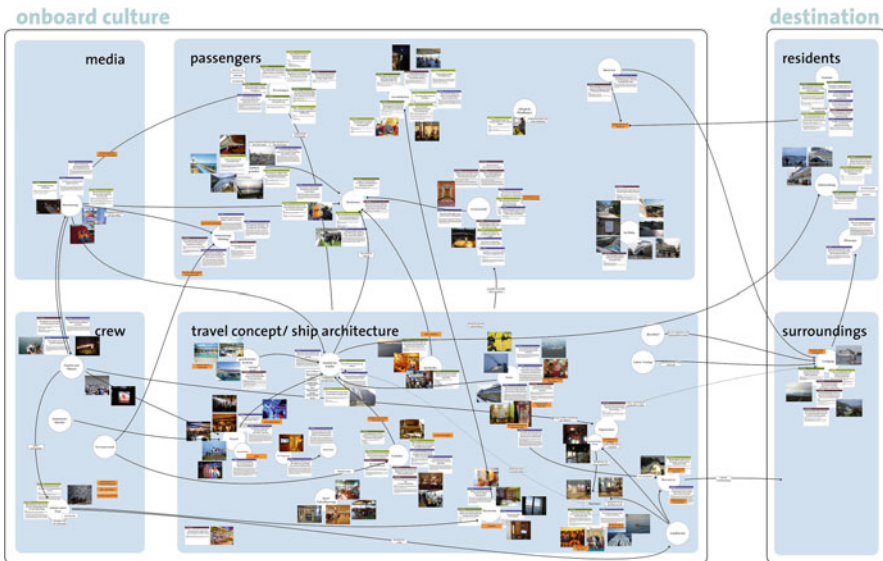


Fig. 10.9 Early stage of the “map of socio-cultural relations”

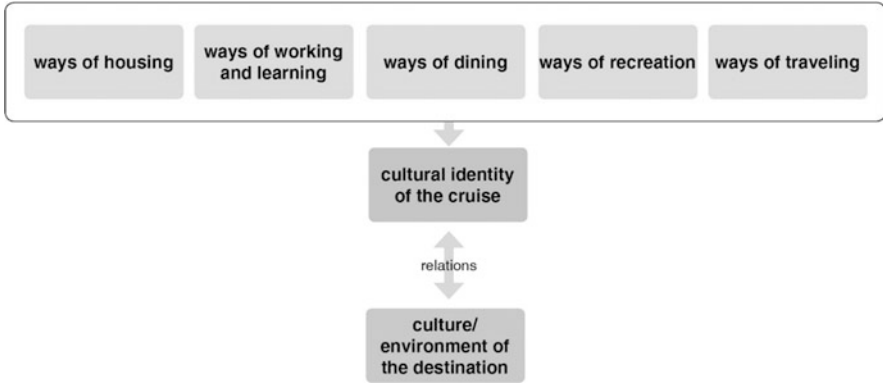


Fig. 10.10 Descriptors defining a cultural identity of a cruise

cruises according to the categories “info-/entertainment”, “sports & wellness”, “dining”, “family-friendliness”, “service” and “routing”. These categories are based on the existing business model to entertain guests in a floating hotel complex at best possible service with entertainment, sports, wellness and day-excursions. To open up possibilities, the authors recommend new categories, so that a qualitative description of the cruise is inescapable: “ways of housing”, “ways of working and learning”, “ways of dining”, “ways of recreation” and “ways of traveling” (Fig. 10.10). With those general terms, a kind of cultural identity of a cruise and its relations to environment and culture of a destination can be described. The descriptors allow to rethink cruising outside the box and to break the paradigm of “more of the same”. In the further study, additional significant descriptors may occur.

These considerations result in the hypothesis that the statements should be rearranged based on the five descriptors, so that a cultural identity can be described through the empirical data. This rearranged “map of socio-cultural relations” may serve as a starting point for in-depth systemic analysis, for example by means of sensitivity modelling (Vester 2011).

10.11 Conclusion

The actions, opinions and motivations of the people on board were examined to derive concepts that bridge the gap between the designed holiday culture on board and the everyday cultures in the destinations. The design research provided a rich basis for a creative process of product development. The following hypotheses and subject areas turned out to be central for innovations when following a CSR approach:

- Passengers on board are open to new offers, if they are non-binding. The topic of (inter-) cultural education should be playfully incorporated into the program.
- If the environment will be embedded in the on-board program, the ship will open to the outside. The offers on board are separated from the surroundings of the ship to a large extent. An opening to the outside promotes intercultural tolerance.
- If the contact between passengers and crew is intensified, intercultural encounters can occur. Today, crew and passengers are spatially separated from each other. The international character of the crew offers a great potential for intercultural encounters on board, which has rarely been used yet.
- A less wasteful design of cruises changes the public perception of cruise ships. Passengers may be willing to dispense with the diversity if it saves resources. It is important that reasons and expected effects of changes will be communicated transparently. Here, a ship's "persona" (Douglas and Douglas 1999: 375) is crucial for success.
- An extended stay in a destination allows passengers more intense cultural experiences at different times of the day. Acculturation requires time, which is usually not provided. Manning (2012) reports about overcrowding on some sights that are evoked by the logistics of tight schedules of port stays (Manning 2012). Therefore, overnight stays wouldn't solely intensify the cultural experiences of the visitors, it would also solve infrastructural problems in the destination.

Thus, it seems to be predominantly intangible elements such as the offers on board or the organization, which serve as parameters for changes, from which requirements for the material architecture of the ship can be derived. Comparing cruises with other forms of leave, it will be found that the on-board programs and the organizational structures of many cruises are increasingly similar. Therefore, cruise experiences should be differentiated more by their cultural identity. To understand a cruise as a specific culture creates a holistic and empathic image. To sharpen the cultural identity of the cruise, individual attractions should be combined in terms of their meaning in an overall context. Through a stronger classification the customers gets a better orientation and the individual cruise lines clearly differentiate from each other, which in return leads to higher customer satisfaction. For this purpose, the identities of the cruise ship must be detailed, for which the descriptors "ways of housing", "ways of working and learning", "ways of dining", "ways of recreation" and "ways of traveling" can provide guidance.

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Chapter 11

Cruise Customer Loyalty Improvement with Social Media

Imke Heinze, Nadine Guhr, and Michael H. Breitner

Abstract Social media become more and more important due to growing Internet usage, enhancements of information systems, and more and more spreading of smartphones. Social media offer various opportunities and chances for cruise operators like advertising, distribution, public relations, human resources management and customer loyalty. To enable and enhance customer loyalty, it is important to be competitive: cruise operators save money in advertising, target focus groups, are interactive and respond to needs of customers directly. For cruise operators it is important to know which social media are available, what kind of advantages and disadvantages exist, how they can use social media to enable and enhance customer loyalty and which social media correspond best to a cruise operator's goals. A decision must be made between moderated and unmoderated social media. Our research is based on a literature review, an Internet search and an illustrative case study with two cruise operators. It shows that Royal Caribbean International (RCI) and AIDA Cruises (AIDA) already use many different social media such as YouTube (YT), Facebook (FB), HolidayCheck (HC), Cruise Critic (CC) and also their web pages. Both cruise operators are well present on FB: but, RCI still has to improve its involvement. Furthermore, our research shows that it is necessary for both cruise operators to follow long-term social media strategies and to measure success quantitatively and qualitatively. They have to consider critical success factors of social media like authenticity, personalization, openness, honesty and transparency for their long-term social media strategies. Moderation of social media is essential to supervise and "control" content, to answer questions seriously and to interact with consumers timely.

Keywords Customer loyalty enablement and enhancement • Social media • Cruise operators • Case study

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11.1 Introduction

Social media become more and more important due to growing Internet usage, enhancements of information systems, and more and more spreading of smartphones. Within the last years, use of mobile Internet and thereby social media via smartphones highly increased (Statista 2014a, b). The foundation for this development is e.g. improvement of performance, digitalization, cost reduction of information transfer and software development (Laudon and Traver 2004).

Internalization and globalization were assured, competition for cruise operators grows, business environment changes and therefore, cruise operators have to alter to save competitive advantages. Social media offer various possibilities and chances for cruise operators like advertising, public relations and customer loyalty. Research shows that people trust recommendations from people they know and consumers opinions posted online much more than advertisement in magazines or TV spots (Nielsen 2012; Bronner and de Hoog 2011; Kaplan and Haenlein 2010; Xu et al. 2009).

Use of social media to enable and enhance customer loyalty is one possibility to be competitive, because cruise operators can save money in advertising, target focus groups, are interactive and respond to needs of customers. Here, customer loyalty is defined as the systematically analysis, planning, implementation and control of all actions to enable and enhance and to intensify the relationship between cruise operators and customers. It also can be divided into actual behaviour, e.g. buying frequency and recommendations, and behavioural intention, e.g. intention of buying or recommendations (Greve 2011).

For cruise operators, it is significant to know what kind of social media are available, what kind of advantages and disadvantages exist and how they can use social media to enable and enhance customer loyalty. The use of social media is divided into own and other. It is difficult to separate them due to fluent transition. The chosen criterion for the varying consideration is responsibility. If cruise operators can publish any content at any time, they are seen independently from the social media platform, which is viewed as a technical tool to disseminate information of cruise operators. The focus is on own social media such as FB as the most popular social network, YT as the most used video portal in Germany (Statista 2014c, d) and other like the review sites HolidayCheck.de as a very popular cruise review web site in Germany and CruiseCritic.com worldwide.

This paper focuses on the cruise industry whereas it is the fastest growing sector in the leisure travel market. Between 1990 and 2015, the annual growth rate is predicted to be 7 % worldwide (CruiseMarketWatch 2012; Florida-Caribbean Cruise Association 2010) and in Germany, there was an increase of 13.8 % in 2011 compared to the previous year (Deutscher Tourismusverband 2012). The focus is on sea cruises, because turnover and volume of passengers are higher than in the river cruise sector (Deutscher ReiseVerband 2011). The focus is on the biggest cruise operator worldwide, RCI with approximately 62,000 berths, and the

largest one in Germany, AIDA, with 16,442 berths (Carnival Corporation & plc 2012; Royal Caribbean Cruises Ltd. 2012).

The use of social media by cruise operators was considered, and the question on how they use social media and whether there is a difference in the use in 2012 and 2013 seems to be an interesting issue. In this emerging research context, a global focus is beneficial for researchers and practitioners alike. The research question addressed in this paper is:

How and why do cruise operators use social media for customer loyalty enablement and enhancement?

The purpose of this paper is to examine social media, especially the use of own and other as well as the use of moderated and unmoderated social media. This research is conducted by a literature review, an online research and an illustrative case study. The use of social media will be compared with the help of selective criteria. Furthermore, recommendations and implications for further research will be pointed out.

11.2 Social Media

Social media are a relatively new field because of technological development, growth of the Internet and wide distribution of smartphones (Grabs and Bannour 2011). It can take many different forms such as video, pictures and texts (Turban et al. 2010; Hudson and Roberts 2012). The most important factors are contact, communication and relationship with each other. Consumers network, share information, experiences, opinions as well as recommendations everywhere and at all times (Grabs and Bannour 2011; Henning-Thurau et al. 2010). To enable and enhance customer loyalty, social media supply various opportunities such as create communities to connect customers among them and to the cruise operators, provide sales, use geo-location-services, involve customers in product development and complaint management (Greve 2011). In order to reach a lot of customers and please them, additional value has to be created. Involvement requires analyses, planning and guidelines (Kreutzer and Hinz 2010).

Besides normal success factors, others such as authenticity, honesty, emotions, passion, openness and personalization, transparency in communication, ability to accept criticism and react appropriate are very important. The goal of successful social media marketing is to interact with customers and to form a long-term relationship on the basis of loyalty and trust (Bruhn et al. 2011; Litvin et al. 2008). The last decade was characterized by strong growth of Mobile Business and further increased is predicted by market research institutes. This development was made possible through various factors like location-independency, reachability, security, localization, immediate availability, personalization and cost-effectiveness (Berres and Bullinger 2002).

Location Based Services (LBS) and Social Location Sharing (SLS) gained importance within the last years. SLS differs from other LBS by the user's behavior, because the user reveals its position to the network and every other member is informed about the location (Salt 2012). On smartphones LBS, personalization, and permanent reachability can be applied in various ways. Pictures can be taken with a smartphone and the location is added: these pictures can be posted in social media or digital post cards can be sent home. The position on board can be transferred and guests can get information about on board activities such as animation, cinema programs or happy hours to improve on board revenue. Guests can see where other friends are on board with a "buddy finder". With programs like Google + Local or Foursquare guests can show their social network which places they have visited and can rate them via recommended/"like" places.

The term social media is defined as the digital communication instrument, which helps users to exchange information interactive and to communicate mutual. The goal for cruise operators is to provide additional social media for customer service in order to win new clients, monitor the market, interact, communicate or determine customer responses. It is necessary to examine the implementation and use with the help of selective criteria. Examples are number of views/likes total, subscriptions, frequency of posting and the average number of views. To analyse HC and CC, e.g. number of listed ships, average number of reviews, rating and recommendation rate are looked at.

11.3 Research Methodology & Results

11.3.1 Research Design

The research design is subdivided into three parts. First, a literature review on Google scholar, Wiley Online Library, JSTOR, Emerald, WISO and SAGE journals was done. Afterwards, an Internet search with the keywords social media cruise, customer loyalty enablement and enhancement on Google, both in English and German was conducted. Various cruise review websites and cruise forums such as HolidayCheck.de, CrusieCritic.com, cruisereviews.com, tripadvisor.com and kreuzfahrten.de were also looked at. Third, the focus within the research design was on an illustrative case study examining RCI and AIDA.

11.3.2 Illustrative Case Study

The use of social media is analysed in the following periods: 13.–27. July 2012 and 09.–22. December 2013 for the average values on FB and YT. The reference date for the other numbers such as number of likes total or number of subscriptions was

27th July 2012 and 30th December 2013. For the calculation of average values on HC and CC, all data has been considered until the reference dates. The illustrative case study focused on own social media of both cruise operators like FB, YT and the cruise operator’s website as well as other social media such as HC and CC. It was also differentiated between moderated (FB, YT) and unmoderated (HC, CC) social media. Posts or comments do not lead to an action by the cruise operator in unmoderated social media. If a user writes a review about a cruise ship, other users can decide on HC, whether the review was helpful or not. In case of violating the terms of use, users can contact HC and inform them about it (HolidayCheck 2012; Cruise Critic 2012). In contrast, in moderated social media posts or comments lead to an action by the cruise operator, e.g. commenting on posts, pressing the like button or deleting posts. The results are presented in the following tables.

11.3.3 Use of Own and Other Social Media

Results of the AIDA & RCI YT examination as own social media (Source: You Tube 2012, 2013)

Criteria	AIDA 08/2012	AIDA 12/2013	RCI 08/2012	RCI 12/2013
Number of videos	438	650	214	305
Number of views total	766,683	4,401,138	3,491,539	3,253,946
Average views per video	2069	1118	12,016	1334
Average number of comments	1.16	0.8	2.3	0.45
Number of subscriptions	789	3035	3962	10,878
Frequency of posting	0.43 per day	0.36 per day	0.71 per day	3.14 per day

Results of the AIDA & RCI FB examination as own social media (Source: Facebook 2012, 2013)

Criteria	AIDA 08/2012	AIDA 12/2013	RCI 08/2012	RCI 12/2013
Number of likes	305,355	661,868	1,081,637	1,480,205
Number of people talking about this	8992	31,524	120,237	47,613
Average number of likes	354	1170	5502	8771
Average number of comments	37	64	289	418
Frequency of posting	1.71 per day	1.43 per day	2.14 per day	0.79 per day

Results of the AIDA & RCI HC examination as other social media (Source: HolidayCheck 2012, 2013)

Criteria	AIDA 08/2012	AIDA 12/2013	RCI 08/2012	RCI 12/2013
Number of different ships	9	9	24	23

(continued)

Criteria	AIDA 08/2012	AIDA 12/2013	RCI 08/2012	RCI 12/2013
Average number of reviews	546	666	54	74
Average rating (based on scale from 1 to 6, whereby 6 is the best)	4.96	4.97	5.16	5.24
Average recommendation rate	88 %	88 %	93 %	95 %

Results of the AIDA & RCI CC examination as other social media (*Source*: Cruise Critic 2012, 2013)

Criteria	AIDA 08/2012	AIDA 12/2013	RCI 08/2012	RCI 12/2013
Number of different ships	0	0	22	21
Average number of reviews	0	0	560	685
Average rating (based on scale from 1 to 5, whereby 5 is the best)	–	–	4	4
Average recommendation rate	–	–	84 %	84 %

11.3.4 Use of Moderated and Unmoderated Social Media

It is difficult to categorize whether web pages are moderated or unmoderated. The RCI website does not offer space for writing comments or posts; they only refer to their activity on social media platforms. Communication with others is only possible in the closed Crown & Anchor Society. To apply for membership, a cruise with RCI has been completed. The AIDA web page supplies AIDAfun providing travelogues, blogs, videos and pictures. The content is provided by employees and users. A registration and log in on the website are necessary to comment or like something; however, everybody can register. The AIDAWeblounge lives from its community, their mutual assistance and support as well as share of information and experiences. In contrast, access to MyAIDA is only reserved to AIDA travelers. On the one hand, it is moderated social media, because of the possibility to comment or rate posts by AIDA. On the other hand, research within the AIDAWeblounge shows that only users are active regarding comments, rates or answering questions (Royal Caribbean International 2012, 2013; AIDA 2012, 2013).

To examine the use of moderated social media on FB and YT, four different statements (positive, negative, problem, question) are posted on the FB page as well as the YT channel. It was examined how much time has passed since the posts or comments were made and the way in which the cruise operators have responded. The posts on FB pages partially differ from YT comments (the first two are identical). But, the same sentences are posted on the same social media page to provide a higher degree of transparency and comparability. However, these sentences differ in language, because AIDA posts are in German and RCI posts

are in English. To be without attracting attention, four different FB and YT accounts have been created. Each is used for the same post for the AIDA and the RCI page. Two accounts with different names have been registered for the last two YT posts, because they differ from the FB posts. The comments are posted on weekdays with an interval of 1 day on both pages. To guarantee the same initial situations, posts on both pages are done at the same time each day; however, time difference has been considered.

Posts used for the FB examination as moderated social media

Post	German	English
Post 1: Positive User 1	Ich bin gerade von einer AIDA Reise wieder nach Hause gekommen und möchte mich gerne für die unvergessliche Zeit bedanken.	I've just come back home from a cruise and I would like to thank you for the unforgettable time!
Post 2: Negative User 2	Nachdem ich im Fernsehen einen Beitrag über die Hygiene bei AIDA gesehen habe, bin ich entsetzt. Nächstes Mal werde ich definitiv nicht mit AIDA fahren!	I saw a TV report about Royal Caribbean, which showed poor hygienic conditions on a ship. I am shocked and next time, I will choose another cruise operator for my cruise!
Post 3: Problem User 3	Ich wollte soeben auf www.aida.de eine Kreuzfahrt buchen and habe gesehen, dass bei Kreditkartenzahlung ein Transaktionsentgelt erhoben wird. Gibt es eine weitere Art der Bezahlung?	I wanted to book a cruise on www.royalcaribbean.com , but I saw that you need a credit card to activate the Sea Pass, but I don't have one. What do I do?
Post 4: Question User 4	Ich bin gerade von einer wundervollen Reise zurückgekommen und möchte gleich meine nächste Reise für Weihnachten buchen. Diesmal soll es in die Karibik gehen. Welche Möglichkeiten gibt es da?	I just returned from a wonderful trip and I want to book my next trip for Christmas to the Caribbean. What cruises are possible for that time?

Results of the AIDA & RCI FB posting examination as own social media (*Source*: Facebook 2012, 2013)

Criteria	AIDA 08/2012	AIDA 12/2013	RCI 08/2012	RCI 12/2013
Post 1: Time Reaction	5 min	19 min	–	–
	Hallo Frau Bender, vielen Dank! Das freut uns sehr! Wir wünschen Ihnen auch zukünftig unvergesslich schöne Reisen mit den Schiffen der AIDA Flotte! :)	Hallo Frau Lehmann, es freut uns, dass Ihnen die Reise so gut gefallen hat. Wir leiten Ihr Lob gerne weiter.	None	None
Post 2: Time Reaction	19 min	1 min	–	–
	Hallo Jake Halloran, wir haben die benannte Sendung	Hallo Daniel Starke, die Gesundheit unserer Gäste und	None	None

(continued)

Criteria	AIDA 08/2012	AIDA 12/2013	RCI 08/2012	RCI 12/2013
	selbst sehr aufmerksam verfolgt und sind für jeden Hinweis, ernst zunehmende Kritik und Anregungen sehr dankbar. Sie helfen uns, unsere hohen Qualitätsansprüche zu sichern und weiter zu verbessern. Wir haben die aufgezeigten Mängel umgehend intern ausgewertet und haben sofortige Maßnahmen eingeleitet, die eine Wiederholung ausschließen. Wir freuen uns, wenn Sie sich vielleicht selbst eine Meinung bilden, wie das viele unserer treuen Gäste tun.	Crew hat für AIDA Cruises oberste Priorität. Hygiene und Sicherheit waren an Bord aller AIDA Schiffe großgeschrieben. Alle AIDA Schiffe unterliegen strengsten Hygienestandards. Unsere kontinuierlichen Kontrollen liegen weit über den an Land gültigen Vorschriften. Deshalb werden an Bord unserer Schiffe auch kontinuierlich präventive Hygienemaßnahmen getroffen.		
Post 3: Time Reaction* *The third post was sent via personal message to RCI due to no previous reaction to the first two posts.	11 min Hallo Sabine Lehmann, Sie buchen die Reise ganz bequem auf www.aida.de Nach Abschluss der Buchung haben Sie im Bereich myAIDA dann die Möglichkeit ganz in Ruhe zu Entscheiden, wie Sie Ihre Kreuzfahrt bezahlen möchten- dabei können Sie zwischen Kreditkartenzahlung, Sofortüberweisung oder klassischer Banküberweisung wählen.	6 min Hallo Sabrina Lehmann, Sie können alternativ auch regulär überweisen oder über MyAIDA per Paypal oder Sofortüberweisung bezahlen.	1 h 12 min Hi Sabine, the SeaPass system may be activated with traveler's checks, debit cards with a Visa or MasterCard logo, or cash if you do not have a credit card. You can learn more information here: http://bit.ly/M3Whg7 .	23 min Hi Sabrina- Give us a call at (800) 529-6918 so we can help.
Post 4: Time Reaction	2 h 22 min Hallo Herr Starke, unter www.aida.de finden Sie unsere Karibikreisen in der	5 min Hallo Jake Halloran, Wir freuen uns, dass Ihnen Ihre Reise mit AIDA so gut gefallen	– None	16 min HI Jake- We're so glad you had a great time

(continued)

Criteria	AIDA 08/2012	AIDA 12/2013	RCI 08/2012	RCI 12/2013
	Weihnachtszeit: http://bit.ly/MIKKKq Viel Spaß beim stöbern!	hat. Gerne können Sie sich auf unserer AIDA Website zu unseren Karibik Angeboten informieren. Eventuell haben ja auch unsere AIDA Facebook Fans noch den einen oder anderen Tipp für Sie http://www.aida.de/kreuzfahrt/ziele/karibik.18952.html		onboard. You can view our itineraries here: http://bit.ly/BookRoyal or give us a call at (866) 562-7625.

Posts used for the YT examination as moderated social media

Post	German	English
Post 1: Positive User 1 1st video on starting page	Ich bin gerade von einer AIDA Reise wieder nach Hause gekommen und möchte mich gerne für die unvergessliche Zeit bedanken.	I've just come back home from a cruise and I would like to thank you for the unforgettable time!
Post 2: Negative User 2 newest video	Nachdem ich im Fernsehen einen Beitrag über die Hygiene bei AIDA gesehen habe, bin ich entsetzt. Und werde nun einen anderen Anbieter für meine nächste Kreuzfahrt auswählen.	I saw a TV report about Royal Caribbean, which showed poor hygienic conditions on a ship. I am shocked and next time, I will choose another cruise operator for my cruise!
Post 3: Problem User 5 video with most views	Ich kann kein Video zu "Mein Schiff" finden? Wo gibt es das?	I can't find a video about the Celebrity Breeze. Where is it?
Post 4: Problem User 6 video with least views	Wer und wann wird die nächste Berühmtheit an Board eines AIDA Schiffes sein?	Who and when will be the next celebrity on a cruise Ship?

AIDA and RCI did not reply to any of the posts on the YT page and therefore, there are no presented results.

11.3.5 Key Findings

The use of FB increased within the last years. AIDA operates their fan page very well, because they like comments reply fast and use different contents. The RCI reaction on comments can be improved, especially to negative posts. The use of YT also increased within the last years. However, the number of views depends highly on content of videos. Both cruise operators have to pay more attention to comments and they also have to moderate this social media. Therefore, the use is improvable. The web pages are already very good, but RCI can offer more interactive platforms or a community like AIDA. The different number of ratings on other social media like HC and CC may be caused by different target groups. One possible reason for higher number of ratings of AIDA on HC may be higher popularity and awareness in Germany. CC is unknown in Germany and this may be the reason for non AIDA reviews. Other social media have to be watched closely and improvement suggestions made by customers should be considered (Fig. 11.1).

The RCI web page is ranged in quadrant one since it is own social media and there is no own social media activity possible. The AIDA web page is classified between quadrant one and two, because of the characteristic of an own page as well as the possibility of moderation in the AIDAWeblounge. The YT channels of RCI as well as AIDA are both ranked between the first and second quadrant. They are own social media and the possibility of moderation is given. Both FB pages are ranged in the second quadrant, because they are own as well as moderated social media. AIDA is classified superior to RCI due to more responses. HC as well as CC are both ranged between quadrant three and four. Both are other social media and the possibility of moderation is provided. HC is classified more in quadrant three

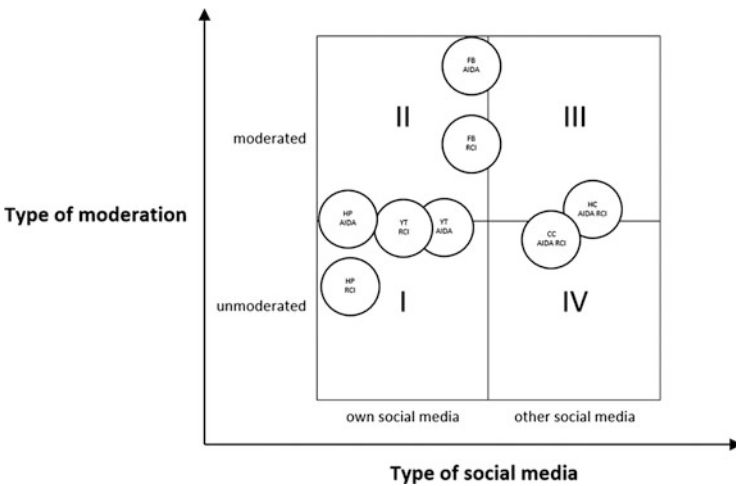


Fig. 11.1 Classifications of different types of social media

than CC. The reason for this is the frequently asked questions on HC, which point to the possibility of deletion of reviews, if the terms of use are violated.

The goal is to reach quadrant three, because it is the most interesting one and the reputation is very high, because social media are not controlled by the cruise operator and therefore, the consumer’s confidence in contents is high. On the one hand, unmoderated social media are a reliable source since everybody can write what they want and nobody deletes it. This can lead to an information overload and false statements can also occur. On the other hand, moderated social media can control reviews as well as associated comments to prevent false information. It can be assumed that HC acts as a neutral party. For this reasons, moderated social media are preferred towards unmoderated social media. Acceptance and potential of different social media are presented in Fig. 11.2. Acceptance of review portals like HC and CC is very high due to the fact that people trust other posted opinions and ratings. CC is ranked higher than HC, because they have more visitors. The cruise operator’s web page is highly accepted by customers, which already have done a cruise due to the fact that users are very active in the community. Normally, first time cruise travellers are not members of the community yet. For this reason, web pages are ranked below review pages. The acceptance of FB is classified in the middle, because the use depends on the consumer. Some travellers only use review sites and the web page; however, there are big differences in the country of origin of the travellers e.g. in the USA, FB is more accepted than in Germany (Statista 2012a, b). YT pages are used to watch video rather than to interact with cruise operators. Both cruise operators also post all videos on FB. Therefore, all FB users watch videos there and they do not visit the YT page. For these reasons, acceptance of YT

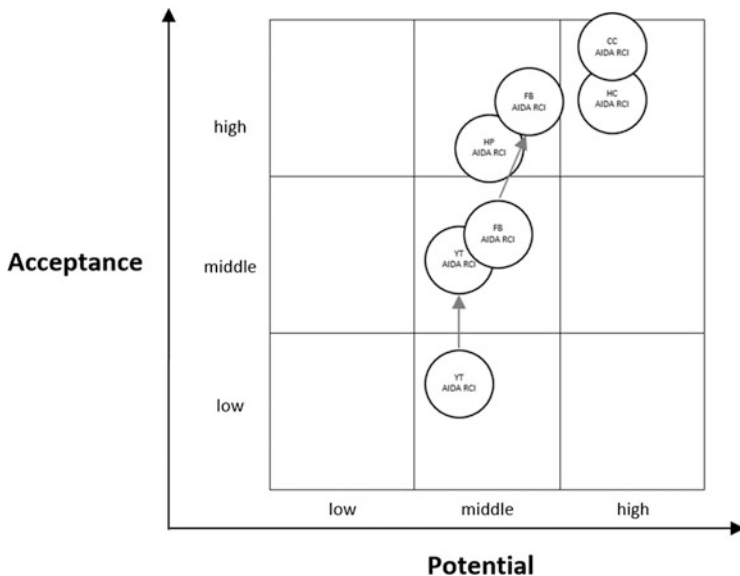


Fig. 11.2 Acceptance and potential of social media

is low. The overall potential is high since the cruise market grows very fast and the number of users in social media increases (CruiseMarketWatch 2012; Florida-Caribbean Cruise Association 2010; Cruise Lines International Association 2011). The potential for FB is middle, because on the one hand, the number of users is growing. On the other hand, other social networks grow faster and FB already lost some users (GlobalWebIndex 2012a, b). Potential for both review sites is very high due to the fact that the demand will continue to grow. Users still want to get information, which support them in their booking process. YT is classified middle regarding their potential, because it is possible to interact with the customers. The potential of web pages is middle due to the fact that first time cruises are not involved in communities. They only visit the web page to look for information and to read review or blogs. Nevertheless, returning travellers use the community actively and share their experiences or provide pictures. Due to the fact that the use of FB and YT highly increased within the last year, the acceptance changed within that time.

11.4 Discussion and Recommendations

There exist many advantages and disadvantages for own or other social media. One advantage for own social media is to have administrator rights. Due to this, cruise operators get a lot of information regarding demography, backgrounds, activities and interaction rates. Furthermore, cruise operators recognize and spy on customers with the aid of IP-addresses. Target groups are easy to classify regarding their geography like country, region or city as well as their socio-demographic characteristics such as language, relationship status, level of education and employer. It is possible to use an individual design and multimedia content for own web pages. On own social media like FB and YT, this is only possible to a limited extent, because neither AIDA nor RCI is the owner of this page in the strict sense. They only have responsibility about their fan page. However, in the scope of the possibilities supplied by FB or YT, fan page owners can design their page individual and unique.

An advantage is the possibility to link videos and allocate them in other social media. Today, many users use YT as a search engine and it became one of the biggest advanced search engines. However, a lot of users only watch videos and they do not like, dislike or comment videos. The reason may be required registration. Advantages of other social media are likewise disadvantages of own social media. User generated content provides higher credibility than classical forms of communication since users have more confidence therein and it appears more reliable to them. A second advantage for other social media is authenticity since other travelers write the experience in their own words and this contributes to credibility. Other social media are also advantageous to users regarding diversity since many users from all over come together and share their experience and knowledge. HC and CC only supply the platform as wells as infrastructure and users fill it with content. The feedback process and interaction among them are very

important, because they do not only allocate their opinions, experiences and recommendations but rate, recommend and classify them. In this way, a collective and cross-linked knowledge develops, which is available for all Internet users. Travelers like to seek advice, secure their booking and share positive as well as negative experiences online.

Independent portals are very important and helpful for both, users and cruise operators. Opinions of other users are very relevant due to the fact that they have experienced the cruise and information is not sophisticated by cruise operators. Consequently, the most important advantage is independency. In conclusion, there exist many advantages and disadvantages for own and other social media as well as moderated and unmoderated social media. It is questionable whether the use of social media corresponds to all focus groups, because not everyone uses social media, especially FB due to privacy concerns, but rather the cruise operator's web page. It must be considered that social media change very fast and in some years, others might have greater influence.

Social media contain more than social networks, which offer various options to enhance customer loyalty. Before starting social media activities, a long-term strategy including e.g. goals, timetables and implementation plans has to be stated. Cruise operators must be aware of the fact that it takes an enormous amount of time. Prior to implementation, clear and specific goals have to be set, e.g. increase of turnover or reputation, rise of perceptions of users or higher ranking in search engines (Hudson and Roberts 2012). In most cases, results are not measurable immediately. The focus is rather on listening to consumers and commitment. It is also very difficult to quantify the return on investments (ROI), because the quality of conversations is very hard to measure. However, it is possible to measure success qualitatively as well as quantitatively, e.g. number of site views, visits, followers, interaction rate or classification of certain contents in different rankings, using software for monitoring and programs provided by page operators like FB Insight. Social media have to be observed constantly, because customers have an enormous power with smartphones in posting very fast, at any time and everywhere. Transparency, openness, honesty, authenticity, personal communication and personalization play a central role in social media, e.g. employees should write blogs or be interviewed. It is conducive to build up trust and credibility and to be authentic. Cruise operators have to be fast, up to date and provide relevant information, because it is an ongoing process. First, cruise operators have to listen, before they can react.

Social media offer possibilities to promote brands, to increase conversation rate, to launch discussions, to do market research or to enhance customer loyalty. Cruise operators have to find out needs of consumers and react to them. They should also ask for feedback and implement suggestions, because nothing is more authentic than honest opinions made by customers. This has to be taken very serious and quality can be increased. A dialogue is possible, especially in communities which link the customers on the long-term and they also play an important part in contributing to establish loyal supporters which are very important for cruise

operators due to the reason that they stand up for the cruise operator and defend them, in case of e.g. negative comments or posts.

Users talk about cruise operators and it does not matter, whether cruise operators take part or even know about it. Cruise operators must join these conversations and participate. They should admit problems, offer self-criticism, deal with constructive criticism and react to all posts. If they are positive, they should give thanks to writers and maybe like comments, because it is also very important and it can lead to better bonding. If cruise operators are criticized, they should systematically take part in conversations and support frank exchanges of views. They should never delete posts with exception of violating the terms of use in form of e.g. harassment or discrimination. They should take up position and thereby, they can weaken the negative ratings and correct their position in an open, professional and honest way. They should give thanks for comments, promise to take care of problems and ensure that mistakes are tried to be avoided in future. In this way, cruise operators can build up trust and maybe, this can lead to a change of mind. It is very important that legal aspects have to be considered. Information is spread faster and further online than offline. If reliability is lost once, it will be very difficult to build it up again. In any case, contact information should be provided on all social media, so users can also contact the cruise operators personally (Herzog and Luthe 2010; Mangold and Faulds 2009). LBS, personalization and permanent reachability can also be applied in various ways. Examples are: adding GPS position to pictures, digital post cards, providing guest information such as weather forecast or information about ships, seeing the location of friends on board or showing their networks visited places and rating them via Google + Local or foursquare. It is very important that emotions, passion and enthusiasm are used to enable customer loyalty. Customers have a high emotional bind to cruises since they are on vacation which is experience-oriented and it is a special event for most travelers (Silberer et al. 2002; Bronner and de Hoog 2011).

It is very important that the focus is not only on one social media page but rather on more at the same time. A mix of own and other social media should be used due to fast changing social media and moderation is essential. Cruise operators cannot be statically, but must be flexible. Overall, customer satisfaction is necessary for successful customer loyalty. One of the biggest problems is the involvement in the post purchase process. Travelers just returned from their cruise and the next vacation is far away. It is essential to be active in this period of time. Reasons for visiting social media have to be established to bind travelers to the brand and convince them to cruise again. In conclusion, there is no ideal way for all cruise operators and each cruise operator has to determine their strategy and implement it.

11.5 Limitations

First, the focus relies on the biggest cruise operators regarding berths. Hence, only two large cruise operators have been analysed and no small or medium sized cruise operators. The biggest cruise operators can also be defined based on other criteria. The focus was on oceanic rather than on river cruises. Due to these facts, it is very difficult to project the results onto small or river cruise operators. For these kinds of cruise operators, other recommendations may apply. Only two cruise operators in the field of oceanic cruises on the German and the US market have been examined. It is also crucial to generalize the findings for other markets.

Second, social media only have been surveyed for 2 weeks in two different periods and only four different comments on each social media page within a period of 4 days were posted. The posts differed in language and other users could also see the posts and may have influenced the behaviour of page owners. In order to gain more significant results, the research has to be conducted over a longer period of time as well as more different kinds of posts have to be used.

Third, some results of this study are conflicting. One example is the decreasing views on the RCI YT channel. In 2013, they had approximately 200,000 less views than in 2012. The reason may be a new starting point or different criteria to count the views. In summer 2012, 1.08 million people liked the RCI FB page. During the period of 1.5 years until December 2013, 400,000 people liked the RCI FB page. By 12th January 2014, there were 2.1 million likes. This means that within 2 weeks, 700,000 people liked the RCI FB page. This figure does not fit within the other figures. Other criteria may be used to count the criteria.

11.6 Conclusion and Further Research

Research shows that RCI and AIDA already use different social media. Both cruise operators are presented very well on FB; although, RCI still has to improve its involvement. On YT, both cruise operators have to be more active and reply to the customer needs faster and better. AIDA already has a very good community on its own web page: this could be also established by RCI. It is necessary for both cruise operators to state a long-term strategy and to measure their success. They have to consider the success factors of social media for their strategy. Social media and their usage rapidly change: cruise operators should use a mix of different own and other social media to improve customer loyalty enablement and enhancement. Moderation on social media is essential to control contents to a certain extent, answer to questions and be interactive with consumers. Replies to customers' questions and comments must be helpful, honest, polite, and authentic. Manipulation is possible in many ways e.g. cruise operators can improve their reputation and rate competitors worse. In the short-term manipulation may help, but not in the long-term. Sometimes manipulation is revealed and the reputation of a cruise

operator can be destroyed: information is spread widely and quickly. Content is very difficult to delete in social media and often, even impossible.

In short, social media are very relevant topic in today's dynamic and complex business environment. Cruise operators have to pay attention to this important topic to state competitive and to enhance customer loyalty on the long-term.

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Chapter 12

Creating Loyal Customers: Three Generations of Cruise Travellers

Caroline Ann Wiscombe

Abstract This research takes an auto-ethnographical approach to the investigation of the needs, satisfactions and loyalties of cruise travellers. Through the narrative of three generation of cruise traveller the notion of loyal and disloyal regular cruise travelling is explored as is the idea of satisfaction and dissatisfaction of the first time cruise traveller (Petrick and Sirakaya, *Annals of Tourism Research*, 31(2), 472–475, 2004). It finds that the industry is attracting differentiated first time cruisers through its supply chain which may affect satisfaction; those who have a fully informed experience appear to be more loyal but price may impact on future purchase. The lack of satisfaction engendered by the operational management of the consumer experience, for instance meal service and intrusion of cabin space by untimely noise, could easily be avoided thus enhancing the consumer experience and creating loyalty to the industry and brand. There is no doubt the longevity of relationships and enhanced customer relationship management (CRM) have enhanced the brand loyalty of some cruise passengers; the use of bespoke CRM could undoubtedly be used to create loyalty in less engaged users.

Keywords Auto-ethnography • Cruise • Brand • Loyalty • Satisfaction

12.1 Introduction

In taking my first cruise I was struck by my dissatisfaction with the genre; overall I felt I would never want to take another cruise, ever! There were many on the cruise however who were repeat travellers and would cruise again. I wanted to understand more about this dichotomy; for instance, was it just that I had been ‘sold’ the wrong cruise for my needs, or that other travellers were attracted to cruises for needs, which had been met, that therefore meant other aspects of the holiday, which irritated me, did not ‘bother’ them. My background in the hospitality business meant that I already knew that it costs more to attract a customer than it does to keep one therefore consumer loyalty impacts on profits and sustainability; arguably it is five times more expensive to get a new customer as it is to keep the ones already

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attracted to the business, and the ongoing profit to be made from existing markets make for more sustainable profits (Kandampully and Suhartanto 2003; Cranage 2004; Oppermann 1996). The cruise industry had lost me as a loyal customer after this first experience; an expensive mistake.

Through the narrative of three generations of cruise traveller, at a cross section, a point in time (Saunders et al. 2012), the notion of loyal and disloyal regular cruise travelling is explored as is the idea of satisfaction and dissatisfaction of the first time cruise traveller (Petrick and Sirakaya 2004). This research adds to the knowledge necessary for the sector to keep the first time cruise traveller 'on board' and continuing to cruise. Indeed for cruise operators it could be even more important to seek the views of first time traveller (linking to this how they sell, or pitch their product) as there appears to be a real possibility that the huge growth in UK based cruise travellers could fall in 2014 (Honeywell 2014). It follows a genre of writing that is both personal and inclusive; acknowledging that narrative and storey telling, whilst receiving great criticism, is a facet of research as credible and valuable as other qualitative methodologies or even large scale quantitative studies (Buzzard 2003; Delamont 2007; Sparkes 2000; Tsang 2000).

12.2 The Cruise Industry

The Cruise Industry is an oligopolistic mature entity where a few sizeable firms account for a relatively large market share. New entrants to the sector would need high financial security and/or niche products to become seriously competitive (Johnson et al. 2008; Tribe 2011; Kuehmayer 2013). The size and scope of the companies involved is not always apparent to its consumers who are encouraged to book their holidays weeks and months ahead of a cruise date. Creating loyalty to the industry could be as important as developing what, for an individual cruise company, may be termed 'brand loyalty', as its different ships offer a range of different services and experiences, whilst the sector battles against other tourism experiences to maintain what has been exceptional industry growth. The matching of changing consumer needs as the loyal consumer moves into different demographic bands, for example through age, marital status, employment or retirement status, education and income (Hsu 2000), also suggests that gaining loyalty to the industry is as important as to its constituent parts.

It is a large industry which has seen substantial growth however this appears to be slowing down. Amongst the 63 cruise line members of the Cruise Lines International Association (CLIA), who represent 95 % of the cruise industry tonnage, some 410 ships, passenger numbers reached 21.3 million in 2013, with a 2014 forecast of 21.7 million, a growth of 7 % per annum since 1990 (CLIA 2014; Cruise Market Watch 2014). Huge investment is made in the capacity of the cruise industry long before the first passengers think about booking their holiday with time taken for construction planned into all major capital infrastructure.

Investment in 2013 saw the launch of six ocean cruise ships worth £2.8 billion and a capacity of 18,196 passengers with a further 13 to come in 2014 and 2015. By 2016 ocean going passenger capacity will increase by a further 60,000 (Machan 2014). In the years 2016–2018 a total of 12 additional global and regional ships are planned with an investment of \$7.9 bn. for ship development alone. This will add a further 33,192 passenger capacity (CLIA 2014). The global passenger share from the UK and Ireland is 8.1 % however there appears to be a real possibility that the huge growth this figure represents, up 16.4 % over the last 5 years, could fall in 2014 (Honeywell 2014; CLIA 2014). Whilst numbers are large there is a need to remember that total cruise passengers represent, for instance, only around half of the total visitors to Las Vegas in any single year and that the industry competes not only across its own constituents but with other tourism products, services and experiences (Cruise Market Watch 2014).

Cruise can be defined via its line categories: contemporary, premium, niche and destination focused, river cruises, expedition and adventure; competition is fierce within the genre, for instance ocean cruising demand is eclipsed by that of river cruising, which grew by 14 % in 2012 and saw 10 new river ships launch in 2013, as well as with other types of tourism (Machan 2014). This is therefore, within its micro and macro environment, a competitive industry offering a wide variety of vessels, shipscape, seascape and experiences to tempt the tourist gaze (Urry 1995; Kwortnik 2008). There are around 96 companies operating cruise ships of all kinds and within these companies are approximately 205 cruise brands across 797 ships (Nautical Cities 2013). It is not always clear to consumers that large companies own the branded ships nor just how large this makes company ownership; for example Carnival Corporation's combined brands owned 49.2 % of the worldwide cruise market in 2011; the ships or brands include Costa Cruises, Princess, P&O and Seabourne as just some of its subsidiaries (Kuehmayer 2013). Mergers and acquisitions also complicate the public's perception of the sector, for instance Hapag-Lloyd Cruises, formed in 1970 through a merger of Hamburg America Line (HAPAG) and Norddeutscher Lloyd, was acquired by TUI AG in 1998 and, since 2002, is a fully owned TUI subsidiary. Star Cruises, the largest cruise operation in Asia, renamed in 2009 as Genting Hong Kong, is part of the wider Genting Group. This large PLC leisure, entertainment and hospitality company also own 50 % of Norwegian Cruise Lines (NCL) itself the third largest cruise operator in the world (Kuehmayer 2013). It is important to assess whether this matters to the individual consumer on a larger quantitative scale than this research allows however its implication that the construction of the industry could be a factor in its findings show it worth further study.

Whilst the industry sells its products and services direct to the consumer through websites, as do many other tourism operations, the cruise sector is still very much dependant on an interface between travel agent, consumer and ship with the majority of cruise bookings being sold by travel agents (CLIA 2014). However what is not always known by the consumer is that a travel agent selling the cruise from a high street retail outlet, or online, may indeed be owned and operated by the same company as operates the cruise. A further complexity in the consumer

purchase of cruise is that they are more and more enjoying a service provided by a third party management company; for example FleetPro Passenger Ship Management are a growing company who already manage:

- The 120-passenger Silver Discoverer (built 1989), an expedition ship that operates in the fleet of Silversea Cruises and which recently underwent a refurbishment in Singapore.
- The 350-passenger Ocean Endeavour (built 1982), a recently refurbished cruise ship that provides offshore accommodation for Petrofac.
- The 1220-passenger cruise ferry Nova Star (built 2014), which Quest Navigation operates between the US state of Maine and the Canadian province of Nova Scotia.
- The river fleet of Avalon Waterways, a US-based cruise operator with a global footprint.

They provide technical and hotel management, as well as new-building financing help, to owners of small passenger ships. The aim of this third party management is that cruise brand/ship owners concentrate on selling the cruise and providing a yield for shareholders, leaving FleetPro or other third party management company to run the actual operations (Martin 2014; Kuehmayer 2013).

The average age of the cruise consumer is around 55 years old. Mature travellers provide a strong target market for the cruise sector, as they are economically independent and able to occupy berths outside the peak school holiday periods, or those driven by working patterns such as Christmas and Easter (Zimmer et al. 1995). Security and Safety are important factors in senior travellers who purchase holidays but they also like flexibility and open schedules (Lago and Poffley 1993), which some cruise tours offer. Great efforts have been undertaken by cruise companies to attract new customers specifically those with families. Building loyalty provides opportunities for repeat business and capturing loyal guests at a young age will bring greater economic benefits to cruise companies (Petrick and Sirakaya 2004). Some specific brand creations for younger tourists have made an impact in the industry, but in the last 10 years these efforts have seen the average age change upward, rather than downward, from 54.8 to just over 56 (Honeywell 2014). Questions could arise that if more bespoke services for young tourists are not more prevalent the clash of requirements for holiday experiences between different age groups of travellers, particularly in the closed quarters of shipboard life, could impact on subsequent holiday choices even if the holiday choice is made as a direct or indirect consequence of an age profile (Alegre and Pou 2006; Martin and Mason 1987; Lepp and Gibson 2008).

12.3 Methodology

It is important in any research to justify the philosophical standpoint, or what some argue is the theoretical perspective or world view (Gray 2009) that validates the research, that makes it credible (Johnson et al. 2006). Different philosophical standpoints will affect the way different researchers see the world, and thereby find their truths in the research they undertake (Sparkes 1992; Guba 1990). Thus the positivist researcher would resort to asking many, many cruisers, through questionnaires, their views and reach their objective truth. In addition ‘Positivists’ insist that in order to be confident in what we observe there must be complete objectivity in our viewpoint and this is reflected in the language used to report the research. ‘Post-positives’ question if true objectivity can actually be reached whereas ‘critical theorists’ and ‘constructivist’ celebrate their subjectivity because they argue that “we cannot escape our values and biographies” (Long 2007).

Firstly then the values and biographies of cruisers will be important to this research and already impact through my personal experience. Understanding these stories and narratives is vital to find why some cruise travellers will return and others don’t and therefore an intimate narrative philosophy or theoretical perspective is appropriate. Comparing my story however, my social construction of the entity I see as cruise travel, is important as I seek to validate it. I need to find a valid truth, across a cross section of time, about the experiences of travellers where loyalty may or may not have been created which allowed the engagement of me, an actor within the research. It would be impossible to extract my experience from the questions I posed and wanted to answer. Social construction is the methodology which captures my philosophical commitment (epistemology and ontology). Philosophical commitments or theoretical positions are inevitably made in undertaking research [and] entail commitment to knowledge constituting assumptions (despite disputes across exact definitions of each) about the nature of truth, human behaviour, representation and the accessibility of social reality (Johnson and Clark 2006; Crotty 1998; Johnson et al. 2006). Therefore in assessing any truth within the context of research the philosophy of the researcher has an impact.

Secondly then does my gender have an impact? Much of our epistemological knowledge has been developed through man’s eyes (as this is the larger published gender work and many of the historical philosophers were male) and in feminist research we see the difficulties of moving from man’s perspective. Ethnicity, sexual orientation, geographic location all are highlighted as being inherently difficult to concur. The research will thus depend upon the education of the researcher and their epistemological perspective and inevitably the development of narcissism (Maynard 1998). I felt that my particular female perspective and experiences would have an impact on the research and exploring the narratives of other women became important to the methodology.

Finally, the literature comments on the age of the cruise traveller. I am at an age where my consumer loyalty might engender longevity in economic sustainability for the sector. Those younger than me, if engaged would also be vital; and yet the industry has been shown to struggle to engage these groups. However an older

generation appears to be intrinsically loyal. Why? Is there something in our generational approach to holidays and cruise travel per se which impacts on loyalty? Overall then a subjective approach that explores the stories within differing age groups could not be avoided not just because I settled the research within a limited time frame but also which allows the impact of my narrative to be heard.

Sparkes (1992) and Tsang (2000) who both write within an autoethnographic methodology invite research critique from both positivist objective standpoints and from social constructionism. They introduced the idea of auto-ethnography into social science research evaluation. Whilst for the positivist management researcher this becomes fraught with subjectivity it provides a much wider, and easier to collate, set of data principles with which to build theoretical discourse (Wiscombe 2008). This research therefore takes an auto-ethnographical approach to the investigation of the needs, satisfactions and loyalties of cruise travellers and how important this can be to future sustainability of the sector.

The aim of this auto-ethnography is for the reader to see a set of three personal illustrations as examples of wider society (Biscomb 2012). To do so it is important to the understanding and underpinning of social construction as a methodology (Crotty 1998; Creswell 2009; Gray 2009). A constructivist is drawn to ethnography because whatever the narrative style the critical element is to portray the culture or provide an explicit representation of a way of life (Putnam et al. 1993). This research seeks to understand the culture of cruise to explore if the experiences of the author, who after undertaking a cruise for the first time has become a disloyal consumer, are replicated in other experiences or offer different insights. For Biscomb (2012) this was clearly driven by the principle that there was a feminist political discourse to be explored; mine also explores the narrative through a purely female perspective but this is limited to assessing business need. It is business research which seeks to open up insights to an industry which appear to be turning away valuable customers.

In management research the notion of credibility and the use of qualitative research, let alone auto-ethnography has been both supported and criticised (Delamont 2007, 2009; Doloriert and Sambrook 2011; Cassell et al. 2006). Indeed peer review of this paper illustrated that management research demands we attempt to provide more objective analysis and presentation of what are subjective findings to have the research accepted in its totality (Jonas 2014; Anonymous 2014). However I cannot avoid auto-ethnography as a research method because as I am already inside the experience, having taken a first cruise and being immediately prompted to question the industry and its engagement with the development of loyal customers. Nor can I do other than follow the methods and narrative techniques of my fellow ethnographers nevertheless I continue to define and redefine the analysis from my knowledge and experience within the cultural paradigm and meme of management discourse in order that it be accepted as valid (Price and Shaw 1998; Johnson and Scholes 1999; Wiscombe et al. 2011).

12.4 Method

In auto-ethnography, as with all other research, care needs to be taken that the method of story gathering from other participants does not reflect their view (negative or positive), that it remains credible and valid (Gill et al. 2010; Johnson 1997; Johnson et al. 2006). Auto-ethnographic research, if going wider than the simply autobiographical, is subject to additional care by the researcher that their self (as an actor in the research) does not impact on the questions asked, or their interpretation, and for this reason I used semi-structured interviews to prompt, rather than direct participants stories and then allowed the narrative to flow.

The interviews with my mother took place over a period of time, not in one sitting, at her home, at her convenience. It took time to draw out the narrative from her because she is by characteristic a private person; despite her understanding my questions were research based she found it difficult to discuss some topics, particularly costs and prices. My sister, quite by chance, provided some illuminations into what my mother may have paid for her holiday experiences but also affirmed some of what my mother had discussed about first decisions to cruise and the importance of itinerary. My 'daughter's' interview was more formal and over in one sitting. Both interviews followed a series of semi-structured questions drawn from my narrative which then allowed their stories be transcribed, compared to my written story, and then analysed to find key categories which impacted on satisfaction and/or loyalty.

I then compared and contrasted the three stories from participants who span a generational divide, myself, my mother and a young woman (who could be 'my daughter') to explore their participation in the cruise sector and what, if anything, ensures their repeat custom. I present our narratives as a discussion around choice of holiday, facilities and services, value, shipboard routine and expectations. It is important to note that I knew little of the intricacies of the sector before coming to research it; the initial interest in the sector being prompted by the booking of a holiday on a cruise ship, a suggestion by a travel agent, and a piece of opportunistic research (Wiscombe et al. 2011). For those who are regular cruise users my a priori knowledge and expectations may appear naïve; this is of added value for this research as it truly represents the first time cruiser experience.

12.5 The Narratives

The stories my mother and 'daughter' tell me about their relationship to their choice of a cruise holiday are in contrast to my own. I went to a travel agent with a friend, with definite dates in mind, seeking holiday options or locations which might fit the timeline. We told the agent what type of things we liked doing and what a holiday meant to us. The travel agent suggested a week's cruise, followed by a week onshore. The itinerary took us to locations I had not previously been to; this was attractive but not a decision maker. The decision made was based on the travel

agents recommendation plus the week onshore was somewhere I was familiar with. We booked it there and then. I don't remember price being a factor, only that we could afford it. My mother's first cruise was chosen because of its itinerary; the geography was very specific, the itinerary key. She had seen the itinerary in the travel section of the Times and was drawn because it allowed her to go round Cape Horn and up the other side. She could not do this with her other travel options that had included walking, sailing and touring holidays of all kinds in family groups and as a single traveller, both under her own planning and direction, and with organised groups. 'My daughter' and her friend were looking for cheap holidays via an online search which could compete with the previous trips to ClubMed equivalent and were drawn to the cruise adverts. They thought £600 for a week seemed good value and *'wanted to go because it said we visited five countries in a week'*.

My mother likes cruises because of the variety of destinations to visit and their accessibility, whether reaching the ship by air or land. Other facilities that are important to her are the trips. She books these in advance via the brochure. Travelling many times with Fred Olsen © she appears now to simply telephone them to discuss what is included in the trip. They make the total booking and she pays by cheque. 'My daughter' researched the cruise she was going on through the internet; via the ships' website she was directed to a booking service that showed the trips for each location, booking these in advance at more attractive prices. When we booked our cruise I knew there would be trips from the ships. I was not advised to book in advance. I did not know it might be necessary. I had looked at the pamphlet given to us by the travel agent and knew what I wanted to do in Morocco. We arrived at the ship and found we could not book, *'lists were full'*. The things I wanted to do were not available; I therefore only left the ship once in the 7 days and that was in Madeira because you could walk down the gangplank and be in the heart of Funchal by simply walking round the quay; it was a fantastic day and I have been back there many times since.

'My daughter' did not choose by brand, but by price. That said the company name has made a big impression. *'Royal Caribbean. We flew to Italy and then transfer to the ship. It wasn't their biggest. . . .the room had a big double bed (they offered to swap us to a twin room but we were OK), two chairs so we could lounge around. A wardrobe each.'* *We would go with them again. The name would attract us to them.'* My mother has been on many cruises now but she *'likes Fred Olsen. They send me a brochure. . . .I can ring them and book. A girl, Anna I think, talks to me about it and makes all the arrangements'*. I chose by recommendation of a travel agent speaking to them about my likes and dislikes including fine wine, good food. I was shocked by the cabin we were put into. Tiny room, especially considering we were only friends travelling together. Not enough room for clothes. Small bathroom. We had not been offered choices and we had not thought to ask if there were differences. I saw into open cabin doors later in the trip; I was envious of the size of their rooms and the facilities within them. My mother used to travel with friends but now often travels alone. The single supplement makes her unhappy and she wishes there were single rooms so that she does not have to pay it *'it's a penalty for being on your own'*. The room itself does not reap any comment but the showers are a difficulty; many now have fixed shower heads and she is only short. The older she

has got the more difficult to use the shower and an adjustable head would help her direct the water where it is needed.

My mother seems to love the routine of shipboard life. Meals are provided. She appears to know where things are and when they will happen. She says there is always someone to talk to. They seem to know her and she is secure because she knows what to do. She can go on her own now whereas when she first went she was always with someone. She is not lonely. She likes that she can put her name down for bridge and there is always a partner. I couldn't get her onto the subject of 'entertainment' or other services. She does not spend much when on a cruise, everything is paid for already. However she likes that there is a little shop and tries to think what to bring back for Christmas presents or other gifts. 'My daughter' said she spent a lot of time watching entertainment in the evening *just because it was there*. The thing she really didn't like which others seemed not to mind was the photographs. *I could not understand this and then found them pinned up on a board. . . . I didn't like the photographs and tried to avoid them whenever I could.*

When I arrived on board my cruise it was late evening. We had been delayed in travelling and were tired. Our plan was to unpack and go to find a restaurant. As we were unpacking a musical 'ding dong' came over a tannoy; *'good evening cruisers, welcome on board.'* I looked for an off switch but could not find one. I went to the 'reception'; *hi, we have just joined the ship. Can we turn off the announcements in our cabin?' 'No'*. We were seated at a lovely table for two and with the help of the wine my reservations about the cabin began to dissipate. The waiter asked if we would like that table every night at this time. We knew there were other choices of restaurant on board, and also thought we might eat ashore sometimes so we said no, we would get a feel for what we might want to do. I was woken on the first morning of my holiday with 'ding dong' at around 07.30 h with instructions to be on deck for a safety session. Every day at 07.30 am and at some point in the evening the same 'ding dong' shattered my peace and equilibrium. 'My daughter' found the announcements helpful to her cruise experience; they got her up in the morning to ensure she met the transport for the day; only a slight niggle arose on her day on board when she realised the call to get up was still on.

'My daughter' had booked the meal times before travelling. They knew the trips were basically 8.00 h to 18.00 h so to book an evening meal for 18.30 was not realistic. They booked therefore for 20.30 h. This was changed once they were on board the ship to 21.00 h. This she did not like because it was too late for her. They realised that they would need a smart outfit from what was said on the website. Sharing a table at mealtimes did not detract from 'my daughters' experience and positively enhanced by mothers'. 'My daughter' was clearly aware that other couples were furious at the situation. She comments *'it was very uncomfortable trying to make conversation'* because they were clearly so vexed. *'We felt that we were OK but we had only paid £600. They had paid £1,200 each and wanted a table of their own'*. She became aware that one couple allocated to their table simply made the choice to pay extra to go another restaurant. She and her friend would not do this because they felt they had already paid for their food. Whilst not spoiling their holiday *'It became a strain to keep talking to people you did not know. We*

could not really chatter about the day we had had. If I had paid full price I would not have been happy.'

I have a very busy life; part of the holiday process for me is to sit and laze over food and wine with fabulous service. The second night we went to the restaurant we found we had to share with six others. The table having to have all ordered or finished their starter or main before you can get your food was akin to school dinner service. I was livid when I found out I had to share a table with other people. I went on holiday to be with my friend, not strangers. I even found ordering a bottle of wine difficult when you were on a table with other people and was so shocked that I went to the reception after the meal. *This is how it is.* The next night I would not share so ate nothing, the following night I found a self-service place where you could just go and help yourself. If I went late then the families or other people had mostly gone. There was no wine waiter so I went without. Sales were definitely lost to the company from my evening budget! I was again livid when I found that on my last night the self-service place would be closed for a staff party; again I did not eat. One night I came out of my cabin to find people dressed in evening gowns and black tie queuing up the stairs to get into the restaurant. I could not have gone in that night anyway because we had not brought such clothing with us but I would find the queue, when I had taken the trouble to dress for an evening out, abhorrent.

I tried to talk to my mother about cost and price and if there is an impact on this for her choice of holiday. She is of a generation where money is not talked about but she thought it was *good value* because everything was included. 'My daughter' highlighted that on her cruise she had paid 'half price' and others had paid full, £1200 for the same experience. There was a definite commentary which indicated that had she paid full price she would have thought differently about her experience and its value but I had not thought about the financial cost to me as a factor in my experience. I had simply been going on a holiday which I could afford. My expectations were being assessed against my cultural expectations of a shipboard life that I see from the TV adverts with couples enjoying meals together and time as a couple looking out to sea, rather than hard cash and an expectation that if I had needed to know something important about the holiday the agent selling it to me would have provided the information. This was based on lists of information and equipment provided by the booking agent when going on other holidays, such as a walking holiday in Corfu. I have not wasted money going on the trip, I have wasted the holiday and the time to relax that this brings me.

12.5.1 Conversation with My Sister

- *"I went on a cruise once." "Did you? When?" "2009–2010".*
- *"I would not have thought you would choose a cruise". "Some friends of Alison's had booked a cruise. They could not go. We could. We decided to take it while we had the chance".*

- *“Really?” “A month in the West Indies. It was OK once you got in and back through the Bay of Biscay. My error was in packing the car in the freezing cold, rushing I suppose. Driving down to Southampton at silly o’clock in the morning. Got on the boat to realise I had left all my evening clothes on the back of the spare bedroom door at home. I had to buy some cheap ones as we went along”.*
- *“How did you know you needed evening clothes?” “Don’t be silly. When you pay that sort of money you know you will be dressing for dinner. Anyway we would be there over Christmas and New Year”.*
- *“How much was it then?” “£7–8,000”. “Blimey; how did you have the money? What a decision”.*
- *“Well it was once in a lifetime thing. We could go. Not everyone can. We enjoyed it. Fabulous facilities. We swam on the ship and it was as if you were in the sea. Lots of organised trips. Activities. Some really good speakers. It was a Fred Olsen ship, not too big. I don’t know if we would have liked a bigger cruise ship with all those thousands of people. This seemed just right. We packed for summer in the Caribbean with a few layers for coming and going. It was Fred Olsen. Really good. Two types of restaurant. Dressing up in one and more casual. In the other. You share a table for dinner”.*
- *“Do you mean Mum has paid £3–4,000 for every cruise she goes on?” “I dunno. She only goes for two or three weeks. But she must do. You need to, to get the holidays she describes”.*
- *“Do you? I never thought about the price, I can’t believe she would pay out that much to go on holiday”. “It’s the places. She couldn’t get there any other way. She is still banging on about the Cape Verde Islands. . . .I suppose when she first started you could only get there by boat”.*

12.6 Creating Loyal Customers

The social construction of the story of cruise is inherent in the narratives of participants to this research. There is a culture of shipboard life which is a comfort, and security, to some, abhorrent to others. There is an impact on satisfaction from how the cruise is booked and choices made; the booking experience is important and the wide array of engagement methods is crucial to the loyalty of different participants. Price, facilities, service and experiences whilst on board play a part in loyalty moreover a clear explanation of shipboard routine and its requirements in advance of cruise travel will impact hugely on a positive or negative experience. These messages cannot be hidden as they, if found by accident (for instance the notion of shared meal experiences, clothes needed or that trips must be booked in advance of travel), will detract from the holiday.

My mother has become a loyal customer through 25 years of cruise experiences after 40 years using other travel genres. She is loyal to the brand through the feeling that they know her, that she understands the expectations of shipboard life and can always find someone to talk to. It is a genre of holiday where she does not feel

lonely, even though she travels alone. She can afford her experiences through the income she receives from a very specific type of pension, the likes of which are unlikely to be experienced again by public sector workers in the UK. Her engagement with the sector has been driven by the exploration of a world she was determined to investigate and experience as fully as possible. Whilst there are places she still wants to go one is just too cold now for her to risk and the other she still plans to achieve. Whilst she may dislike some of the costs, facilities or services the sense of belonging outweighs the negatives as the continued urge to travel can be provided by the industry. Her awareness and comfort of shipboard life has been engendered by familiarity and continued use. Her recognition that she books directly with a company who then deal with all of her travel plans is a vital part of her continued loyalty.

'My daughter' has become a loyal customer who will consider the cruise experience through the price she has paid for her holiday and the value she receives from it. She would not pay full price for what she has been offered thus far but will seek to use cruise travel to explore geographical locations where the bite size experience of a country's culture could encourage her to return for longer in-country holidays. She has been made comfortable about the choice she made to use cruise through the research she undertook before the experience. The mass of information that supported the period from booking to travel made her aware of the positives and limitations that she would face. That said there are aspects of shipboard life that she clearly articulates puts off an intergenerational experience that could easily be remedied with some thought on zoning entertainment or facilities for different age profiles. She would not consider being solely loyal to one brand even though her first experience was so positive. Her decision would instead be made on itinerary plus cost; if Royal Caribbean were to provide an equitable cruise holiday to that of another company she would remain with the brand.

I am a potential disloyal customer. The advantage of my cruise experience was to introduce me to countries to which I have returned to explore for other holiday experiences. The disadvantages would have completely disengaged me from cruise travel ever after, but for my research into the sector. Had the travel agent defined a branded experience better suited to my lifestyle and holiday expectations they could have created a loyal customer first to the industry and subsequently to a brand. Their disregard for my expectations and needs means that they have lost a customer that was theirs to annex. However it also highlights the complexity of the industry and its companies that the effect of walking into a high street travel agent was that it sold me a cruise from its parent company. It was not an independent travel retail outlet but branding of the store gave me no indication it was connected to the cruise purchase I made. I now know that I did not receive the impartial advice that I needed to make a measured holiday choice; this needs to be absolutely clear to other high street shoppers.

12.7 Conclusions

My mother, an avid and loyal consumer of cruise travel, plans a further cruise the Cape Verde Islands and if physically able would go on a cruise holiday upwards of twice or three times per year. The ability to travel is however diminishing with age as her balance, eyesight and hearing all weaken in capacity. Given this loss of loyal customer the industry must do more to capture fresh markets which is costly and appears currently to be unsuccessful (Petrick and Sirakaya 2004; Honeywell 2014; Alegre and Pou 2006; Lepp and Gibson 2008; Martin and Mason 1987).

The next holiday 'my daughter' chose to go on following her first cruise experience was a week in Greece. She plans a cruise to North America but not until her travel companion is 21 so that alcohol consumption is not a problem; they usually go on one main holiday a year. She remains a potential loyal consumer of cruise travel for many years to come; as her economic circumstances expand there will be more opportunities to exploit this loyalty and current satisfaction. Further exploring the energies and relationships already built in existing younger customers provides opportunities to market and capture younger and younger cruisers; these should be built on those markets seeking alternative consumer experiences not just 'sun and fun' markets well satisfied elsewhere.

The natural marketing of the cruise industry should in the short term focus on capturing my age group and ensure they become loyal and satisfied customers. In the year of my cruise I went overseas four times to enjoy leisure experiences; I will however be going on a walking holiday in Madeira for my next trip. The impact of the first cruise was so negative it has made me loathe to experience another cruise. This very lucrative and sustainable market could have been very simply engaged through reducing (turning off) the noise in the cabin, offering to upsell to bigger cabins, providing much more pre-cruise information about shipboard life, and providing a meal service that mirrors equitable hospitality services and holiday expectations. Investigating why cruise meal service needs to treat consumers in such a regimented way seems to be the first imperative action for individual ship brands.

The experiences of the first time cruiser as they enter the mature traveller market could be lost forever if not immediately engaged (Hsu, 2000). This will directly affect associated future economic potential from this tourist. The cruise industry should be better engaged in creating satisfaction and loyalty when the opportunity arises in the first time traveller market; indeed targeting such travellers when on-board to ensure they are captured as repeat business would seem vital. This also means that the supply chain, so very diverse and necessary for the sector, needs to provide clear information and ensure they place the cruise guest in the best brand to satisfy their needs.

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Chapter 13

Cruise Passengers' Willingness to Pay for Sustainable Cruises

Lena Mantel and Alexis Papathanassis

Abstract Environmental protection and sustainably operating cruise vessels imply increasing costs for the cruise industry. Within the competitive context of cruise tourism, compliance with modern sustainability standards partially depends on the guests' sensitivity towards those issues and their corresponding willingness to adapt their consumption principles and behaviour. Using contingent valuation and an extended version of the Theory of Planned Behaviour, this study compares German cruise passengers' willingness to pay for a conventional and a sustainable cruise as well as determinants influencing it. Estimation of the model with ordinary least squares exhibits that apart from attitude towards willingness to pay and perceived behavioural control especially income and reference prices paid in the past have a positive impact on willingness to pay whereas price/value orientation has a negative influence on it. Regarding willingness to pay for a sustainable cruise, moral norm is identified as major driver for behavioural intentions. A t-test for independent samples reveals no significant increase in willingness to pay for sustainable cruises but nonetheless suggests that this matter should be looked into more closely with a larger sample.

Keywords Cruise(s) • Participation • Passenger Behaviour • Sustainability • Willingness

13.1 Introduction

13.1.1 Context Description

Cruise vessels have the reputation of being highly polluting the environment. Apart from generating thousands of gallons of sewage, waste water and tons of solid waste daily they are publicly being criticized for greenhouse gas emissions and oil pollution (Van der Voo 2010). Cruise vessels burn up as much electricity as a village or a small town. By operating their machines outside the emission control areas with intermediate fuel oil 380 or bunker c fuel oil they create carbon dioxide emissions and oily bilge water (Neumeier 2012) they threaten human well-being in

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the coastal areas and damage the aquatic life in the oceans worldwide. Besides, they damage major constituents of their own existence by polluting and destroying the seas and outstandingly beautiful natural areas that might or will get lost as future cruise destinations.

Therefore it should be in the interest of every cruise company to invest in research for environmentally friendly alternatives. Additionally, they should consider retooling their fleet with better filters and using marine diesel oil. This would require notable financial input. The possibility to regain the expenses, entirely or in parts, from the customers could serve as an additional motivator for cruise companies to implement the changes mentioned above more forcefully.

13.2 Research Questions

With regard to the above explained context this research paper is trying to encounter answers to the following research questions:

- What are determinants of German cruise passengers' WTP for cruises?
- Are there differences regarding determinants of German cruise passengers' WTP between a cruise in general and a sustainable one?
- Are German cruise passengers willing to pay more for sustainable cruises?
- Is there a certain percentage of ordinary cruise prices that passengers are willing to pay extra on sustainability?

This empirical study addresses the cruise industry's need to finance more sustainable cruises. It examines the basis for cruise lines' options to having passengers deliberately finance these changes. The aim is to determine factors of willingness to pay (hereinafter WTP) for a cruise in general and for a more sustainable one and measure whether cruise passengers' WTP differs in regard to a conventional and a sustainable cruise offer. Thus the study focuses on behavioural intentions and supporting factors for WTP as well as on a contingent valuation WTP measurement. The research is restricted to cruise passengers from the German source market.

13.3 Literature Review

13.3.1 *Willingness-to-Pay Measurement for Sustainable Tourism*

Various papers exist on WTP measurement for sustainable tourism in particular areas. While most studies are executed directly in the area of interest via on-site personal interviews, Kline et al. (2012) conduct an online survey in order to collect

the according data. Lindsey and Holmes (2002) use similar items to determine funding mechanisms for their cause. Lee (1997), Lindsey and Holmes (2002) and Casey et al. (2010) use a dichotomous choice contingent valuation method to evaluate WTP for their cause. Wang and Jia (2012) conduct a pilot study using an open-ended question but change to binary discrete choice for the formal test. As awareness level about the environmental issue seems to influence WTP for it (Lee 1997; Wang and Jia 2012), Casey et al. modify one half of their questionnaires by including a paragraph describing potential environmental treatment to the participants. All reviewed studies likewise conclude that there is modest WTP for sustainability and that it is possible to allocate a value to nature-based resources which according to Lee (1997) is frequently neglected.

13.3.1.1 Willingness-to-Pay Measurement

The concept of WTP derives from economics and was originally designed to define prices for purely public goods (Le Gall-Ely 2009). WTP measurement can help managers estimate prices and increase profit margins (Voelckner 2006).

Literature classifies survey methods that measure WTP in a hypothetical situation most commonly into conjoint analysis, simulated purchase tests and contingent valuation (hereinafter CV) (Le Gall-Ely 2009).

For CV the participants are asked to state their WTP for a product (open-ended question) or to state whether or not they would be willing to purchase the product at a given price (closed-ended question) (Wertenbroch and Skiera 2002). All these survey methods are subject to hypothetical bias (Miller et al. 2011).

According to Jorgensen et al. (2004) WTP measurement can fail to reveal real economic preferences due to the above mentioned biases or moral satisfaction. Studies show that methods including a real purchase situation work well for inexpensive goods (Voelckner 2006).

Research on expensive goods commonly utilizes CV as method to measure WTP. The results show that CV estimates are at large slightly smaller than revealed preferences but still frequently exceed them, too (Carson et al. 1996), which excludes the possibility to overall round up WTP estimates derived from CV.

Ajzen's *Theory of Planned Behavior* (1991) identifies three independent factors determining behavior and the intention to perform: the attitude towards the behavior, the subjective norm (perceived social pressure) and the perceived behavioral control (perceived ease or difficulty to act).

13.3.2 Variables

When WTP is being measured for goods which are not available in the market yet or that have no existing market like environmental values, numerous studies are

based on Ajzen's *The Theory of Planned Behavior* (1991) (Arvola et al. 2008; Kaiser and Scheuthle 2003; Thøgersen 2009).

Especially when it comes to WTP for sustainability, studies using the *Theory of Planned Behavior* (Ajzen 1991) oftentimes extend the model by a variable referring to moral. While Arvola et al. (2008) find that moral norm clearly increases purchasing intentions and functions as a self reward to the consumers, Kaiser and Scheuthle (2003) determine no difference in their findings; they receive equitable test results when including and excluding the moral construct. In the attempt to measure whether a change in the product matters, Thøgersen (2009) uses Ajzen's model in two identical questionnaires that only differ in the offered product. However, the product change does not lead to a change in responses, thus both samples are not estimated separately but merged before estimation. Okada (2005) finds that consumers' WTP increases in expectation of feeling that they have earned the consumption by paying a higher price. In a study on WTP for organic products, van Doorn and Verhoef (2011) reveal that consumers perceive the prosocial benefits of purchasing organic food compensate the guilt they feel when consuming a vice product. Lee et al. (2010) do not use Ajzen's model in their study on perception of green hotels but also investigate behavioral intentions for WTP a premium for sustainability. Their findings indicate that customers are not only willing to pay for environmentally friendly products but even see this as stimulus for investing in a hotel booking. Concerning Cruise passengers' decision-making processes in terms of purchasing a cruise, Petrick et al. (2007) detect brand loyalty and value orientation as strong determinants of WTP.

13.4 Conceptual Framework

An explorative, empirical study was conducted in order to receive viable data on the above-mentioned research questions. I collected primary quantitative data via online surveys using the CV method.

This research was based on established findings from other fields of WTP measurements for environmental protection issues, that were transferred to the cruise tourism sector. There are no data on cruise tourists' purchasing behavior, so this study is built on Ajzen's definition of any behavior being driven by behavioral intentions (1991).

In his *Theory of Planned Behavior*, Ajzen (1991) postulates three constructs as the major drivers for intended behavior. The first driver is the attitude towards the intended behavior. The second driver, the subjective norm, takes into account the fact that one's decisions are influenced by perceived pressure of being expected to behave in a certain way by others (Ajzen and Driver 1992). The third driver is the perceived behavioral control that refers to one's ability to perform the intended behavior (its ease or difficulty) (Ajzen 1991). For this purpose, the intention of interest is the cruise passengers' WTP for a cruise or a sustainable cruise.

Empirical research discloses that attitude towards WTP for environmental protection issues as mentioned above is fostered by moral attributes like 'pro social benefits' or 'moral satisfaction' (Kahneman and Knetsch 1992; van Doorn and Verhoef 2011). Studies confirm that engaging in environmental friendliness functions as a guilt-reducing mechanism, justifying the consumption (van Doorn and Verhoef 2011). According to Okada (2005) as well as Kivetz and Simonson (2002), the purchase of hedonic goods causes a sense of guilt to the consumer; when this is mitigated, consumption increases (Kivetz and Simonson 2002).

Petrick et al. (2007) find that there are two groups of cruise passengers in terms of decision-making: the ones who go through complex decision-making processes, considering destinations, itineraries, price and value, and the ones that are brand loyal.

Moral norm, sustainable attitudes, price/value orientation and brand loyalty were integrated as additional constructs facilitating the attitude towards WTP for a cruise in Ajzen's model as can be seen in Fig. 13.1.

Education, income and past behavior were used as additional controlling variables in my data collection to identify differences in WTP between conventional and sustainable cruises.

In accordance with this theoretical framework I tested the following hypotheses in order to achieve the research objectives:

- H₁: WTP for a more sustainable cruise (experimental group) is higher than WTP for a conventional cruise (control group).
- H₂: Cruise passengers' moral norms have a positive impact on attitude towards WTP.

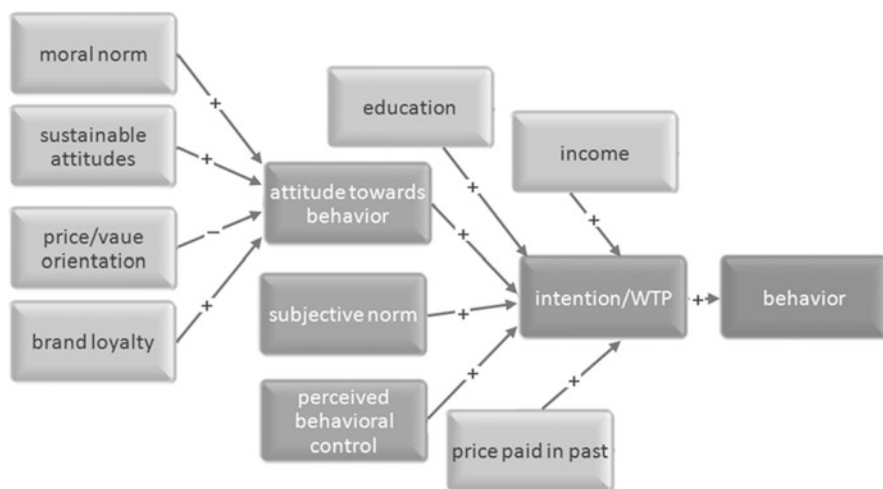


Fig. 13.1 Conceptual model (including the constructs from the Theory of Planned Behavior) with expected effects

- H₃: Cruise passengers' sustainable attitudes have a positive impact on attitude towards WTP.
- H₄: Cruise passengers' price/value orientation has a negative impact on attitude towards WTP.
- H₅: Cruise passengers' brand loyalty has a positive impact on attitude towards WTP.
- H₆: Cruise passengers' attitude towards behavior has a positive impact on WTP.
- H₇: Cruise passengers' subjective norms have a positive impact on WTP.
- H₈: Cruise passengers' perceived behavioral control has a positive impact on WTP.
- H₉: Cruise passengers' education has a positive impact on WTP.
- H₁₀: Cruise passengers' income has a positive impact on WTP.
- H₁₁: Cruise passengers' price paid per week of cruising in the past (PPiP) has a positive impact on WTP.

13.5 Research Methodology

13.5.1 Methodology

According to Hanemann (1994), respondents to a survey find it easier to answer a binary discrete choice question than an open-ended question. However, cruise prices vary extremely throughout different segments of the industry. Hence, an open-ended question was used and integrated it into a very precise hypothetical market set. A cruise offer was devised just as it could be found in a cruise catalogue including as many details as possible without exceeding the normal amount of text for such an offer.

Traditionally, constructs are measured reflectively based on Churchill's proposed methods to evaluate reliability and validity of measure instruments (Churchill, cited in Eberl 2004). However, an alternative measurement perspective is based on the theory that indicators might not be caused by but cause the construct (Diamantopoulos and Winklhofer). These formative (causal) construct indicators can have positive, negative, or no correlation (Bollen and Lennox 1991). As suggested by Bollen and Lennox (1991) a combined model with reflective and formative indicators was employed instead of using either a uni-dimensional classical or a formative test model.

If not marked otherwise, a five point Likert scale was employed rating from "fully agree" to "fully disagree" (Trochim 2006) and answers were forced except they were regarding demographics or companies' and vessels' names from past behavior. In return a five point scale with a neutral rating option in the middle was

used in order not to force respondents who feel indifferent about one of the items to choose between either agreement or disagreement. The wording of the items was taken from the cited sources and adapted to the context of this study.

13.5.2 Dependent Variable

13.5.2.1 Intention/WTP

In order to avoid strategic bias or moral satisfaction respondents were randomly assigned to two independent groups. One half of the respondents was asked to state their WTP for a conventional cruise (control group), the other half was asked to state their WTP for the exact same cruise but with an environmental friendly vessel, that only uses marine diesel oil and has a very low fuel consumption per passenger (experimental group). The potential for biases in this difference should be mitigated by the random assignment of respondents to one of two experimental groups.

As an alternative method to control this measurement an item offering the respondents of both groups the purchase of a CO₂-certificate was included. The equivalent of the purchasing price should be invested in CO₂-reducing projects. A single-item was employed to find out respondents' purchasing intention.

13.5.3 Independent Variables

13.5.3.1 Moral Norm (MN)

The conceptual framework of this study presumes that moral norms of consumers foster their WTP for environmental protection as shown by van Doorn and Verhoef (2011), Kahneman and Knetsch (1992) and Tonglet et al. (2004) and enhance WTP for a hedonic good (Kivetz and Simonson 2002; Okada 2005). Five formative items (Tonglet et al. 2004) were used to measure moral norm.

13.5.3.2 Sustainable Attitudes (SA)

A person's sustainable attitudes display the value this person assigns to the environment. Consequently they are assumed indicators for attitude towards WTP for environmental protection. In order to measure the respondents' sustainable attitudes seven reflective items were deployed (van Doorn and Verhoef 2011).

13.5.3.3 Price/Value Orientation (P/VO)

Cruise passengers who are not brand loyal base their final decision regarding the booking of a cruise holiday on price/value (Petrick et al. 2007). Two reflective items (Petrick 2005) were used to survey price/value orientation.

13.5.3.4 Brand Loyalty (BL)

The model suggests that brand loyalty affects the attitude towards WTP. Four reflective items (Härtel and Russell-Bennett 2010) were used to measure the construct.

13.5.3.5 Attitude Towards Behaviour (ATB)

The attitude towards behaviour refers to the degree to which a person has a positive or negative mind-set about the intended behaviour (Ajzen and Driver 1992). It is the first determinant of intention (Ajzen 1991). Two formative items were used to portray cruise passengers' evaluation of the intended behaviour.

13.5.3.6 Subjective Norm (SN)

Presuming that every decision is affected by the peer group of the decision-maker, the subjective norm refers to the social pressure one perceives when making decisions (Ajzen and Driver 1992). To measure this construct a single-item was deployed.

13.5.3.7 Perceived Behavioural Control (PBC)

The third factor influencing intended behaviour in Ajzen's *Theory of Planned Behaviour* is the perceived behavioural control. It illustrates one's personal sensation of ease or difficulty to engage in the intended behaviour (Ajzen and Driver 1992). Given that a cruise has to be paid anyway, the ability of acting out the behaviour is not affected by payment processes but only by the financial means. Two reflective items were used in the survey to depict the construct.

13.5.3.8 Education

The conceptual model assumes that the level of education is highly correlated with WTP for issues of sustainability. A single-item was used to identify respondents' educational level (Petrick 2005).

13.5.3.9 Income

One of the presumed demographic factors influencing WTP is household income. Respondents were asked with a single-item (Petrick 2005) to choose between five income categories.

13.5.3.10 Past Behaviour

The model considers past behaviour to have an impact on WTP. Four formative items (Petrick 2005) were used to reveal respondents' past behaviour.

13.5.4 Questionnaire Design

The order of the items in the questionnaire is essential. The cruise offer and the corresponding question on WTP were therefore placed at the beginning of the survey. The next section included all items on the *Theory of Planned Behaviour* (Ajzen 1991) as well as the ones on price/value orientation. Only after that the CO₂-certificate, moral norms and sustainable attitudes were placed that revealed to the respondents the interest in environmental issues. As for items on demographics and past behaviour they were placed at the end of the questionnaire.

A very common cruise that all cruise lines offer and that many cruise passengers have experienced already was chosen. For the sustainable offer a small paragraph pointing out the environment friendliness of the vessel was included.

The online survey was pretested in two phases of a week each. After these pre-tests, some of the items were adapted again for more easy understanding according to the pre-test comments.

13.5.5 Data Collection

The questionnaire was distributed online in May 2013. In order to reach German speaking cruise passengers with different demographics and different cruise

Table 13.1 Item coding

Code	All other items	Education	Income
1	Fully disagree	No educational certificate	Below 2000 €
2	Rather disagree	Elementary school	2000–3999 €
3	Neither nor	High school	4000–7999 €
4	Rather agree	College	8000–11,999 €
5	Fully agree	Graduate study	12,000 € or more

experience the link to the questionnaire was published on several German online cruise platforms.

A total of 234 questionnaires was returned. Questionnaires that were not finished or filled in by respondents who had never been on a cruise were dismissed. Additionally those were excluded who stated a WTP that was much below market prices. At the time the survey was distributed, no providers were found that offered a 7 day cruise in the Mediterranean Sea for less than 333 €. Accordingly 300 € was considered the minimum price for acceptable survey offers. Answering time in average was at 9 min, Questionnaires that were edited within less than 5 min were dismissed. In the end, the data collection yielded 112 usable data sets, 58 from the control group and 54 from the experimental group.

At exporting the poll response data from the online survey tool, response options from the five point Likert scales were coded from one to five as shown in Table 13.1.

Some of the reflective items in the survey were scaled in opposite direction. As the objective was to have comparable data for all items within a construct the items that had a reverse scale were recoded.

It was decided to disregard the items on cruise vessels and cruise companies booked in the past in the analysis as too many of the respondents had been on cruises with providers of different price segments and a majority of the respondents had not filled in the free text on cruise vessels' names. Therefore these responses were not considered representative for the sample groups.

13.5.6 Analytical Framework

Prior to estimating the conceptual model descriptive statistics were retrieved to evaluate mean, standard deviation and frequencies. The model was also assessed for construct validity and reliability before evaluating it by using a multiple linear regression analysis with an ordinary least squares approach.

In models that contain a dependent variable and a subset of independent variables linear regression can explain which of the independent constructs contributes most significantly to variance in the dependent construct (Abeyasekera and Chromy 2005).

The ordinary least squares method estimates the unknown parameters in a linear regression model by minimizing the sum of squared residues. The resulting estimator is very steady when there is no perfect multi-collinearity between independent constructs. In an ordinary least squares approach the data have a constant uncertainty and thus need not to be weighted (Malhotra and Birks 2007). Hence, a mean of all items belonging to one construct was used in order to evaluate it. Another value that can be calculated from the sum of squared residues is R^2 , a measure to show the percentage of variance in the independent variable that can be explained by the model. However, R^2 increases with increasing numbers of variables. The adjusted R^2 (R^2_a) though takes into account the number of constructs included in the regression model without increasing and was therefore used as additional controlling value in this study.

Independent of the regression model the difference in means between the WTP statements for the cruise offer, the price paid per week of cruising in the past and the difference between the two of those for control group and experimental group were compared by performing a two-sample t-test. It can come to increasingly inaccurate results when variances are heterogeneous and additionally sample sizes differ very much. In contrast, the t-test for independent samples assumes that the sample groups come from populations with unknown variances that must be estimated. Presuming that variances of the samples are equal, the t-test uses a pooled estimate of variance. Taking into account that variances might be unequal, the t-test also estimates variances separately (Schechtman and Sherman 2007).

13.6 Analysis and Results

13.6.1 Data

13.6.1.1 Descriptive Statistics

Table 13.2 shows that in both groups attitude towards behaviour, subjective norm, perceived behavioural control, sustainable attitudes, education and income reach higher means than moral norm, brand loyalty, price/value orientation and WTP for the CO₂-certificate. Overall, means are slightly higher in the control group than in the experimental group. Standard deviations range from 0.64 to 1.49 which indicates a narrow to medium spread around the mean.

Only in the WTP statement for the cruise offer standard deviation was measured high in both groups with numbers of about 50 % of the mean. In the control group mean WTP was 1295 € and standard deviation was at 614 € (range: 681 €–1909 €), in the experimental group mean WTP reached 1465 € and standard deviation 801 € (range: 664 €–2266 €).

Table 13.2 Descriptive statistics

Factor	Items	Mean	Median	Standard deviation	Variance
Control group					
Attitude towards behavior	4	3.85	4.00	1.02	1.05
Subjective norm	5	3.86	4.00	1.03	1.07
Perceived behavioral control	6	3.81	4.00	1.03	1.06
Price/value orientation	7	2.35	2.00	0.83	0.69
Brand loyalty	8	2.46	2.38	0.97	0.95
Moral norm	10	2.99	3.00	0.88	0.78
Sustainable attitudes	11	3.82	3.88	0.57	0.32
Past behavior-education	12.1	3.69	4.00	0.86	0.74
Past behavior-income	12.2	3.59	4.00	0.97	0.95
Past behavior price paid in past	13.4	1292 €	1000 €	980 €	960,187 €
WTP conventional cruise offer	3.1.1	1295 €	1000 €	614 €	377,474 €
WTP CO ₂ -certificate	9	2.55	2.00	1.49	2.22
Experimental group					
Attitude towards behavior	4	3.43	3.50	1.23	1.51
Subjective norm	5	3.35	3.50	1.18	1.40
Perceived behavioral control	6	3.66	4.00	1.12	1.25
Price/value orientation	7	2.39	2.00	0.83	0.70
Brand loyalty	8	2.37	2.25	0.86	0.74
Moral norm	10	2.94	2.90	0.79	0.62
Sustainable attitudes	11	3.79	3.88	0.64	0.40
Past behavior-education	12.1	3.54	3.00	0.77	0.59
Past behavior-income	12.2	3.54	3.00	0.95	0.90
Past behavior price paid in past	13.4	1236 €	900 €	915 €	836,758 €
WTP sustainable cruise offer	3.2.1	1465 €	1300€	800€	641,242 €
WTP CO ₂ -certificate	9	2.56	2.00	1.30	1.69

13.7 Construct Validity and Reliability

13.7.1 Multi-Collinearity

As formative measure is based on multiple regressions, the stability of the items is easily affected by multi-collinearity between constructs or between the formative items of one construct. Almost perfect inter-correlation among formative items and constructs would be an indicator for exclusion from the model (Diamantopoulos and Winklhofer 2001). Mostly, inter-correlations between constructs were diminutive. Mentionable correlation coefficients that reach more than 0.5 were found between moral norm and sustainable attitude at 0.522, WTP and sustainable attitudes at 0.651 and subjective norm and attitude towards behavior at 0.652. However, these are still not even close to perfect inter-correlation and can therefore be ignored (Tables 13.3 and 13.4).

Table 13.3 Multi-collinearity between constructs

Factor	MN	SA	P/VO	BL	ATB	SN	PBC	WTP CO ₂
MN	1.000							
SA	0.522	1.000						
P/VO	-0.006	-0.061	1.000					
BL	-0.040	-0.111	-0.167	1.000				
ATB	0.221	0.070	-0.249	0.171	1.000			
SN	0.162	-0.045	-0.164	0.133	0.652	1.000		
PBC	-0.108	-0.141	-0.386	-0.029	0.211	0.250	1.000	
WTP CO ₂	0.651	0.490	-0.058	-0.005	0.193	-0.007	-0.125	1.000

Table 13.4 Multi-collinearity between formative items

Item	ATB 4.1	ATB 4.2	MN 10.1	MN 10.2	MN 10.3	MN 10.4	MN 10.5
ATB 4.1	1.000						
ATB 4.2	0.908	1.000					
MN 10.1			1.000				
MN 10.2			0.715	1.000			
MN 10.3			0.569	0.551	1.000		
MN 10.4			0.636	0.557	0.510	1.000	
MN 10.5			0.260	0.293	0.363	0.367	1.000

13.7.2 Confirmatory Factor Analysis

In order to assess construct validity for reflective items, confirmatory factor analysis was performed. Table 13.5 shows that items within perceived behavioural control and price/value orientation have excellent factor loadings of more than 0.94 and 0.91. Indicators within brand loyalty have a good validity with a range of factor loadings between 0.70 and 0.85. Factor loadings for the items of sustainable attitudes range between 0.53 and 0.86. The established reliability estimates of 0.70 are not reached for all items but are still above the common threshold of 0.50 for removing them (Hulland 1999).

13.7.3 Cronbach's Alpha

To analyze the reflective constructs regarding their internal consistency Cronbach's alpha was used. As shown in Table 13.6 all constructs show a minimum alpha of 0.77 which indicates good internal consistency and exceeds the recommended reliability estimates of 0.70 (Malhotra and Birks 2007).

Table 13.5 Confirmatory factor analysis

Factor loading				
Items	Perceived behavioral control	Price/value orientation	Brand loyalty	Sustainable attitudes
6.1	0.94			
6.2	0.94			
7.1		0.91		
7.2		0.91		
8.1			0.75	
8.2			0.70	
8.3			0.85	
8.4			0.77	
11.1				0.72
11.2				0.86
11.3				0.74
11.4				0.65
11.5				0.50
11.6				0.53
11.7				0.71
11.8				0.76

Table 13.6 Reliability

Factor	SEM	Cronbach's alpha
Attitude towards behavior		Formative
Subjective norm		Single-item
Perceived behavioral control	0.81	0.86
Price/value orientation	0.75	0.80
Brand loyalty	1.76	0.77
Moral norm		Formative
Sustainable attitudes	1.94	0.83
Past behavior-education		Single-item
Past behavior-income		Single-item
Past behavior-price paid in past		Single-item
WTP cruise offer green		Single-item
WTP CO ₂ -certificate		Single-item

13.7.4 Multiple Linear Regression

The conceptual model was estimated using ordinary least squares, first for both sample groups separately, using the WTP statement as behavioral intention, then for the data from both groups combined, using the purchase intention of the CO₂-certificate at the given price of 50 € as behavioral intention. For estimation, the model had to be split into two parts. The first part investigates the regression

between the independent variables moral norm, sustainable attitudes, price/value orientation and brand loyalty to the dependent variable attitude towards WTP. The second part measures the regressions between attitude towards behavior, subjective norm and perceived behavioral control as independent constructs to WTP as dependent construct.

Table 13.7 shows that the model explains 16 % ($R^2 0.16$) of the variance in attitude towards WTP and 36 % ($R^2 0.36$) of the variance in WTP in the control group. As suspected adjusted R^2 (R^2_a) indicates a lower percentage of variance that can be explained by the model. For attitude towards WTP this rate is 10 % ($R^2_a 0.10$) and for WTP it is 28 % ($R^2_a 0.28$). In the first part of the model only price/value orientation had a significant impact on attitude towards behavior with a t-value of -2.394 , exceeding the established significance level of $-1.96/1.96$ and a p-value lower than 0.05 (Malhotra and Birks 2007). In the second part of the model income and price/value orientation were factors showing a significant impact on WTP, both with a p-value of lower than 0.01 and t-values of 2.804 and 2.949.

In the experimental group the conceptual model explains 15 % ($R^2 0.15$) of the variance in attitude towards behavior and 40 % ($R^2 0.40$) of the variance in WTP. Adjusted R^2 is clearly lower, indicating that only 8 % ($R^2_a 0.08$) of the variance in the first part of the model and 32 % ($R^2_a 0.32$) in the second part can be explained by it. Constructs that affected the dependent variables were moral norm for the attitude

Table 13.7 Ordinary least squares estimation

Control group						
Independent variable		Dependent variable		Dependent variable		
Factor	Expected effect	Regression coefficient	t-Value	Regression coefficient	t-Value	Result
MN	+	0.248	1.414			Not significant
SA	+	-0.033	-0.118			Not significant
P/VO	-	-0.394*	-2.394			Significant
BL	+	0.201	1.393			Not significant
ATB	+			-126.833	-1.499	Not significant
SN	+			125.708	1.397	Not significant
PBC	+			90.991	1.163	Not significant
Education	+			103.207	1.298	Not significant
Income	+			233.259**	2.804	Significant
PPiP	+			0.237**	2.949	Significant
		R^2	0.16	R^2	0.36	
		R^2_a	0.10	R^2_a	0.28	

* $p < 0.05$; ** $p < 0.01$

Table 13.8 Ordinary least squares estimation

Experimental group						
Independent variable		Dependent variable		Dependent variable		
Factor	Expected effect	Regression coefficient	t-Value	Regression coefficient	t-Value	Result
MN	+	0.614*	2.365			Significant
SA	+	-0.297	-0.928			Not significant
P/VO	-	-0.281	-1.318			Not significant
BL	+	0.124	0.598			Not significant
ATB	+			-50.187	-0.488	Not significant
SN	+			72.146	0.633	Not significant
PBC	+			114.241	1.179	Not significant
Education	+			-2.442	-0.021	Not significant
Income	+			30.243	0.262	Not significant
PPiP	+			0.539**	5.020	Significant
		R ²	0.15	R ²	0.40	
		R ² _a	0.08	R ² _a	0.32	

* $p < 0.05$; ** $p < 0.01$

towards WTP with a t-value of 2.365 and a p-value lower than 0.05 and the price paid per week of cruising in the past for WTP with a t-value of 5.020 and a p-value lower than 0.01 as exhibited in Table 13.8.

Regarding WTP for the CO₂-certificate, the estimation of the model with data from both sample groups shows in Table 13.9 that 14 % (R²0.14) of the variance in attitude towards WTP can be explained by the model and 13 % (R²0.13) of the variance in WTP for the certificate. As in the other groups, the influence of the number of variables can be seen, as adjusted R² suggests that only 11 % (R²_a0.11) of the variance in attitude towards WTP and 8 % (R²_a0.08) in variance in WTP can be explained by the model. Moral norm had a significant impact on attitude towards WTP with a t-value of 2.642 and a p-value lower than 0.01. Attitude towards WTP and perceived behavioral control showed a significant impact on WTP with t-values of 3.016 and -1.993 and p-values below 0.01 for attitude towards behavior and below 0.05 for perceived behavioral control.

Table 13.9 Ordinary least squares estimation

Combined group						
Independent variable		Dependent variable		Dependent variable		
Factor	Expected effect	Regression coefficient	t-Value	Regression coefficient	t-Value	Result
MN	+	0.395**	2.642			Significant
SA	+	-0.138	-0.659			Not significant
P/VO	-	-0.336*	-2.581			Significant
BL	+	0.170	1.442			Not significant
ATB	+			0.443**	3.016	Significant
SN	+			-0.214	-1.355	Not significant
PBC	+			-0.277*	-1.993	Significant
Education	+			-0.196	-1.279	Not significant
Income	+			-0.154	-0.995	Not significant
PPiP	+			0.000	1.447	Not significant
		R ²	0.14	R ²	0.13	
		R ² _a	0.11	R ² _a	0.08	

* $p < 0.05$; ** $p < 0.01$

13.7.5 *t-Test*

The mean WTP for the offered cruise was 1295 € in the control group and 1465 € in the experimental group. In comparison to the price paid per 7 days of cruising in the past, this was a plus of 229 € in the experimental group. In the control group the difference of minus 3 € was minuscule. In order to find out whether this difference in means for WTP of 170 € occurred accidentally or due to the sustainability paragraph in the offer of the experimental group a two-group t-test was conducted. The test was also performed for the price that respondents of both groups had stated to have paid for a week of cruising in the past. Last the test was carried out for the difference between the stated WTP and the weekly price paid in the past.

Assumption of separate or pooled variance did not make any significant difference overall results. The results displayed in Tables 13.10 and 13.11 derive from separate variance. As Table 13.10 shows t did not reach the established significance level of 1.96 (Backhaus et al. 2008) in any of the cases at a 95 % confidence level. Nevertheless, it was not too far from significance in the case of the WTP statement with a t-value of 1.26 and even closer for the difference between the WTP statement and the weekly cruise price paid in the past with t of 1.45. In these two tests p-value

Table 13.10 t-Test

	WTP for cruise offer	Price paid in past	WTP-price paid in past
Contr. Group – Mean	1295 €	1292 €	3 €
Contr. Group – St.Dev.	614 €	980 €	883 €
Exp. Group – Mean	1465 €	1236 €	229 €
Exp. Group – St.Dev.	800 €	915 €	765 €
Difference in means	170 €	–56 €	226 €
95% confidence interval	–99–439	–411–299	–83–535
t	1.26	–0.31	1.45
df	99	110	109
p-value	0.21	0.79	0.15

Table 13.11 t-Test—natural logarithms

	Natural logarithm of WTP for cruise offer	Natural logarithm of price paid in past	Natural logarithm of WTP-price paid in past
Contr. Group – Mean	7.06	6.95	3.01
Contr. Group – St.Dev.	0.46	0.63	3.02
Exp. Group – Mean	7.17	6.94	4.16
Exp. Group – St.Dev.	0.49	0.58	2.83
Difference in means	0.10	–0.02	1.15
95% confid. interval	0.08–0.28	–0.24–0.21	0.05–2.24
t	1.14	–0.16	2.08
df	107.82	110	110
p-value	0.26	0.88	0.04

is found at 0.21 and 0.15 which indicates that probability of achieving results like this are rather low at 21 and 15 % if null hypothesis was true. It can be assumed that with a larger sample the results of the t-test could reach significance. Standard deviation is rather high in all cases with values between 614 € and 980 €.

In order to reduce this heterogeneity that was found in the spread around the mean, I additionally conducted the t-test for the natural logarithm of each of the three variables measured before. As can be seen in Table 13.11 the results were much more homogeneous with means around seven for WTP and price paid per week in the past in both groups and standard deviations between 0.46 and 0.63. In this test series the t-value of the natural logarithm of the difference between WTP and the weekly price paid in the past of 2.08 exceeded the suggested significance level of 1.96.

13.8 Results

The t-test showed a difference in mean WTP between control group and experimental group of 170 €—equaling 13 % of mean WTP in the control group—but could not support H_1 at an established significance level. Hence, H_1 has to be rejected despite the finding of reasonable indicators for supporting it. The results from the ordinary least squares regression analysis depict that none of the hypotheses was supported over all three of the tested samples.

In the control group price/value orientation showed an impact on attitude towards behaviour, and income as well as price paid per week of cruising in the past had a significant effect on WTP. Therefore in the control group H_4 and H_{11} are supported while all other hypotheses have to be rejected. In the experimental group only H_2 and H_{11} are supported due to the fact that moral norm showed a significant effect on attitude towards behaviour, and price paid per week of cruising in the past affected WTP. All the other hypotheses have to be rejected.

The results from the combined group show that consistent with hypotheses H_2 and H_4 , attitude towards WTP was influenced by moral norm and price/value orientation. H_6 and H_8 are also supported in this group since attitude towards behavior and perceived behavioral control had a direct and significant impact on WTP for the CO₂-certificate. This result complies in parts with the suggested outcome of the *Theory of Planned Behavior* (Ajzen 1991).

Table 13.12 shows which of the tested hypotheses are supported in which group.

Table 13.12 Hypotheses testing results

Hypothesis	Path	Control group	Experimental group	Combined group
H_1	WTP _{exp} → WTP _{con}			Not supported
H_2	MN → ATB	Not supported	Supported	Supported
H_3	SA → ATB	Not supported	Not supported	Not supported
H_4	P/VO → ATB	Supported	Not supported	Supported
H_5	BL → ATB	Not supported	Not supported	Not supported
H_6	ATB → WTP	Not supported	Not supported	Supported
H_7	SN → WTP	Not supported	Not supported	Not supported
H_8	PBC → WTP	Not supported	Not supported	Supported
H_9	EDU → WTP	Not supported	Not supported	Not supported
H_{10}	INC → WTP	Supported	Not supported	Not supported
H_{11}	PPiP → WTP	Supported	Supported	Not supported

WTP willingness to pay, MN moral norm, ATB attitude towards behavior, SA sustainable attitudes, P/VO price/value orientation, BL brand loyalty, SN subjective norm, PBC perceived behavioral control, EDU education, INC income, PPiP price paid per week in past

13.9 Conclusions

Two sets of research questions were developed in the beginning of this paper. The first set asks about the determinants of German cruise passengers' WTP:

- What are determinants of German cruise passengers' WTP for cruises?
- Are there differences regarding determinants of German cruise passengers' WTP between a cruise in general and a sustainable one?

As the results show, several variables can be identified that have an impact on cruise passengers' WTP. Attitude towards behaviour as well as perceived behavioural control influence WTP as suggested by Ajzen (1991). However, subjective norm does not have any significant impact on the respondents' WTP in any of the tested groups. While income and price/value orientation show the expected effect on WTP in the control group and the combined group, none of these affects the results in the experimental group which could be interpreted as insensitivity towards price when the cruise offer promotes sustainability. The only outlier in the experimental group is moral norm. This confirms findings from literature that investing in sustainable goods functions as mechanism to reduce guilt and to justify the purchase (van Doorn and Verhoef 2011). Especially when it comes to buying hedonic goods, Okada (2005) and Kivetz and Simonson (2002) state that the choice of a sustainable product gives the consumers the feeling that they have earned their right to enjoy the purchased good. Nonetheless, the results from the linear regression show that the model can only explain about 10 % of variance in attitude towards WTP in all three groups and in WTP for the CO₂-certificate. Estimating the variance in WTP for the conventional and the sustainable cruise offer, the model can explain about a third of the variance in both the control and the experimental group.

The second set of questions that was supposed to be answered by this work deals with German cruise passengers' WTP additional money for sustainable cruises in comparison to conventional ones:

- Are German cruise passengers willing to pay more for sustainable cruises?
- Is there a certain percentage in regard to cruise passengers' WTP for non-sustainable cruises that they would agree to pay extra for a more sustainable one?

The results from this study reveal that there is a difference in means of WTP statements between the conventional cruise offer and the experimental cruise offer that includes a paragraph on the sustainability effort of the cruise. This difference amounts in 13 % of the mean WTP price stated by the control group. However, the tests on this result cannot refute that the difference might have occurred accidentally as no established significance level is reached. Nevertheless, results also strongly indicate that there is some tendency that might have reached significance at larger samples and therefore might be worth looking into by cruise lines.

This would reflect the findings of Wang and Jia (2012) that awareness of the environmental cause increases WTP for it.

On the one hand, these findings do not entirely support the idea that German cruise passengers do not want to think about environmental issues when it comes to their holidays at all. On the other hand, the rather low means for moral norm show that participants of the survey did not seem to feel any guilty whatsoever about booking a cruise that could harm the environment which can be interpreted as confirmation of the idea. However, the results do not allow making suggestions or giving any managerial advice without much more intensive further research.

13.10 Limitations and Further Research

This study was not free from limitations. As the work was restricted to a fixed time frame and limited financial means it was hard to get a large enough number of respondents for the survey, especially as the acquired surveys resulted from two different questionnaires that had to be estimated separately.

The model used in this study is a complex one that involves many variables. For future research it could be of interest to simplify the model in order to focus on the most important variables and eliminate inaccuracies and sources of mistake like the increased R^2 in the results.

Though the outcome of this study does not support the hypothesis that German cruise passengers are willing to pay more for a sustainable cruise than for a conventional one, indicators are provided that with a bigger sample group the tendency for a higher WTP could reach the established significance levels.

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Part III
Human Capital: Training, Education &
Research

Chapter 14

Who Should Pay for Higher Education in Cruise Management?

Michael P. Vogel

Abstract This paper addresses the contested issue of sharing the costs of higher education between students and the public. Based on a theoretical economic model, determinants of optimal instruction cost sharing between student and taxpayer are identified and discussed, especially in view of higher education in cruise management. It turns out that the optimal cost share to be absorbed by the student equals the ratio of the student's private benefit and the government's (but not necessarily the public's) benefit of the student's higher education. If the government's interest is purely budgetary, then a higher education preparing students only to be 'employable' by the cruise industry does not justify the use of taxpayer money. If, on the other hand, the government aims to maximise social welfare, taking non-economic benefits into account, some public funding may be optimal. Either way, the optimal public subsidy increases with the extent to which cruise management study programmes convey a sense of responsibility towards the public interest and qualify and motivate their graduates to work also outside the cruise industry.

Keywords Cost sharing • Cruise management • Economic model • Higher education • Tuition fees

14.1 Introduction

The sharing of the costs of instruction of higher education between the public, i.e. the taxpayer, and the students or their parents is a contested issue, a battleground of politics, economics, ethics, ideology and vested interests. Some (e.g. Barr 2004; Dearing 1997; Hansmann 2012) argue that students are the prime beneficiaries of their own education, as it enhances their opportunities in life and their social status, improves their career prospects, reduces their risk of unemployment and increases their lifetime earnings. Therefore, they should also bear the bulk of the cost of their education. Letting society as a whole pay for the private benefits accruing from higher education would be unfair.

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Another argument says that by not making students pay, too many will get a higher education, and their studies will take overly long ('career students'), burdening society with excessive costs and causing significant economic inefficiencies due to resource misallocation (Labi 2003). And for Johnstone (2004), "the most compelling—or at least the least ideologically contestable—case for cost-sharing is simply the sheer need for additional higher educational revenue" (p. 407).

Others (e.g. Cohen 2003; Marginson 2011; Weerts 2014) point out that society as a whole benefits from graduates as innovators, experts, leaders, tax payers and contributors to civic life, and that also less educated people profit from a greater number of university graduates. In other words, higher education entails significant positive externalities. Hence, it is argued, society ought to bear its fair share of the costs of instruction. Moreover, certain professions of special public interest may offer only insufficient or uncertain private returns, so that without substantial subsidies the number and quality of individuals qualifying for these professions would be insufficient to meet society's needs.

Sometimes the argument is put forward that education is a basic human right (article 26 of the Universal Declaration of Human Rights) and that therefore education, including higher education, should be provided for free. This argument, however, is flawed. Also food is a basic human right, yet positive prices for food are commonly accepted. "The equity objective is not free higher education, but a system in which no bright person is denied a place because he or she comes from a disadvantaged background" (Barr 2004, p. 266).

14.2 Research Question

Clearly, a higher education is never only in the private or only in the public interest. Demand for higher education is both private and public, but some academic degrees offer greater private benefits than others. Efficiency and fairness require that the distribution of benefits be reflected by the cost-sharing approach. This paper examines the implications of this normative perspective especially in view of higher education programmes that focus on preparing their students for managerial roles in the cruise industry.

The number of study programmes dedicated to cruise management education is limited: BA Cruise Tourism Management (Bremerhaven), BSc Cruise Management (Plymouth), BA Cruise Industry Management (Southampton Solent), BA Business Management River Cruise (Westminster) and MBA Cruise Ship Hospitality Management (AMET University, India). However, in addition, the continued growth of worldwide cruise shipping has led to a rising number of tourism and hospitality management degree programmes around the world, which include cruise management modules.

Actual instruction cost sharing between cruise management students and the public differs greatly among the above programmes. For instance, Plymouth University in England charges tuition fees of £9000 (€11,000) per year for the

BSc Cruise Management, whereas the Bremerhaven University of Applied Sciences in Germany charges no tuition fees at all and only a nominal administrative fee. These fees are not specific to the respective study programmes; they express different national and institutional higher education funding policies. In most German *Länder* (federal states), public higher education institutions are not even allowed to charge for tuition. In England, by contrast, fees for undergraduate degree programmes are capped at £9000 per year, and like most English universities, Plymouth University fully exploits this source of funding (Plymouth University 2014).

So neither in Plymouth nor in Bremerhaven is cost sharing used specifically as a means of achieving fairness (i.e. a correspondence between the distribution of benefits and the allocation of costs) or efficiency. Instead, cost sharing serves the policy objectives of revenue maximisation (Plymouth) and free access to higher education (Bremerhaven). But how would tuition fees of a cruise management programme have to be set to be efficient and fair in the sense outlined above? Who should pay for higher education in cruise management under these conditions?

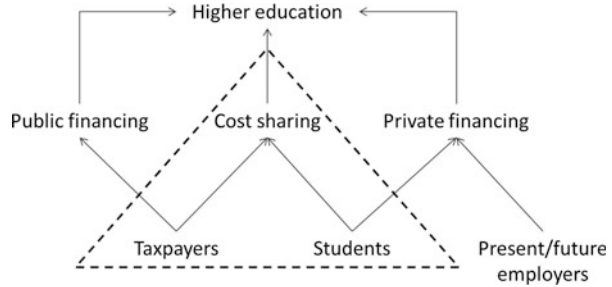
14.3 Economic Approach

This research question requires a normative answer. Different academic disciplines arrive at normative statements in different ways. The present paper adopts an economic perspective. In economics, a very common normative approach is mathematical optimisation, i.e. the use of mathematical models that allow identifying how a decision variable ought to be set so as to maximise a certain desired outcome, e.g. welfare, income or profit. In other words, mathematical optimisation can tell decision makers what decision they should make in a given model world in order to get the best possible result. The decision to be studied here in mathematical terms is the share of instruction cost of cruise management studies that students should bear.

The model will not yield a specific percentage, but a formula describing how optimal cost sharing depends on a set of parameters. Only after empirically estimating the model, i.e. measuring the actual parametric values and quantifying the relationships expressed by the formula, may a numeric percentage be obtained. Since the aim of this paper is to develop a basic argument and not to give concrete policy recommendations, the model will be kept deliberately simple and non-numerical.

Figure 14.1 illustrates the basic financing options for higher education. The dashed triangle marks the focus of this paper. Due to space limitations, the possibility of direct financial contributions by cruise lines, which act as potential employers of cruise management graduates, will not be considered here. In this paper, cruise lines and the corporate sector in general will be treated as part of the public, contributing to the financing of higher education as taxpayers and not as sponsors.

Fig. 14.1 Basic financing options for higher education



The remainder of this paper is divided into four sections. Section 14.4 addresses some empirical cruise industry particularities of relevance to higher education choices and cost sharing. Section 14.5 introduces the economic model of higher education cost sharing, taking into account two alternative government orientations: greedy and considerate. Section 14.6 uses the model to analyse the impact of government orientation on normative instruction cost sharing. Based on an exemplary crude quantification of the model, the section then contrasts optimal instruction cost sharing for cruise management studies with that for a radically different field, biomedical engineering, in order to answer the question of the title of this paper. Section 14.7 concludes the paper by summarising its findings and offering advice on learning outcomes that may justify public subsidies for higher education in cruise management.

14.4 Four Particularities of the Cruise Shipping Sector

The introduction stressed the importance of accounting for the benefits and beneficiaries of higher education when allocating its cost in a fair and efficient manner. This section suggests that cruise shipping differs from most other industries in four ways concerning the benefits and beneficiaries of higher education.

First of all, by Western standards, the financial rewards of most cruise management careers are comparatively modest. This is a feature of careers in tourism generally (Plog 2004, Chap. 1), which also extends to the cruise industry. Experience shows that students who choose a cruise management degree programme do so primarily for the unique lifestyle they ascribe to working in cruise shipping. The romantic prospect of living on cruise ships or in remote cruise destinations, of going places and working where other people spend their holidays is what tends to motivate their educational choice. And even if cruise management graduates end up working in head office functions they still deal with holidays, people's dreams and positive emotions on a daily basis.

Secondly, salaries in the cruise industry may be modest, but for those cruise management graduates working on ships, accommodation, meals and many services are provided to them by the cruise lines, so that the cost of living on board is

very low, partly compensating the low salaries. Moreover, especially for crew and staff on ships operating in international waters, the income tax rate is very small. All these factors represent fairly unique private economic benefits.

Thirdly, the profit tax rate reported by the leading internationally operating cruise lines equals zero. For example, Carnival Corporation's pre-tax profits in 2011–2013 amounted to US\$ 1912 million, US\$ 1302 million and US\$ 1072 million respectively. Over the same period, the company's profit taxes varied between US\$ 6 million and US\$ -4 million (Carnival Corp 2014, p. 6). Royal Caribbean's published income statements do not even include a line for profit taxes (Royal Caribbean Cruises 2014, p. 72).

The fourth characteristic of relevance to the argument of this paper is the cruise industry's exclusive focus on providing a club good (Buchanan 1965). Unlike private goods, club goods like cinemas or pay TV can be enjoyed simultaneously by many users; and unlike public goods, club goods involve the deliberate exclusion of potential users to create scarcity. The latter property distinguishes cruise lines from many other private businesses whose products have at least a potential public good character (e.g. construction firms build infrastructure for private use and public use; healthcare, education, security services, cultural institutions and the legal sector render private and public services). Cruise holidays, however, are never public.

In the next section, a model will be constructed that allows analysing the consequences of these four particularities of the cruise industry—significant life-style benefits ascribed to cruise management roles off and especially on board; modest salaries with very small income tax rates for employees on board; no taxation of cruise line profits; and no contribution to public goods—for the fair and efficient sharing of instruction costs related to cruise management higher education.

14.5 The Model

The economic model to be developed over the next pages is highly stylised and concentrates on a few selected aspects of the 'real economy' only. It rests on a small set of formalised assumptions which will be introduced step by step. The purpose of the model is to demonstrate the core argument of this paper. Therefore, simplicity and traceability, rather than completeness or empirical quantifiability, are the guiding principles of its construction. Its mathematical language ensures the logical consistency of the argument presented. Appendix 1 provides an overview of the model's parameters and variables.

The model economy consists of three players: the government, a student(-to-be) who will graduate in the future, and one firm which will employ the graduate. The purpose of the model is to illustrate the student's educational choice and the government's cost-sharing policy choice under different conditions. The firm is only needed to close the model and plays no role as a decision maker. Also the

model's temporal structure is radically simplified. There are only two periods: now and later. Interest and discount rates are assumed zero.

14.5.1 The Firm

For the firm, its employees' higher education (HE) is the only factor of production. Output is increasing in higher education but at a diminishing rate, as expressed by the production function which is given by $output = \log HE$. In each period, the firm sells its output at a given market price, so that $revenue = output\ price \cdot \log HE$. The cost of employing staff with a higher education is $salary = salary\ rate \cdot \log HE$. In other words, the more educated the employees are, the more salary they earn, but again at a diminishing rate. The salary rate, like the price of a unit of output, is determined by the market and taken as given by the firm. Finally, the government levies a tax on $profit = revenue - salary$. The profit tax rate is p with $0 < p < 1$. Combining these elements leads to

$$\begin{aligned} net\ profit &= (1 - p) \cdot (output\ price - salary\ rate) \cdot \log HE \\ &= (1 - p) \cdot profit\ rate \cdot \log HE. \end{aligned} \quad (14.1)$$

Note that since none of the variables in Eq. (14.1) can be influenced by the firm, the firm is not a decision-making entity in this model. The only purpose of (14.1) is to define the relationship between the different variables, without which the model would be incomplete.

14.5.2 The Student

Unlike the firm, the student has a decision to make, namely about the amount of higher education she wishes to get. Her decision depends on the benefits of higher education she expects to receive later and the costs of higher education she faces now. When making up her mind, she ignores the benefit and cost implications of her educational choice for society. Her private benefit of higher education has an economic and a non-economic component. The former is her future $net\ salary = (1 - i) \cdot salary\ rate \cdot \log HE$, where $0 < i < 1$ is the income tax rate. Since the discount rate is assumed zero, discounting of future cash flows can be omitted.

The non-economic component consists of $pleasure = pleasure\ rate \cdot \log HE$, representing a private lifestyle benefit associated with the particular job which the higher education makes attainable. The $pleasure\ rate$ is the lifestyle counterpart of the $salary\ rate$. Like $salary$, $pleasure$ is increasing and concave in HE . In addition to the private benefits, the student also enjoys the benefit of public goods available to all members of society. The student perceives them as given and independent from her own educational choice.

Turning to the cost side, the student's private cost of higher education equals her *tuition fee* = $x \cdot \text{instruction cost} \cdot HE$. The student's aim is to choose the amount of higher education so as to maximise the difference between the private benefit and the private cost of it:

$$\text{student net benefit} = B \cdot \log HE + \text{public goods} - x \cdot \text{instruction cost} \cdot HE \quad (14.2)$$

where

$$B = (1 - i) \cdot \text{salary rate} + \text{pleasure rate} \quad (14.3)$$

is a parameter which may be referred to as the student's rate of benefit of higher education. Imposing the constraint that $x \cdot \text{instruction cost} > 0$ ensures that the student will choose a finite amount of education. The first-order condition for the maximum reads

$$\text{student net benefit}'(HE) = \frac{B}{HE} - x \cdot \text{instruction cost} = 0 \Leftrightarrow HE^* = \frac{B}{x \cdot \text{instruction cost}} \quad (14.4)$$

The asterisk marks an optimum.¹ Equation (14.4) has three implications. Firstly, the more the student has to pay per unit of higher education, the less of it she will choose, all else being equal. A unit of higher education gets more expensive for her if the instruction cost or the share she has to cover (or both) increases. Secondly, the higher the student's private economic benefit of higher education, the more she will spend on her studies, again all else being equal. That is, a high prospective salary rate and a low income tax rate are economic incentives for higher education. And thirdly, the greater the lifestyle benefit or *pleasure rate* of higher education, the more of it the student will want to have. Also this assumes that all else remains equal.

The last relationship is one of the aspects illustrated in Fig. 14.2. The two curves depict the student's optimal choices of higher education for different instruction cost shares she has to bear. As the cost share decreases, the student reaches for more and more education. In reality, of course, cost of living, opportunity cost and societal norms will act as countervailing factors and keep the student from studying forever. In the model, this effect is achieved through the above constraint that $x \cdot \text{instruction cost} > 0$. The vertical distance between the two curves results from the influence of lifestyle benefits on the student's educational decision. The solid line represents educational choices with no prospect of pleasure on or due to the job. The dashed line, on the other hand, is associated with a higher education promising

¹ Second-order condition: $\text{student net benefit}''(HE) = -B/HE^2 < 0$. Therefore, the first-order condition is sufficient for a unique global maximum.

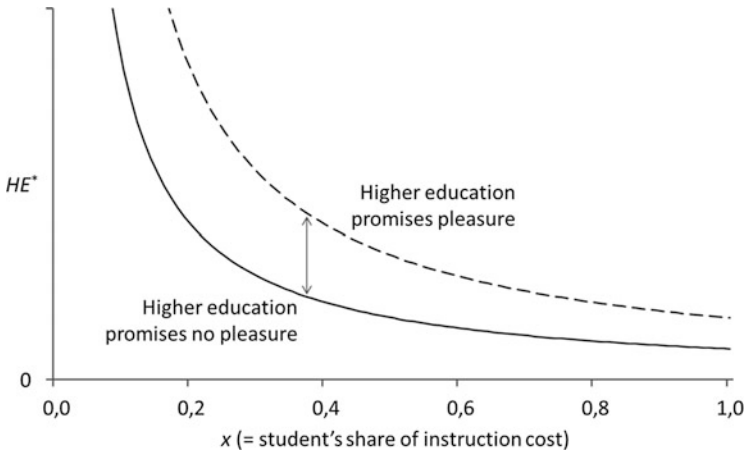


Fig. 14.2 Impact of instruction cost sharing and prospective lifestyle benefits (pleasure) on higher education choice

a lot of pleasure later on. Everywhere, the dashed curve is above the solid curve, meaning that, *ceteris paribus* and unsurprisingly, the prospect of lifestyle benefits makes studying more attractive and induces the student to get a better education.

14.5.3 Government

Students of today are taxpayers of tomorrow, and well-qualified employees make firms more productive, which again translates into tax revenue. The government in this model is very well aware of this and takes it into account when designing its policies. Educational policy takes the form of a particular value of x , the student's share of instruction cost. By perfectly anticipating the student's reaction to the choice of x , the government steers the amount of higher education demanded, as well as the instruction costs, future profits, salaries, tax revenues and non-economic benefits associated with it. For expositional purposes, two extreme kinds of government orientation will be considered: a 'greedy' government whose overriding concern is budgetary and which thus aims to maximise its budget surplus (or minimise its deficit); and a 'considerate' government which strives to maximise a broadly defined measure of net social welfare.

14.5.3.1 Greedy Government

The greedy government's work focuses on budget consolidation, for example after a period of excessive spending. Greedy government policies are temporary and may be abandoned once the budgetary aims have been achieved or when a new

government takes office. A greedy government orientation does not need to extend to all policy areas. A government may be greedy with respect to its higher education policy, but generous when it comes to serving more influential groups of voters. A real-world example of greedy higher education policy seems to be the British government's twofold triplication of the cap on tuition fees for undergraduate studies in England from £1000 to £3000 per year in 2004 and from £3000 to £9000 per year in 2010, combined with a significant cut in public higher education funding (Higher Education Statistics Agency 2014). Whether this policy is justified in the given situation is of no interest here; what matters for the question about who should pay for higher education in cruise management is the policy of making students bear a large share of the full instruction cost.

In the model, the government collects the *profit tax* = $p \cdot \text{profit rate} \cdot \log HE$ and the *income tax* = $i \cdot \text{salary rate} \cdot \log HE$. On the expenditure side, there is the share of the instruction cost the student does not pay: *public higher education funding* = $(1 - x) \cdot \text{instruction cost} \cdot HE$. The difference between tax revenue and public higher education funding is the government's budget surplus:

$$\text{budget surplus} = G \cdot \log HE - (1 - x) \cdot \text{instruction cost} \cdot HE \quad (14.5)$$

where

$$G = p \cdot \text{profit rate} + i \cdot \text{salary rate} \quad (14.6)$$

is a parameter which the government takes as given when deciding on its educational policy. It represents the government's rate of benefit of higher education or, in other words, the extra amount of tax revenue associated with an extra unit of productivity due to higher education. The government's (perfect) anticipation of the student's reaction to the government's choice of x is modelled by substituting from the student's reaction function (14.4) into (14.5), which yields

$$\text{budget surplus} = G \cdot \log \frac{B}{x \cdot \text{instruction cost}} - \frac{1 - x}{x} \cdot B. \quad (14.7)$$

The first-order condition of the government's maximisation problem reads

$$\text{budget surplus}'(s) = -\frac{G}{x} + \frac{B}{x} + \frac{1 - x}{x^2} \cdot B = 0 \Leftrightarrow x^* = \frac{B}{G} \quad (14.8)$$

This condition specifies the greedy government's educational policy as one which sets x equal to the ratio of the student's benefit of higher education and the government's tax revenue.

The following Fig. 14.3 illustrates the impact of different pleasure rates (via the parameter B ; see Eq. (14.3)) on the relationship between x and the government's budget surplus. The maximum of a surplus curve defines the level of x which the greedy government chooses, given a certain pleasure rate. The dashed curve

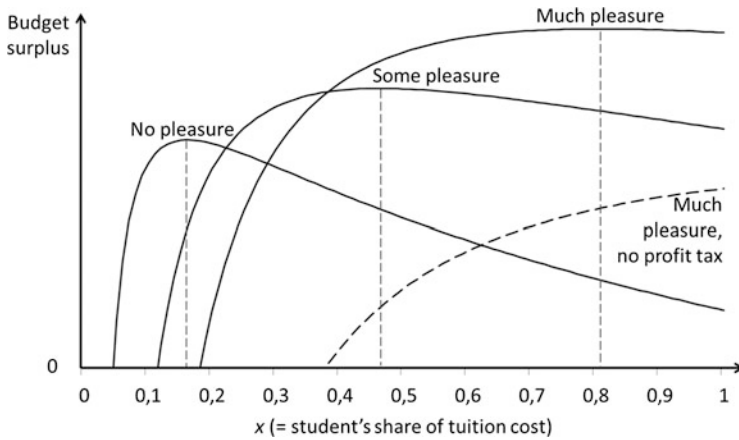


Fig. 14.3 Tax revenue as a function of the instruction cost share x with different levels of pleasure

combines the prospect of much pleasure on the job with a corporate profit rate of zero, two of the characteristics of the cruise shipping sector described in Sect. 14.4. Note that, in this case, the government’s surplus maximum requires that $x > 1$, i.e. that the student should be charged tuition fees exceeding the full cost of her higher education. This result will be derived formally further below.

Substituting from (14.8) into (14.4) leads to a new form of the student’s reaction function, that is, her choice of higher education in response to the greedy government’s surplus-maximising educational policy x^* :

$$HE^* = \frac{G}{\text{instruction cost}}. \tag{14.9}$$

This expression may be less intuitive than (14.4) because the student is unlikely to be aware of the government’s benefit of higher education G and of the full instruction cost; but it will come in handy further below.

14.5.3.2 Considerate Government

The second type of government orientation to be looked at here is the considerate government. It is considerate in that it aims to maximise net social welfare in a broad sense rather than the narrowly defined budget surplus. The considerate government works for the society’s wellbeing, taking also non-economic aspects into account. Economic components of social welfare are salaries and profits. Both are forms of income which translate into consumption possibilities. The non-economic social welfare components comprise pleasure as a private lifestyle benefit and as well as public goods.

The role of public goods in this model merits an explanation. When considering her educational options (see Sect. 14.5.2), the student fails to realise that the level of

public goods provided depends on the education level prevailing in society: $public\ goods = public\ goods\ provision\ rate \cdot \log HE$. In other words, when choosing a particular level of higher education and ignoring its relationship with the provision of public goods, the student lays the foundation for a positive externality, which she may generate after completing her studies. Aggregating the economic and non-economic components in a simple cardinal social welfare function and deducting the cost of instruction yields $net\ social\ welfare = firm's\ net\ profit + student's\ net\ benefit + government's\ budget\ surplus$. The latter is included because the government's tax revenues are assumed to be spent on the provision of public goods, thus adding to social welfare. After substituting from (14.1–14.6) and defining the parameter

$$W = profit\ rate + salary\ rate + pleasure\ rate + public\ goods\ provision\ rate, \quad (14.10)$$

the considerate government's objective function can be stated as

$$net\ social\ welfare = W \cdot \log \frac{B}{x \cdot instruction\ cost} - \frac{B}{x}. \quad (14.11)$$

Note the structural resemblance with the budget surplus Eq. (14.7). Note further that tax rates are absent from (14.10) and thus also (14.11). The considerate government maximises (14.11) with respect to x . The first-order condition reads

$$net\ social\ welfare' (s) = -\frac{W}{x} + \frac{B}{x^2} = 0 \Leftrightarrow x^{**} = \frac{B}{W}. \quad (14.12)$$

The double asterisks mark the considerate government's optimal policy. Substituting from (14.12) into (14.4) yields the student's education choice, given the considerate government's net social welfare maximising policy:

$$HE^{**} = \frac{W}{instruction\ cost} \quad (14.13)$$

which closely resembles (14.9). This completes the model, which can now be used to discuss the research question of this paper.

14.6 Who Should Pay for Higher Education in Cruise Management?

In this section, the influence of government priorities on normative instruction cost sharing will be analysed. This step only uses the assumptions already made. In a second step, cruise management studies will be compared against a very

different kind of study programme in terms of its benefits and beneficiaries, namely biomedical engineering. This comparative approach involves a very crude parameterisation of the model and allows drawing conclusions about the relative justifiability of public subsidies for each type of higher education.

14.6.1 Greedy Versus Considerate Higher Education Policy

Who should pay for higher education in cruise management is a matter of perspective. The student would probably argue against tuition fees, whereas people who have never come near a university might oppose any public funding of higher education. But neither perspective would be fair, given that higher education yields benefits to graduates and non-graduates alike (see Sect. 14.1). And neither cost sharing approach is likely to be efficient in achieving some supra-individual, societal aim. The two government perspectives introduced in Sect. 14.5.3, by contrast, take the public interest into account, albeit in different ways. How do these governments' policies differ with respect to cost sharing? Equations (14.8) and (14.12) define the respective optimal educational policies, given by $x^* = B/G$ and $x^{**} = B/W$. The difference between the policies depends on the difference between W and G . According to (14.6) and (14.10),

$$W - G = (1 - p) \cdot \textit{profit rate} + (1 - i) \cdot \textit{salary rate} + \textit{pleasure rate} \\ + \textit{public goods provision rate} > 0. \quad (14.14)$$

The fact that $W > G$ irrespective of the parameter constellation means that generally,

$$x^* = \frac{B}{G} > \frac{B}{W} = x^{**}. \quad (14.15)$$

In plain language, this says that the greedy government will *always* charge higher tuition fees for any given study programme than the considerate government. The consequence follows from a comparison of (14.9) and (14.13):

$$HE(x^*) = \frac{G}{\textit{instruction cost}} < \frac{W}{\textit{instruction cost}} = HE(x^{**}),$$

i.e. the greedy educational policy discourages higher education, so that the student will always choose an education level that falls short of the social welfare maximising one.

Table 14.1 Model parameters for the cruise shipping sector

Cruise shipping sector particularities	In model terms
Significant lifestyle benefits ascribed	<i>Pleasure rate</i> = large
Low income tax rates for employees on board	<i>i</i> = small
No taxation of cruise line profits	<i>p</i> = 0
No contribution to public goods	<i>Public goods provision rate</i> = 0

Table 14.2 Model parameters for the biomedical engineering sector

Biomedical engineering sector particularities	In model terms
No significant lifestyle benefits ascribed	<i>Pleasure rate</i> = 0
Income tax rates corresponding to salary levels	<i>i</i> = large
Normal taxation of company profits	<i>p</i> = large
Contribution to healthcare/human wellbeing	<i>Public goods provision rate</i> = large

14.6.2 Cruise Management Versus Biomedical Engineering

In Sect. 14.2, it was argued that the cruise shipping sector is marked by four particularities. Table 14.1 summarises them in terms of the model.

To highlight the consequences of this parameter value set for optimal instruction cost sharing between the taxpayer and the student, the cruise shipping sector will be contrasted against biomedical engineering.² Using the same parameters, biomedical engineering might be characterised (in an exaggerated manner) as shown in Table 14.2.

The *pleasure rate* of zero is not meant to say that biomedical engineers cannot enjoy their work. It means that, unlike cruise management, biomedical engineering is typically not chosen as a field of study and as a professional career for its promise of a particular lifestyle. Other reasons, such as interest in the subject itself, good job prospects and a high income (even after significant tax deductions) or the ability to contribute to advances in medicine and public health, are far more important, as even a cursory look at university and industry marketing material suggests.

14.6.2.1 Greedy Government

Based on these very crudely quantified parameters, x^* and x^{**} can now be ‘computed’ for cruise management studies and biomedical engineering studies and

²The author greatly admires biomedical engineers for their important contributions to healthcare and human wellbeing, yet he is largely ignorant of their profession and the education it requires. The choice of biomedical engineering as an example in this paper is the result of the author’s personal preconception and some very superficial research. It should therefore be taken with a pinch of salt.

compared against each other. Substituting from (14.3) and (14.6) into (14.8) yields a more transparent expression for the greedy government's education policy choice:

$$x^* = \frac{B}{G} = \frac{(1-i) \cdot \text{salary rate} + \text{pleasure rate}}{p \cdot \text{profit rate} + i \cdot \text{salary rate}} > 0. \quad (14.8')$$

The sign follows from the assumption that $0 < i < 1$. It means that the greedy government will *never* provide higher education for free. Note that x^* has no upper limit. Under certain circumstances, $x^* > 1$, meaning that the greedy government may find it optimal to charge tuition fees that exceed the full instruction cost (see the dashed curve in Fig. 14.3). These conditions apply to the cruise industry. According to Table 14.1, $p = 0$, so that Eq. (14.8') can be written as:

$$x^* = \frac{B}{G} = \frac{1-i}{i} + \frac{\text{pleasure rate}}{i \cdot \text{salary rate}} > 1. \quad (14.16)$$

This says that as long as $i < 0.5$ (see Table 14.1 where i is defined as small), $x^* > 1$ irrespective of the pleasure rate. Even if $p > 0$ and the salary rate is low, x^* can exceed one, provided that the pleasure rate ascribed to cruise management positions is sufficiently large. An intuitive explanation of this finding is that the greedy government compensates the small contribution which the cruise industry makes to the public budget—no profit tax, minimal income tax—by skimming the student's willingness to pay for her cruise management studies. For the student, her education is what drives her future salary level and especially the lifestyle benefits which she can expect from a cruise management career. And it is her future salary and pleasure which, in turn, determine her willingness to pay.³

For the biomedical engineering sector, the parameter constellation in Table 14.2 results in quite a different greedy educational policy. Due to high tax rates on profit and income, and also due to a higher salary rate than in the cruise industry, the denominator of (14.8') is much larger. The value of the numerator with the assumed *pleasure rate* of zero, on the other hand, may be larger, smaller or the same as in the cruise shipping sector. Taking these factors together, it is very likely (and if $i > 0.5$ it is certain) that $x^* < 1$. The solid curves in Fig. 14.3 result from such parameter constellations. The greedy government's reason for subsidising studies in biomedical engineering lies in the significant future tax income which the higher education for this sector entails.

Even if it is not guaranteed that the greedy government will subsidise biomedical engineering studies, it is certain that it charges a cruise management student a larger share of her instruction cost than a biomedical engineering student. Appendix 2 demonstrates that

³ The student's *ability* to pay is not explicitly included in the model. The implicit assumption is that student loans are available and that their repayment will not overburden the student later on.

$$x_c^* > x_b^* \quad (14.17)$$

where the subscripts c and b indicate cruise management and biomedical engineering, respectively.

14.6.2.2 Considerate Government

The considerate government's educational policy choice has been specified in (14.12). Upon substitution from (14.3) and (14.10) it can be rewritten as:

$$x^{**} = \frac{B}{W} = \frac{(1-i) \cdot \text{salary rate} + \text{pleasure rate}}{\text{profit rate} + \text{salary rate} + \text{pleasure rate} + \text{public goods provision rate}}. \quad (14.12')$$

Clearly, $0 < B < W$, therefore $0 < x^{**} < 1$. This means that unlike the greedy government, the considerate government will *always* find it optimal to subsidise higher education. Note that the cruise industry's $p=0$ is irrelevant for the considerate government's educational policy. This is because the considerate government's concept of social welfare does not distinguish between different recipients of profit (firm, government) or of salaries (graduate, government). What matters are the rates of profit and salary, not their distribution between private economic entities and the public sector.

The considerate government shares with the greedy government the policy to ask from a cruise management student a larger share of her instruction cost than from a biomedical engineering student. According to Appendix 3,

$$x_c^{**} > x_b^{**} \quad (14.18)$$

where c and b denote again cruise management and biomedical engineering.

14.7 Conclusion

This paper has taken a theoretical economic approach to answering the question as to who should pay for higher education in cruise management. The question is justified on the grounds that cruise managers provide exclusive services to a tiny customer elite and play an inessential role for the rest of society. They enjoy substantial lifestyle benefits associated with (or ascribed to) their job, which compensate the relatively modest salaries that can be earned. If they work at sea, their income tax rate is very low. The internationally operating cruise lines as their employers manage to completely avoid corporate profit taxes, and they create only

few local jobs whilst depending heavily on publicly financed infrastructure and services.

The model suggests that a greedy government, whose only concern is its own budget consolidation, should exploit the motivation and willingness to pay of cruise management students by 'milking' them. Since neither the cruise management graduates nor their employers represent tax revenues of significance, the greedy government should discourage cruise management studies by charging tuition fees that exceed the full instruction cost. By contrast, biomedical engineering students who are likely to become attractive tax payers later on and to contribute to taxable industry profits should be supported financially by the greedy government.

The considerate government, on the other hand, which aims to maximise net social welfare and takes also non-economic benefits of higher education into account, such as lifestyle benefits (pleasure) and the contribution to public goods, should subsidise any kind of studies that increase wellbeing, according to the model. Yet, like the greedy government, the considerate government should discriminate between different degree programmes and charge cruise management students a larger share of their instruction cost than biomedical engineering students.

So irrespective of government orientation, higher education in cruise management should be made expensive in relation to higher education in biomedical engineering and other disciplines and fields of study, whose graduates typically contribute to the provision of public goods, either directly or through income taxes and profit taxes.

However, the rule of burdening cruise management students with relatively high tuition fees may be waived under certain conditions, which follow from (14.8') and (14.12'). Firstly, if cruise managers with a higher education behave more responsibly towards public interests than other cruise managers, the social goods created or preserved by such responsible behaviour may justify spending more taxpayer money on cruise management studies. This argument is only valid for the considerate government, since the greedy government is indifferent about anything that does not generate tax revenue. Secondly, if cruise management studies are sufficiently broad in their scope so as to prepare graduates for work in other (profitable, tax generating and/or public-good providing) sectors and positions, greater government subsidies may be justified from both the considerate and the greedy government's point of view. And thirdly, the greedy government may choose to subsidise higher education in cruise management if the cruise lines started paying profit taxes locally.

All three conditions carry important messages for the institutions offering a higher education in cruise management. To deserve public financial support, cruise management programmes must provide an education that conveys a strong and lasting sense of responsibility towards the public interest and that qualifies graduates to work successfully also outside the cruise industry.

Appendix 1: Overview of Variables and Parameters

This list does not include variables and parameters used only in the appendix.

HE	amount of higher education received (production function: $\log HE$)
i	income tax rate
p	profit tax rate
x	student's share of instruction cost
B	student's rate of benefit of higher education
G	government's rate of benefit of higher education
W	society's rate of benefit of higher education (or rate of social welfare)

Appendix 2: Greedy Educational Policies

To shorten the notation, let L = pleasure rate, P = profit rate and S = salary rate. Moreover, to distinguish between cruise management and biomedical engineering, let the subscripts c and b denote the respective sectors. Then:

$$\begin{aligned}
 & x_c^* - x_b^* \\
 &= \frac{(1 - i_c) S_c + L_c}{i_c S_c} - \frac{(1 - i_b) S_b}{p_b P_b + i_b S_b} \\
 &= \frac{[(1 - i_c) S_c + L_c] (p_b P_b + i_b S_b) - i_c S_c (1 - i_b) S_b}{i_c S_c (p_b P_b + i_b S_b)} \\
 &= \frac{[(1 - i_c) S_c + L_c] p_b P_b + [(1 - i_c) S_c + L_c] i_b S_b - i_c S_c (1 - i_b) S_b}{i_c S_c (p_b P_b + i_b S_b)} \\
 &= \frac{[(1 - i_c) S_c + L_c] p_b P_b + (1 - i_c) S_c i_b S_b + L_c i_b S_b - i_c S_c (1 - i_b) S_b}{i_c S_c (p_b P_b + i_b S_b)} \\
 &= \frac{[(1 - i_c) S_c + L_c] p_b P_b + S_c i_b S_b - i_c S_c i_b S_b + L_c i_b S_b - i_c S_c S_b + i_c S_c i_b S_b}{i_c S_c (p_b P_b + i_b S_b)} \\
 &= \frac{[(1 - i_c) S_c + L_c] p_b P_b + L_c i_b S_b + (i_b - i_c) S_c S_b}{i_c S_c (p_b P_b + i_b S_b)} > 0
 \end{aligned}$$

By assumption, i_c is small and i_b is large (see Tables 14.1 and 14.2), so $i_b - i_c > 0$. It follows that the sign of the whole expression is unambiguously positive.

Appendix 3: Considerate Educational Policies

Like in Appendix 2, let L = pleasure rate, P = profit rate and S = salary rate. In addition, let D = public good provision rate. As before, the subscripts c and b denote cruise management and biomedical engineering, respectively. Then:

$$\begin{aligned}
 x_c^{**} - x_b^{**} &= \frac{(1-i_c)S_c + L_c}{S_c + L_c} - \frac{(1-i_b)S_b}{P_b + S_b + D_b} \\
 &= \frac{[(1-i_c)S_c + L_c](P_b + S_b + D_b) - (1-i_b)S_b(S_c + L_c)}{(S_c + L_c)(P_b + S_b + D_b)} \\
 &= \frac{(1-i_c)S_c P_b + L_c P_b + (1-i_c)S_c S_b + L_c S_b + (1-i_c)D_b S_c + L_c D_b - (1-i_b)S_c S_b - (1-i_b)S_b L_c}{(S_c + L_c)(P_b + S_b + D_b)} \\
 &= \frac{(1-i_c)S_c P_b + L_c P_b + (i_b - i_c)S_c S_b + (1-i_c)D_b S_c + L_c D_b + i_b S_b L_c}{(S_c + L_c)(P_b + S_b + D_b)} > 0
 \end{aligned}$$

As in Appendix 1, the positive sign is ensured by the assumption that $i_b - i_c > 0$ (see Tables 14.1 and 14.2).

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Chapter 15

The Future of Student Work Placements at Sea

Luke Slater and Philip Gibson

Abstract The combination of Higher Education (HE), student work placements (SWP) and the cruise industry is a relatively new area in terms of research. Whilst degree level student work placements within the hospitality industry have existed for many years, and are therefore subject to scrutiny and academic examination, there are only a relatively small number of universities delivering hospitality or tourism subjects providing students with the opportunity to work at sea as part of their course. An example of this opportunity is exemplified by a relationship formed between Plymouth University and a major cruise company to develop a cadetship programme for students enrolled on the cruise management programme. In 2011, a decision was taken by the cruise company to suspend the SWP scheme despite positive feedback from students, the University and from within the company itself. This paper, based on case study analysis, examines the issues that are relevant to the provision of work placements at sea. The research project involved undertaking in-depth analysis of the cruise company's cadetship programme by a team of student researchers. The findings provide evidence to all stakeholders about critical issues relating to operating this type of work placement and makes recommendations for developing successful placement schemes, which could be adopted by the cruise industry. The paper further highlights the substantial benefits that exist for cruise companies by engaging in and developing work placements in co-operation with key partners.

Keywords Cruise education • Student engagement • Work based learning

15.1 Introduction

Harvey et al. (1997) identified that in broad terms, industry employers often perceive degrees as failing to provide critical work experience for graduates when they apply for work after studying. Only a handful of establishments within Europe offer students the opportunity to study a degree in cruise operations or

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management and fewer still offer work placements within the cruise ship environment. One notable example of this opportunity is evidenced in the relationship between Plymouth University and a number of cruise companies, who have provided students with work placements on-board cruise ships. According to Busby et al. (1997), student work placements (SWP), in general, can vary in length from 1 week to 1 year and are often non-compulsory elements of degree programmes. There is a significant amount of literature supporting the importance of student work placements in the hospitality, leisure and tourism industries, in particular detailing how students and academic institutions can significantly benefit from partaking in such schemes (Chartered Institute of Personnel and Development (CIPD) 2012; Leslie 1991; Department for Education 2003). The CIPD have published multiple papers detailing the benefits of SWP to businesses and the UK Government has issued white papers further supporting this approach (DfE 2003). However, despite a consensus of opinion recognising the benefits to all parties involved, Solnet et al. (2007) identified a trend for companies to cut work placements from their annual budgets. In 2011 a decision by a major un-named cruise company was made to suspend a long standing relationship with Plymouth University, UK for the provision of student work placements on-board cruise ships.

The issues associated with running a placement scheme are discussed in this paper through detailed analysis examining the aforementioned relationship between the University and the cruise company. The challenges and benefits of supporting student work placements at sea are detailed for both students and companies and the future of these placements are discussed. Following analysis of the critical issues and discussion of the key points, recommendations are made as to how to tailor future student work placements to meet individual cruise company objectives. The work in this article is presented to inform rather than influence those who are interested in cruise work placements.

15.2 Methodology

The research process began with a detailed analysis of existing literature examining student placement schemes and their application to within the tourism and hospitality industries. The theoretical benefits and drawbacks of such placements were examined to produce an informed framework on which to analyse the specific cruise ship placement. This approach has been typically applied to social sciences (Yin 2014) where a certain phenomena is illuminated and explored (Thomas 2011). The theoretical base was used to develop criteria for a qualitative interview with shore-side staff of the cruise company and students exiting the placement programme. The findings of these interviews were combined to create the case study detailed in the paper.

Baxter and Jack (2008) suggested that the case study approach is a form of qualitative research in that an in depth exploration of a theme is undertaken. The research process can be considered to be both exploratory and descriptive (Yin 2003) in that no set outcome was given at the start of the research. The objective

was to explore the future of work placements at sea and not to define, for example, the value or usefulness of these, thus answering a specific research question.

15.3 Theoretical Background

A fundamental aspect of higher education in hospitality and tourism has been the opportunity for students to undertake a period of industry related work experience during their study. Whilst such work experience can vary in duration (Busby et al. 1997), the placements share a common purpose; to expose students to working life in the industry and provide a platform on which to build practical skills (Gibson and Busby 2009). The cruise industry is no exception and has also presented higher education students with the opportunity to work onboard cruise ships as part of the degree (Busby and Gibson 2010). Examples of this include the relationships between Plymouth University and a number of cruise brands (Gibson 2006).

15.3.1 *Benefits of Student Work Placements to Cruise Companies*

Cruise ship work placements have proven beneficial to both students and employers alike. In a more generalised context, student work placements (SWP) are often associated with young people working within a company who are innovative and capable of bringing fresh ways of thinking to a business (CIPD 2012). The importance of innovation and fresh ideas within an organisation is illustrated by Verma et al. (2008, 6) who coined innovation as the ‘oxygen which keeps businesses alive’. In an increasingly competitive marketplace, the benefit of employing a workforce capable of generating new ideas is critical. However, the benefits of supporting SWP within cruise companies extend far further, and, as Leslie (1991) identified, cadetships of the style identified previously can develop talent pools from which companies can recruit in the future (Gibson 2013). Students exiting this type of placement scheme are trained to do their jobs, as well as holding an understanding of company behavioural and cultural expectations.

Providing a placement scheme involves an aspect of investment from the cruise company; time, resources and finance are all factors which must be considered. However, investing in staff in such a way provides companies with a tangible way of demonstrating to employees that they are willing to invest in them. Although not a focus for this paper, it is acknowledged that investing in staff through effective human resource practices has a direct, positive impact upon employee satisfaction and motivation (Huselid 1995). Heskett et al. (1997) identified clearly the necessity of developing satisfied staff in the hospitality industry in the ‘Service Profit Chain’ (SPC) model; internal service quality, as a result of effective HR practice, results in

satisfied, loyal employees who have the willingness to provide high levels of customer service. This in turn results in higher levels of customer satisfaction and loyalty. The SPC model links these 'favourable behavioural intentions' (Zeithaml et al. 1996, 34) which, in this context, could include a range of benefits from customer referrals to a particular cruise company, to increased revenue, profitability and growth of the business. The assumption however, is that the majority of employees would be motivated by the presence of student work placement schemes. However, in a challenging, close working environment, the reality of such 'elitist' training schemes, where only a minority of people (cadets) are put through such training programmes, has the potential to de-motivate others who are not treated in the same way (Gibson 2008).

The Association for Sandwich Education and Training (ASET 2014) further suggested that SWP are a source of cost effective labour, a point that is particularly applicable to the cruise industry where staff turnover is frequently said to be high (Raub and Streit 2006). Additional benefits include generating a positive image in the public eye by demonstrating investment in young people and being seen as putting something back into the system (ASET 2014). Whilst these factors may not appear as immediate benefits, the role of corporate social responsibility in the modern business environment is becoming increasingly important for ensuring financial success (Porter and Kramer 2006).

15.3.2 Student Benefits of Work Placements

The benefits of SWP to the students themselves are well documented and are strongly supported by the majority of UK higher education establishments (Gomez et al. 2004). Bowes and Harvey (1999) stated that students who partake in work placements during higher education are more likely to succeed at interviews over students who have not taken advantage of such a scheme; Harvey et al. (1997) suggested that degree programmes are viewed by employers as missing this crucial aspect. In a wider context, the United Kingdom Government's Department for Education and Skills' (DfE) White Paper on Higher Education (2003), suggested that preparing a strong future graduate workforce with the skills required to enter industry directly could help to stimulate the UK economy.

ASET (2014) listed further benefits to students as: a positive insight to future careers, personal development and self confidence; gaining research ideas for final year study; and securing a small financial reward. Gomez et al. (2004) suggested that whilst students do not necessarily set out to improve academic performance through partaking in a work placement, many students return to studies with increased potential for their academic performance.

It appears that there are many benefits to both the students and companies that adopt a SWP scheme, ranging from employee motivation and high staff retention rates, through to demonstrating corporate social responsibility. The question is then raised as to why more cruise companies are not investing in student work

placements at sea and, for those who have done so in the past, why they have stopped providing them.

15.4 Analysing Cruise Ship Work Placements in Context

This paper draws on the findings of a project carried out with a major cruise company that had offered students from Plymouth University with a 35 week SWP at sea. A case study of the project is detailed below and the future of SWP at sea is discussed in relation to the project findings. The name of the cruise brand is withheld for ethical reasons.

Case Study: The University of Plymouth and a Major Cruise Company

Plymouth University has benefited from a long standing professional relationship with a major cruise brand, which has provided year-long work placements to students enrolled on the BSc (Hons) Cruise Management degree. This scheme has involved students rotating around different departments on board cruise ships to provide a platform upon which students can reflect on the theory gained from studying in their first 2 years, whilst, at the same time, enabling the students to experience life at sea and gain the skills required to work in the industry. The typical SWP offered by the cruise company was a 35 and a half week placement, split into two contracts. One contract would be spent on the Food & Beverage (F&B) side of the operation, and the other spent on the Administration side, which included Housekeeping and Front of House operations. The contracts were sub-divided into relevant departments for ‘cadets’ (students) to work in and gain experience in how each operated. The first contract included exposure to Stores, Galley, Bars, Restaurants and the F&B office. In the Administration department, or second contract, cadets would be exposed to Reception, Crew Office, Front Office and Housekeeping.

In 2011 a decision was taken to postpone the scheme and suspend recruiting students, citing operational costs as one of the reasons. However, a number of deeper issues were revealed while interviewing senior staff within the organisation, obtaining feedback from previous placement students who had completed cadetships and examining land-based placement schemes.

Issues with Student Work Placements

The company highlighted two significant issues in addition to the cost of running the SWP; the corporate view that the placement programme lacked a commercial focus and the reality that there was no designated on-board leader to oversee the SWP. The issue of costs, which had been originally cited as the

(continued)

primary reason for discontinuation, was linked to the perceived cost of accommodating a cadet onboard the ship during their placement, estimated to be approximately £1000 per week. The perceived cost issue combined with the belief that the SWP had no commercial relevance, meant that the placements were viewed by some in the organisation as an unsustainable return on investment. In relation to the lack of on-board leadership, cadets had often reported being used as ‘gap-fillers’; in addition interviews with former cadets revealed that on two occasions, there was no knowledge of a cadet starting a SWP when they first embarked on their host ship. In these instances, cadets were positioned with junior roles in F&B departments until the programme structure had been agreed with on shore HR staff.

Former cadets revealed four significant issues with the placement scheme; lack of exposure to management and leadership, the programme structure, the relevance of the programme in relation to future positions, and the aforementioned ‘gap filling’. Cadets reporting gap filling activities and poor programme structure linked the two issues together, suggesting that the lack of an on-board co-ordinator overseeing the programme had led to these issues. Cadets often reported concerns over an operationally demanding placement scheme, which was focused on developing practical skills, and further raised concerns as to how this would benefit them when they returned to the ship in a managerial or supervisory position.

The primary aim of the research project was to examine the realities of the SWP and to reveal if the evidence supported a case for the reinstating of the programme. Based on the evidence received together with a rationale relating to the benefits, a proposal for future development was put forward to the company.

The research revealed positive and negative issues concerning the rationale for the SWP and these are considered below. From the company perspective, the acquisition of multi-skilled, flexible staff trained in company expectations was considered a strong positive issue, as was the recognisably high retention rate of cadets who progressed to assistant manager positions upon graduation. The company agreed that a robust introduction to life at sea reduced the likelihood of employee turnover and stated that the cadets had proven they were capable of doing their job, thus reducing the risks associated with recruiting new staff from external sources. The students themselves reported many benefits from the scheme, most notably the introduction to life at sea, ship awareness and an appreciation of how each department worked. Despite reporting issues with lack of exposure to management and leadership, cadets felt that they were ‘fairly well’ prepared for returning to sea.

Whilst the consultancy project was carried out with one cruise brand, students from other SWP at sea within the same cruise organisation were

(continued)

also interviewed, suggesting that the issues discovered were not brand specific and were a fair representation of this cruise organisation as a whole.

The project revealed a number of issues concerning the future of student work placements at sea. The key questions arising from the study were in relation to the true financial cost of the placement programme and the structure and organisation of the programme. These issues are discussed below.

15.4.1 Case Study Analysis

The company calculated the total operating cost of the SWP as being £47,000 per cadet. The largest proportion of this cost was allocated to the provision of a cabin (berthing) at a cost of £1000 per week (£35,500 for the two contracts). Salaries reflected the average trainee wage within the hospitality industry and other costs such as uniform and travel were minimal. In relation to the costs of berthing a member of staff at £1000 per week, this figure was found to be not truly representative of the cost to the company. The senior managers within the cruise company acknowledged that the figure of £1000 did not correlate with any real expenditure for goods, fuel, laundry or food allocated to the cadet per week. This figure is partially used to reflect lost revenue (based on a possible expectation that cadets may have removed a guest cabin from the inventory), ship's tax and an element of housekeeping/F&B provision for the cadet.

The cruise company acknowledged that whilst the students were onboard, they were expected to do the job of any other full time member of staff and clarified that they were extremely satisfied with the productivity of students at sea. They further added that the students had proven to be excellent employees and capable of carrying out all tasks assigned to them. It was therefore assumed that the 'cost' of berthing a student or cadet, was no greater than any other member of operational employee, excluding salary. The company acknowledged that if the student was not onboard the ship, there was a possibility that a 'regular' employee would be utilised to carry out a similar operational role.

15.4.1.1 Programme Structure

A proposal was presented to the cruise brand to adapt the programme structure. Within this proposal were four key targets underpinned by feedback received from both the company and cadets: to make the programme commercially focused; to tailor it towards the cadet's future job role; to improve efficiency and validity; and to designate an onboard leader.

To achieve these targets, an exercise was undertaken to redesign the programme, based on the same two contracts and departmental rotations, but incorporating

Table 15.1 Proposed placement structure

	Weeks	Responsible to
<i>First contract</i>		
Head office induction	1	HR/Fleet trainer/ Cadet manager
Food & Beverage —Stores, Bars, Galley, Restaurants, AFBM	6	F&B
1 week re-cap (assignment work/progress report)	1	F&B manager/HRM
Admin —Housekeeping, Admin (crew office, admin manager) Front of house, Shorex, AFOH	6	PSM
1 week re-cap (assignment work/progress report)	1	PSM manager/HRM
Total	15	
<i>Second contract</i>		
Commercial Casino, Shops, Loyalty, Spa, Arts	2	Commercial manager
Area of specific interest AFOH, Admin, Assistant crew, AF&B (attending HOD/Crew welfare meetings)	14	PSM/F&B/Onboard HR manager
Specialised project	2	Onboard HR manager
Total	18	

exposure to management positions, including individual requirements from cadets to complete specific tasks and the inclusion of a commercially focused project to raise the commercial viability of the scheme.

The proposed programme is detailed in Table 15.1.

It was proposed that the total placement length be reduced to 33 weeks, in line with the minimum requirements for Plymouth University placement schemes, and as a possible way of reducing operating costs without compromising the experiential benefits. The suggested programme aims to satisfy the future requirements for the recruitment of an onboard assistant manager. The first contract has been configured to provide an introduction to life at sea and an instructional grounding in operational procedures. The second contract provides an opportunity for cadets to shadow and learn from managers whilst exploring and understanding the range of commercial aspects onboard the ship including revenue generation. Within this, a specialised commercially oriented project is proposed, which can focus on either revenue generation or cost saving. The cadet's previous 2 years of academic study would support the student in undertaking this type of project and potentially provide the company with a valuable focused research project.

15.5 Discussion

As stated previously, the future of student work placements at sea is an area with little research to date. Solnet et al. (2007) identified a trend of cutting placement schemes in hospitality and tourism as a result of ineffective programmes for both employer and student. Dunn (2008) suggested that in extreme cases, students can be put off entering their chosen career as a result of poorly run SWP, including those which focus on entry level jobs. The hospitality and cruise industries are dynamic and competitive (Victorino et al. 2005) and in the midst of a recession, companies are seeking ways of reducing operating costs. Student work placements are perhaps an easy target; they are not essential to the day to day operation of a cruise ship. However, with the potential benefits of running an effective SWP scheme, the future and importance of securing such schemes becomes profound.

It appears that many of the reasons for postponing student work placements in the cruise industry stem from a lack of focused planning in terms of making the programmes work and the need for organisational commitment to build on good practice. The future should therefore be focused on the development of cost effective, resource effective programmes that fulfil the student's and employer's requirements, establish a strong talent pool for future recruitment and create opportunities for commercial projects. Examples of best practice in terms of making work placements succeed include the provision of a strong induction/orientation, exposing students to problem solving scenarios, empowering students to make decisions and provide performance appraisals to ensure benefits are received by both parties (CIPD 2012).

The cruise industry can benefit from integrating training with the Merchant Navy Training Board (MNTB) and create training frameworks based upon Maritime Hospitality Management principles, incorporating the National Occupational Standards (NOS). This is where a strong relationship between higher education providers and the cruise industry is paramount; many aspects of training can be completed before a cadet embarks on a cruise ship, adding value to the student on placement. For example, MHM 1 states that a manager should be able to manage the onboard induction of staff. MHM 9 relates to the management of onboard food safety practices in the preparation and serving of food and drink. MHM 13 relates to managing the environmental impact of work. Table 15.2 displays how these points can be covered before the student partakes in the SWP.

Table 15.2 MHM integration with academic studies

MHM	How can this be achieved ^a
1 Staff induction	Hospitality/cruise degrees focusing on staff development, training and HRM.
9 Food safety	Food safety modules at university and awareness of norovirus. Food hygiene certification.
13 Environmental impacts	Cruise management modules incorporating MARPOL legislation. General context: hospitality programmes focusing on sustainability and eco-friendly practices.

^aExamples from Plymouth University, undergraduate Hospitality/Cruise management degree (2013)

15.5.1 Commercial vs Operational

It has been assumed through the case study outlined previously that cruise companies investing in SWP are looking to recruit for assistant managers who will be responsible for management, leadership and control of on-board operations, and not recruiting for future operational assistants. With this in mind, it appears that the focus of SWP at sea needs to be more commercialised and incorporate an understanding of revenue generation and cost saving procedures. The case study highlighted the negative aspects of simply providing operationally focused placements to both students and host company and guidance from the CIPD (2012) strengthens the argument that placements at sea should be tailored towards the cadet’s future job role as an assistant manager or similar entry level management role. The introduction of a commercially focused project is one way of achieving this and many higher institutions have adopted this aspect as a compulsory element of their work placement programmes. A proposed model of a best practice scheme is displayed in Fig. 15.1.

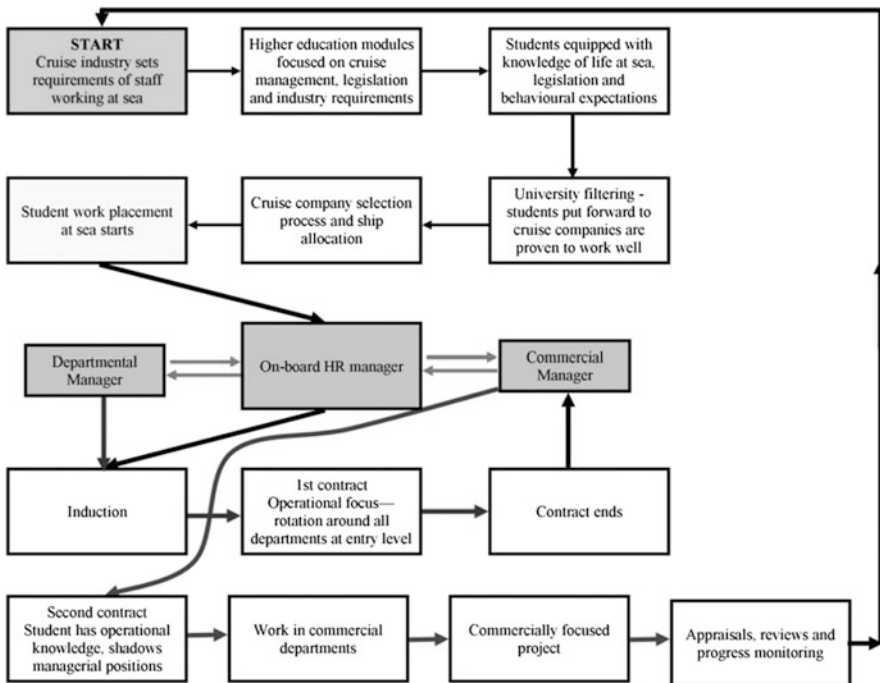


Fig. 15.1 Proposed model of student work placements on-board cruise ships

15.5.2 Future Implications

It has been suggested previously that the revised student placement programme discussed can be adopted by the cruise industry to fulfil the requirements of cruise companies and students. As identified by Dunn (2008), it is critical that effective programmes are established from a student perspective; Solnet et al. (2007) highlighted that ineffective programmes may lead to the company cutting them from a budget in a competitive industry. A combination of existing literature and the research project has been reflected on to produce a set of standards for cruise companies implementing SWP, as displayed in Fig. 15.1.

The on-board human resource manager or professional development manager in this scenario acts as the controller and is responsible for keeping communication flowing between contract supervisors; thus meaning the likelihood of cadets being used to undertake gap filling activities would be significantly reduced.

15.6 Conclusion

Harvey et al. (1997) identified higher education degree programmes as often failing to provide graduates with industry work experience, which employers consider to be a major requirement. However, as Gibson (2006) identified, Plymouth University has benefited from a long standing relationship with a major cruise company, putting students through a 1 year work placement with a view to recruiting them upon completion of their academic studies. The suspension of the programme, on cost grounds, appears to have some justification but there are significant opportunities in reintroducing the SWP with a reconfigured content to help the business capitalise on strengths. The case study presented in this research suggests that issues with SWP at sea are more deeply rooted than first seemed to be the case and stem from a combination of poor programme structure, lack of on-board leadership and the perceived relevance, by students, of the skills learned in relation to their future jobs as managers onboard ships. Costings undertaken to rationalise the previous programme were based on rather over-stated realities and they tended not to take into account the range of advantages and benefits. These benefits include higher than average retention rates compared to other cruise ship employees, the development of a cost effective labour force, securing innovative and fresh thinking staff and an opportunity to demonstrate corporate social responsibility. In order to achieve these benefits, it is essential for cruise companies to offer a work placement that benefits both the student and company; an example of which has been presented in this article. It is suggested that an effective SWP combines operational skills learning, setting of behavioural expectations and opportunities for the individual to focus on an area of personal interest. A cost focused culture has been identified in the cruise industry, and in a tough financial environment SWP can be an easy target to cut from annual budgets. To aid in commercial viability, it is

suggested that students undertake a commercially focused project whilst on-board the ship to focus on either additional revenue generation or cost savings from both on-board and shore side perspectives.

The case study of Plymouth University's SWP scheme highlighted areas for improvement in a major cruise company's placement programme. Using feedback gained from previous students on this programme, other cruise companies and land-based placement students, a proposal for the future of work placements at sea has been presented. The future of these programmes lies within a collaboration of academic staff, cruise company human resource departments and the students themselves. A cyclical process with a focus on reviewing and adapting the placement programmes is essential in overcoming the issues of student work placements at sea and maximising the benefits for students, universities and crucially, the cruise companies investing in the schemes.

It should be noted that the conclusions made in the research are based on interpretation of qualitative data analysed in the case study. Further research is required in this area to determine whether the apparent benefits associated with student work placements at sea are perceived by the cruise industry as a whole, or purely the cruise company analysed in the paper. A further study could aim to apply the benefits perceived by the cruise industry against traditional land based placements, to determine whether student placements at sea are as valuable to an organisation as land based schemes. A quantitative approach could lead to numerical data being compared to existing datasets, for example placement schemes and their influence on academic outcomes or employability prospects. Together, the findings could be used to further explore student work placements at sea and to support a case for or against their future.

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Chapter 16

Quantitative Analyses in Cruise Tourism Studies

Carl H. Marcussen

Abstract This paper investigates the analytical methods that are used in 125 quantitative and empirical cruise tourism studies published from 1984 until and including 2014, as well as the relationship between the applied methods. On average, two different methods were used per study (0.9 bi- or univariate and 1.1 multivariate), but with a slight trend from the former to the latter. During the latest 5-year period, 2010–2014, which comprises almost two thirds or 82 of the identified studies, a regression analysis was used in 39 %, a factor analysis in 27 % and Structural Equation Modeling in as much a 21 % of the studies. The relations between the methods are analysed via correlation and factor analysis, and the results are visualised in a multidimensional scaling (MDS) diagram.

Keywords Multivariate analytical techniques • Factor analysis • Correlations • Multidimensional scaling • Cruise tourism

16.1 Introduction

This paper investigates the quantitative techniques, hereunder both multivariate and the more simple bivariate/univariate analytical techniques, that are used (and how frequently) in cruise tourism studies published in journals during the period of 1984–2014. In an earlier literature review covering the period until and including 2009, Papathanassis and Beckmann (2011) focused on theory in relation to all cruise studies. This paper focuses strictly on the use of analytical techniques in quantitative, empirical cruise tourism studies, so the thematic focus is more limited than in the mentioned earlier review study, but the time span covered is longer, i.e. until 2014. Across all themes, more cruise tourism studies have been published during the years 2010–2014 than in all earlier years combined.

The purpose of the paper is to investigate the statistical analytical methods that are used in tourism studies and the relationship between the applied methods. Emphasis is put on the period 2010–2014, but earlier years are also covered in this study. In line with the theme of this paper, a quantitative approach is adopted in

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the review where quantitative methods are applied. In terms of domain for the cruise-related studies included in this paper, emphasis is put on journals from the tourism domain, which will be explained further in the methodology section. After that will follow the results, discussion, and conclusion sections.

16.2 Methodology

In this methodology section, the methods for conducting the literature search will be explained. Also, by the end of this methodology section, a brief explanation of the sequence in the analyses undertaken in the results section will be given. The search of quantitative, empirical, cruise tourism papers were undertaken in an iterative manner as follows:

1. Only studies published in journals are included, i.e. not (edited) books or conference proceedings, working papers or theses.
2. The papers should use at least one statistical analytical technique and be based on an empirical study.
3. Initially, only papers published during the period 2010–2014 were included, but eventually papers from earlier years were also included to give a full overview of the methods in quantitative cruise tourism studies and to give a larger basis for the statistical analysis.
4. Initially, the emphasis was on cruise papers published in tourism journals. The word “tourism” or any of its synonyms were used as search terms (e.g. travel, hospitality, etc.) plus tourism related journals without the term tourism in the title e.g. *Anatolia*.
5. All journals with at least two cruise studies mentioned by Papathanassis and Beckmann (2011) were checked for cruise studies.
6. Initially, publisher-specific search sites, such as sciencedirect.com, Taylor & Francis, sage.com (*Journal of Travel Research*), ingentaconnect.com, onlinelibrary.wiley.com (*International Journal of Tourism Research*), were used. Furthermore, econbiz.de was checked, and one university’s search engine was used.
7. However, Google Scholar (scholar.google.com) eventually became the main and general search engine for cruise tourism articles. Both the general mode and the advanced search mode were used.
8. Initially, and almost throughout, for the period 2010–2014, the requirement that the terms “cruise(s)”, “cruising” or “cruisers” should be in the title of the study was kept. An exception was made in one case for a paper in a special issue about cruises that was published in a tourism journal that did not include the mentioned key term.

9. Eventually, a few further exceptions were made, but in those cases, the term “cruise(s)” was mentioned among the key words. Although more than 10 papers were identified after lifting the strict “cruise in title” requirement, very few of them were quantitative.
10. The abstracts of all papers mentioned in the comprehensive literature study by Papathanassis and Beckmann (2011) were read and the full papers for those studies, which appeared to be quantitative, irrespective of whether or not the term “cruise(s)”, etc. was included in the title, were also read.
11. There were relatively few papers listed by Papathanassis and Beckmann (2011) that were from 2009, therefore high-ranking papers in Google Scholar searches were checked, including those without the “cruise in title” requirement.
12. Although the “cruise in title” requirement was lifted, it was hard to find additional cruise-relevant studies. It was the general impression that “cruise” tended to be mentioned in the title if “cruising” was a central theme in the paper rather than a side aspect.
13. Lists of high ranking tourism journals were noticed and we checked whether or not any major ones with special names that did not include the term “tourism” were missed.
14. Studies from certain foreign language domains were not included. It was generally not considered to be enough that only the abstract was available in English.
15. The bibliographies of the most recently published cruise tourism papers (from the current year) were checked to see if the papers cited in these had been identified.

Online and national library sources, including all national university libraries, were used to get the article in full text, at least for those that appeared to be quantitative, based on the abstract and key words. In addition to the bibliographic information about the different publications, it was also noted how many times that each article was cited, according to Google Scholar, cf. next section. For each of the empirical quantitative studies that could be sourced in full text, it was noted which statistical analytical technique(s) were used for each cruise study, as well as how many cases (respondents, etc.) that each study was based upon, cf. Tables 16.1 and 16.2, 16.3, 16.4 in the next section. Also a correlation matrix is included, Fig. 16.3, which can be said to be illustrated visually in the multidimensional scaling (MDS) analysis in Fig. 16.1.

The factor analyses form groups of variables (Table 16.5), which are then superimposed on the final MDS diagram (Fig. 16.2). Obviously, the same sequence of analysis can be applied in other cruise-related contexts on other datasets. MDS has been applied in a cruise-related study only once before, in Moscardo et al.’s (1996) work, i.e. a long time ago. Applications of MDS in tourism studies in general was reviewed by Marcussen (2014). An additional application of MDS combined with factor analysis - specifically in the context of cruise tourism - can be found in Marcussen (2016).

Table 16.1 Basic information about the study's variables

Variable	Description	Sum	Mean	Median	N	Min.	Max.	SD
Year	Year of publishing		2009,0	2011	125	1984	2014	5.64
Team	Persons in writing team	332	2.66	2	125	1	7	1.39
Cruise_title	Cruise is in title	114	91 %	1	125	0	1	0.28
Tourism	Tourism journal	85	68 %	1	125	0	1	0.47
Quant	Quantitative study	125	1.00	1	125	1	1	0.00
Cases	No of cases in the study	160,828	1363	425	118	1	30,422	3602
SEM	Structural Equation Modeling	26	21 %	0	125	0	1	0.41
Regression	Multiple regression analysis	49	39 %	0	125	0	1	0.49
Factor	Factor analysis	34	27 %	0	125	0	1	0.45
Cluster	Cluster analysis	18	14 %	0	125	0	1	0.35
MCA	Multiple correspondent ana.	2	2 %	0	125	0	1	0.13
MANOVA	Multiple ANOVA	9	7 %	0	125	0	1	0.26
ANOVA	Analysis of variance	19	15 %	0	125	0	1	0.36
ttests	T-tests	16	13 %	0	125	0	1	0.34
Correlations	Correlation analysis	24	19 %	0	125	0	1	0.40
Chi_square	Chi square analysis	21	17 %	0	125	0	1	0.38
Averages_CI	Averages with SD or CI	32	26 %	0	125	0	1	0.44
Techniques	No. of analytical techniques	248	1.98	2	125	0	5	1.01
Multivariate	No. of multivariate techniques	138	1.10	1	125	0	3	0.80
Univariate	No. of bi- or univariate tech.	110	0.88	1	125	0	4	0.87
Brida et al.	Team includes J.G. Brida	15	12 %	0	125	0	1	0.33
Petrick_Hung_Li	Team includes Petrick	17	14 %	0	125	0	1	0.34
Count	Counter for observations	125	1.00	1	125	1	1	0.00
Cited_by	Citations, Google Scholar	3206	25.6	6	125	0	420	52.88
Cited_by_W	Citations, weighted, adjust.	3814	30.5	18	125	0.00	183	36.99

Table 16.2 Quantitative empirical cruise tourism studies and analytical techniques (Part A: 2013–2014)

Authors	Team	Tourism	Cruise_title	SEM	Regression	Factor	Cluster	MCA	MANOVA	ANOVA	t-tests	Correlations	Chi_square	Averages_CI	Techniques	Multivariate	Bi_Univariate	Count	Cited_by	Cited_by_W
Bhadraura et al. (2014)	3	1	1	1											1	1		1	0	0.00
Bowen et al. (2014)	3	1	1										1		1		1	1	3	74.33
Brejša and Gilbert (2014)	2	1	1								1				1		1	1	3	74.33
Brida et al. (2014a)	3	1	1	1											1	1		1	0	0.00
Brida et al. (2014b)	4	1	1			1		1	1						3	2	1	1	4	99.10
Brida et al. (2014c)	3	1	1	1											1	1		1	2	49.55
Brida et al. (2014d)	4	1	1			1	1								2	2		1	0	0.00
Brida et al. (2014e)	3	1	1			1	1								2	2		1	4	99.10
Castillo-Manzano et al. (2014)	3	1	1	1											1	1		1	0	0.00
Castillo-Manzano et al. (2014)	3	1	1	1							1				2	1	1	1	0	0.00
Cuhadar et al. (2014)	3	1	1	1											1	1		1	0	0.00
Dei Chiappa and Abbate (2014)	2	1	1			1	1								2	2		1	1	24.78
Esteve-Perez and Garcia-Sanchez (2014)	2	1	1	1		1									2	2		1	0	0.00
Fan and Hsu (2014)	2	1	1	1		1									2	2		1	1	24.78
Fernandes et al. (2014)	7	1	1	1		1								1	2	1	1	1	0	0.00

(continued)

Table 16.2 (continued)

Authors	Team	Tourism	Cruise_title	SEM	Regression	Factor	Cluster	MCA	MANOVA	ANOVA	t-tests	Correlations	Chi_square	Averages_CI	Techniques	Multivariate	Bi_Univariate	Count	Cited_by	Cited_by_W
Forgas-Coll et al. (2014)	4		1	1								1			2	1	1	1	0	0.00
Hwang and Han (2014)	2	1	1	1									1	1	2	1	1	1	6	148.66
Lebrun (2014)	1	1	1				1	1	1						3	2	1	1	0	0.00
Sitta et al. (2014)	4	1	1	1								1			2	1	1	1	1	24.78
Schutz et al. (2014)	3		1										1	1	1		1	1	0	0.00
Wang et al. (2014)	4	1	1			1									1	1		1	1	24.78
Yi et al. (2014)	3	1	1	1		1								2	2			1	1	24.78
Zhang et al. (2014)	4	1	1	1		1							1	1	2	1	1	1	2	49.55
Baker (2013)	1		1						1					1	2		2	1	0	0.00
Brida et al. (2013)	4	1	1			1	1								2	2		1	7	98.66
Henthorne et al. (2013)	3	1	1	1					1	1	1		1		4	1	3	1	2	28.19
Hyun and Han (2013)	2	1	1	1											1	1		1	2	28.19
Kofjac et al. (2013)	4		1	1											1	1		1	0	0.00
Kuwornu et al. (2013)	3		1				1		1			1			3	1	2	1	0	0.00
Larsen et al. (2013)	4	1	1							1	1	1	1	1	4		4	1	4	56.38
Lee and Ramdeen (2013)	2	1	1												1	1		1	5	70.47
Papathanassis et al. (2013)	3		1									1			1		1	1	1	14.09
Pavlic (2013)	1	1	1	1											1	1		1	1	14.09
Pramic et al. (2013)	3		1	1		1			1			1	1		4	2	2	1	0	0.00

Table 16.3 Quantitative empirical cruise tourism studies and analytical techniques (Part B: 2010–2013)

Authors	Team	Tourism	Cruise_title	SEM	Regression	Factor	Cluster	MCA	MANOVA	ANOVA	t-tests	Correlations	Chi_square	Averages_CI	Techniques	Multivariate	Bi_Univariate	Count	Cited_by	Cited_by_W
Scott (2013)	1	1	1	1	1									1	2	1	1	1	0	0.00
Thomas et al. (2013)	3	1	1	1	1									1	2	1	1	1	0	0.00
Thureau et al. (2013)	4	1	1		1	1							1	1	4	2	2	1	0	0.00
Beric and Jovicic (2012)	2	1	1										1		1		1	1	0	0.00
Brida and Coletti (2012)	2	1	1	1	1							1	1		3	1	2	1	4	27.16
Brida et al. (2012a)	4	1	1	1	1										1	1		1	8	54.31
Brida et al. (2012b)	4	1	1	1	1	1									2	2		1	2	13.58
Brida et al. (2012c)	4	1	1			1		1							2	2		1	5	33.95
Brida et al. (2012d)	3	1	1	1	1	1									2	2		1	4	27.16
Brida et al. (2012e)	4	1	1	1	1	1			1						4	3	1	1	15	101.84
Brida et al. (2012f)	5	1	1	1	1										1	1		1	5	33.95
Cave et al. (2012)	3	1	1						1	1	1	1	1	1	4		4	1	1	6.79
Hung and Petrick (2012a)	2	1	1	1	1	1						1			3	2	1	1	7	47.52
Hung and Petrick (2012b)	2	1	1	1	1								1	1	2	1	1	1	27	183.31
Josiann et al. (2012)	5	1	1			1									1	1		1	1	6.79
Juan and Chen (2012)	2	1	1						1	1	1				2		2	1	2	13.58

(continued)

Table 16.3 (continued)

Authors	Team	Tourism	Cruise_title	SEM	Regression	Factor	Cluster	MCA	MANOVA	ANOVA	t-tests	Correlations	Chi_square	Averages_CI	Techniques	Multivariate	Bi_Univariate	Count	Cited_by	Cited_by_W
Larsen et al. (2012)	3	1	1		1	1						1			3	2	1	1	15	101.84
Lusby et al. (2012)	3	1	1						1		1				2		2	1	0	0.00
Papathanassis (2012)	1	1	1						1						1		1	1	5	33.95
Perucic and Puh (2012)	2	1	1									1	1		1		1	1	1	6.79
Petit-Charles and Marques (2012)	2	1	1		1										1	1		1	2	13.58
Xie et al. (2012)	3	1	1			1					1				2	1	1	1	4	27.16
Bresson and Logossah (2011)	2	1	1		1										1	1		1	19	51.70
Brida et al. (2011)	3	1	1			1									1	1		1	10	27.21
Elliot and Choi (2011)	2	1	1		1	1									3	3		1	0	0.00
Hung and Petrick (2011a)	2	1	1			1									2	2		1	20	54.42
Hung and Petrick (2011b)	2	1	1			1						1			3	2	1	1	39	106.13
Jones (2011)	1	1	1								1				1		1	1	2	5.44
Meng et al. (2011)	3	1	1									1	1		3	1	2	1	25	68.03
Ng and Yip (2011)	2	1	1		1										1	1		1	0	0.00
Papathanassis and Brejla (2011)	2	1	1									1	1		2		2	1	0	0.00
Paris and Cody (2011)	2	1	1			1	1								2	2		1	1	2.72
Petrick (2011)	1	1	1				1	1					1		4	2	2	1	4	10.88

Table 16.3 (continued)

Authors	Team	Tourism	Cruise_title	SEM	Regression	Factor	Cluster	MCA	MANOVA	ANOVA	t-tests	Correlations	Chi_square	Averages_CI	Techniques	Multivariate	Bi_Univariate	Count	Cited_by	Cited_by_W
125 studies, 1984-2009	332	85	114	26	49	34	18	2	9	19	15	23	21	32	249	139	109	125	3206	3814
223 other, 1983-2014	461	125	189															221	4414	3806
348 studies, 1983-2014	793	210	303															346	7620	7620
Percentages in the three lines below:																				
82 studies, 2010-2014	2.79	66	98	22	39	32	16	2	5	15	10	18	17	18	1.9	1.2	0.8		7.48	30.37
43 studies, 1984-2009	2.40	72	79	19	40	19	12	0	12	16	16	19	16	40	2.1	1.0	1.0		60.30	30.79
125 studies, 1984-2009	2.66	68	91	21	39	27	14	2	7	15	12	18	17	26	2.0	1.1	0.9		25.65	30.52
223 other, 1983-2014	2.09	%	%	%	%	%	%	%	%	%	%	%	%	%					19.97	17.22
348 studies, 1983-2014	2.29																		22.02	22.02

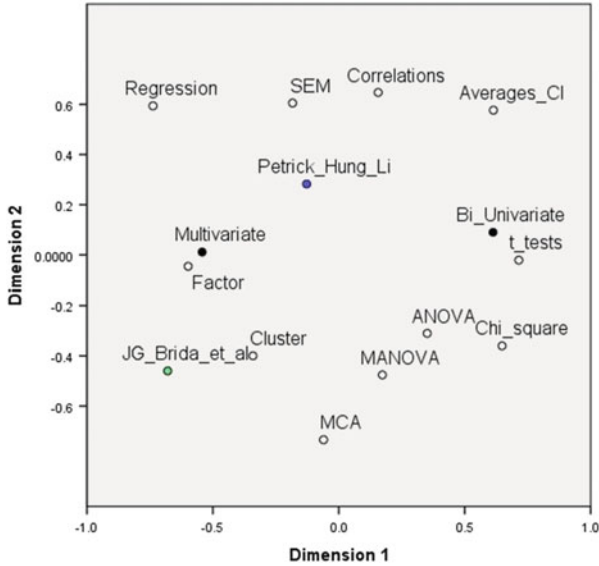


Fig. 16.1 Multidimensional scaling (MDS) diagram with 15 object points (variables): 11 analytical techniques, the two categories “multivariate” and “bi-/univariate” and two constellations of authors. *Note:* Normalised Raw Stress = 0.055. Dispersion Accounted For (DAF) = $1 - 0.055 = 0.945$

16.3 Results

The variables used are introduced in Table 16.1. The first column is the name of the variable, followed by a short description. The 125 studies (N) that are included in the analysis are from the period 1984 to 2014. “Yes” has been coded as “1” and “no” as “0”. An average of 2.66 people were in the writing teams. In all, 91 % of the 125 studies included variants of the term “cruise” in the title and 68 % of the papers were from tourism journals.

Going down the list of variables in Table 16.1, it should be mentioned that “averages_CI” means that the paper gets “1” if it includes “confidence intervals” (CIs) or “standard deviations” (SDs). The two last lines are the number of citations mentioned in Google Scholar for that publication at the end of October 2014. Older publications tended to be cited more than did the more recent studies. Therefore, the weighted number of citations has been calculated as the actual number of citations for the paper divided by the average number of citations for all papers for the given year and multiplied by the average number of citations per paper for all years.

A brief mention of each of the techniques is considered appropriate, although the incumbent methods mentioned in this paper are explained in standard textbooks on the topic, e.g. Green et al. (1988) or other editions. SEM, Structural Equation Modeling (spelled Modelling in British English, but the American variant dominates in literature about the technique) is a way of simultaneously analysing the

Table 16.4 Quantitative empirical cruise tourism studies and analytical techniques (Part C: 1984–2009)

Authors	Team	Tourism	Cruise_title	SEM	Regression	Factor	Cluster	MCA	MANOVA	ANOVA	t-	Correlations	Chi_square	Averages_CI	Techniques	Multivariate	Bi_Univariate	Count	Cited_by	Cited_by_W
Lois (2009)	1	1	1								1			1	2		2	1	0	0.00
Pratt and Blake (2009)	2	1	1		1										1	1		1	13	9.95
Semeniuk et al. (2009)	4				1									1	2	1	1	1	28	21.43
Testa (2009)	1	1				1		1			1				3	2	1	1	41	31.38
Li and Petrick (2008a)	2	1		1	1							1			3	2	1	1	79	60.46
Li and Petrick (2008b)	2	1	1	1	1	1									3	3		1	38	29.08
Brownell (2008)	1	1									1			1	2		2	1	33	25.26
Chimonas et al. (2008)	6		1		1										1	1		1	25	19.13
Neri et al. (2008)	5		1		1										1	1		1	24	18.37
Shaw and Leggat (2008)	2										1				1		1	1	9	6.89
Sobotka et al. (2008)	3		1											1	1		1	10	7.65	
Jones (2007)	1		1			1	1					1		1	4	2	2	1	27	20.66
Thureau et al. (2007)	5	1	1			1	1						1		3	2	1	1	15	11.48
Cramer et al. (2006)	6		1		1									1	2	1	1	1	39	29.85
Gabe et al. (2006)	3	1	1		1									1	2	1	1	1	45	34.44
Petrick et al. (2006)	3	1	1					1			1				3	1	2	1	64	48.98
Duman and Matfila (2005)	2	1	1	1								1			2	1	1	1	229	175.26
Kerstetter et al. (2005)	3	1	1	1		1								1	4	2	1	1	16	12.25
Petrick (2005)	1	1	1			1	1						1		5	3	2	1	85	65.05
Petrick (2004a)	1	1		1							1				2	1	1	1	199	74.14

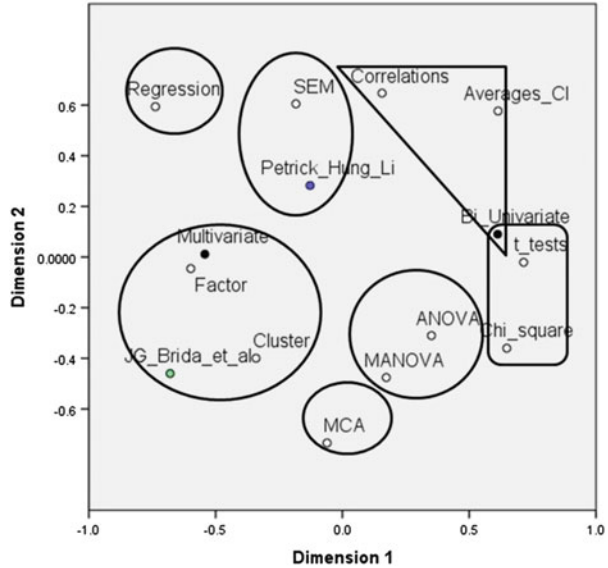
Patrick (2004b)	1	1	1	1	1												1	1	1	420	156.47	
Patrick (2004c)	1	1							1										1	2	213	79.35
Patrick and Sirakaya (2004)	2	1	1																2	67	24.96	
Sirakaya et al. (2004)	3	1	1	1															2	79	29.43	
Chase and McKee (2003)	2	1	1	1															1	26	9.69	
Cramer et al. (2003)	3		1																1	38	14.16	
Patrick (2003)	1	1		1															2	72	26.82	
Testa (2002)	1	1	1																2	36	13.41	
Testa and Sullivan (2002)	2	1	1	1															1	3	1.12	
Teye and Leclerc (2002)	2	1	1																1	31	11.55	
De La Vina and Ford (2001)	2	1	1	1															1	61	22.72	
Gahlinger (2000)	1		1	1															1	21	7.82	
Henthorne (2000)	1	1	1	1															2	76	28.31	
Miller et al. (2000)	6		1																1	99	36.88	
Qu and Ping (1999)	2	1	1	1															1	119	57.24	
Dahl (1999)	1		1																1	27	12.99	
Testa et al. (1998)	3	1	1																2	24	11.54	
Teye and Leclerc (1998)	2	1	1																1	93	44.74	
Morrison et al. (1996)	4	1	1																2	21	10.10	
Moscardo et al. (1996)	5	1	1																1	22	10.58	
Marti (1995)	1	1	1																1	7	3.37	
Marti (1986)	1	1	1																1	13	6.25	
Molinerio and Misis (1984)	2		1	1															1	6	2.89	

(continued)

Table 16.4 (continued)

Authors	Team	Tourism	Cruise_title	SEM	Regression	Factor	Cluster	MCA	MANOVA	ANOVA	t- tests	Correlations	Chi_square	Averages_CI	Techniques	Multivariate	Bi_Univariate	Count	Cited_by	Cited_by_W
82 studies, 2010-2014	229	54	80	18	32	26	13	2	4	12	8	15	14	15	159	95	64	82	613	2490
43 studies, 1984-2009	103	31	34	8	17	8	5	0	5	7	7	8	7	17	90	44	45	43	2593	1324
125 studies, 1984-2009	332	85	114	26	49	34	18	2	9	19	15	23	21	32	249	139	109	125	3206	3814
223 other, 1983-2014	461	125	189															221	4414	3806
348 studies, 1983-2014	793	210	303															346	7620	7620

Fig. 16.2 The result of the factor analysis superimposed on the multidimensional scaling (MDS) diagram with analytical methods. *Note:* Dispersion Accounted For (DAF) = 0.945



relationship between multiple variables. Confirmatory Factor Analysis (CFA) and path analysis are some of the techniques that are closely associated with SEM, and therefore usage of CFA is recorded as SEM. There may be more than one dependent variable in SEM, unlike in simple or multiple regression analysis, which can have only one dependent variable (at a time).

Factor analysis, now sometimes referred to as Exploratory Factor Analysis (EFA), groups columns (variables) into a data matrix to differentiate it from CFA, whereas a cluster analysis groups lines (observations, respondents, etc.) into two or more groups. The ANOVA tests if there are significant differences in the means of several groups. The MANOVA (multiple analysis of variance) uses cross-tables rather than frequency-tables. T-tests are used to determine whether or not there is a significant difference between the means of two groups only (and not three or more groups like in ANOVA).

SEM, multiple regression, factor analysis, cluster analysis and MCA are multivariate techniques. Another multivariate technique is Multidimensional Scaling (MDS), which is a visualisation technique that can work on both continuous and categorical (0–1) variables. MDS is used later in this study. Likewise, a Multiple Correspondence Analysis (MCA) is, like MDS, a way of visualising the relationship between multiple variables, but MCA can only work on categorical data (unlike MDS, which works well both on both dummy-codes, 0–1, that are categorically-scaled variables and variables of other scaling levels).

Almost two thirds (or 82) of the 125 quantitative cruise studies are from 2010 to 2014, and one third, or 43, are from 2009 or earlier, cf. the last lines in Table 16.3, (and last lines in Table 16.4). In Table 16.2, 16.3 and 16.4 “1” means yes and “0” means no. The authors of each cruise study are mentioned in the first column in

Table 16.2, 16.3 and 16.4 followed by year of publication. The full bibliographic details of all of the publications listed in Table 16.2, 16.3 and 16.4 are mentioned in the references.

Figure 16.3 shows the correlations between pairs of variables. Comments shall be made method-by-method, with the most frequently-used methods mentioned first, based on the most recent 5-year period. Only the main multivariate methods will be commented upon.

Tables 16.1 and 16.2, 16.3, 16.4 (final summaries at the end of the table 16.3, and in less detail by the end of table 16.4) show that for the period 1984–2014, under one, as well as for the latest 5-year period of 2010–2014, regression analyses in different variants are the most commonly used analytical technique, i.e. variants of the technique were used in about 38 % of the studies. Regression analysis does not have a significant positive correlation with any of the other techniques. Logistic regression (logit) is a variant of regression analysis requiring a categorically-dependent variable. Logistic regression (logit) is used rather frequently in the medical sciences, hereunder in studies reporting on the health aspects of cruise travel. Logistic regression is also being increasingly applied in marketing and tourism studies, including studies in cruise tourism (Qu and Ping 1999; De La Vina and Ford 2001; Brida and Risso 2010; Elliot and Choi 2011; Brida and Coletti 2012; Brida et al. 2012; Castillo-Manzano et al. 2014; Brida et al. 2014a).

Factor and cluster analyses are often used in the same studies, but a factor analysis is used twice as often in cruise-related studies than is cluster analysis, i.e. in 27 % and 14 % of the studies, respectively, for all years under one.

SEM in cruise studies is particularly associated with J.F. Petrick of the Texas A&M University. Out of the 25 SEM studies in cruise tourism, J.F. Petrick was involved in 12, i.e. three alone (Petrick 2003, 2004a, b), four with X. Li (Li and Petrick 2008a, b, 2010a, b), and five along with K. Hung (Hung and Petrick 2010, 2011a, b, 2012a, b). The first SEM study in cruising was, however, a rarely-cited study by Testa and Sullivan (2002). The most cited of any cruise tourism study is by Petrick (2004b), which focused on the satisfaction and loyalty of cruise passengers. These concepts (satisfaction and loyalty) have also been the main topics of most of the published cruise studies, and of tourism studies in general that apply SEM. Silvestre et al.'s (2008) work is a European example of a cruise tourism study applying SEM that also focuses on satisfaction and loyalty.

As mentioned previously, Petrick authored or co-authored (together with either Hung or Li) 12 cruise studies that applied SEM. Following these 12 studies are four cruise studies that apply MANOVA analyses, invariably in combination with an ANOVA (Petrick 2004a, 2005, 2011; Petrick et al. 2006). Finally Petrick and Sirakaya (2004) used a k-means cluster analysis in combination with t-tests. This brings the total number of quantitative cruise papers (co-)authored by J.F. Petrick to (at least) 17 until 2014. This far, this number has not been topped by anyone.

In all, 14 of the 17 studies utilised three surveys, with 792, 554 and 897 respondents, respectively. However, at least 15 quantitative cruise studies involve J.B. Brida of Italy, always with one, two or three co-authors (Brida and Risso 2010; Brida et al. 2011, 2012a, b, c, d, e, f, 2013, 2014a, b, c, d, e). For a list of

Brida's co-authors, see the references. Brida et al. used a factor analysis in eight of the 15 studies, and a cluster analysis in six, mostly in combination. Five studies used regression analysis and one used SEM, cf. Tables 16.2, 16.3 and 16.4. Brida et al. and Petrick, Hung and Petrick and Li and Petrick thus account for as many as 32 (or 26 %, more than one in four) of the 125 quantitative cruise studies identified, leaving 91 for all other authors.

The positive and negative correlations of Fig. 16.3—or the corresponding proximities and distances—is reflected in Fig. 16.1, which is a graphical representation of the results from Fig. 16.3 (by the end of the paper). Fifteen of the variables from Fig. 16.3 are represented by one object point each in the MDS diagram of Fig. 16.1. Those variables that are highly positively correlated are clearly positioned close together in Fig. 16.1, and vice versa. Multidimensional scaling, MDS, is a descriptive technique that does not include any tests in itself, except for the overall fit measure, which is fine in Fig. 16.1, of close to 95 %. Furthermore, Fig. 16.3 shows which correlations between pairs of variables are significantly positive (or negative).

In order to elaborate on the interpretation of Fig. 16.1, a factor analysis is undertaken in Table 16.4. Six components, factors, or groups of variables are identified. Together, this explains 70.6 % of the variation in the dataset of 125 cases and the 15 variables included in the factor analysis.

(1) Factor analysis and cluster analysis are typical multivariate techniques that are often used in many cruise studies that were published by Brida et al. in 2010–2014.

(2) Petrick, along and together with Li and with Hung, has used Structural Equation Modeling, SEM, in a dozen of his 17 quantitative cruise tourism studies published from 2003 until 2014.

(3) ANOVA is sometimes supplemented with the use of the slightly more-advanced MANOVA technique.

(4a) Regression analysis is not associated with any particular one of the other analytical techniques.

(4b) Chi square and t-tests are typical bivariate techniques.

(5) Averages with SD, standard deviation, or CI, confidence intervals, as well as correlations, are other typical uni- and bivariate techniques.

(6) MCA, multiple correspondence analysis, is not grouped with any of the other techniques, and is rarely used in cruise studies. Table 16.5 are, finally, superimposed on Fig. 16.1, which is illustrated with circles in Fig. 16.2, completing the analysis. The vertical axis in Fig. 16.2 is the multivariate-univariate distinction. Table 16.5 shows that 70.6 percent of the total variance for the 15 variables is explained by six factors (or principal components).

Further analyses have been undertaken, although these are not presented in the tables. For example, a “K-means cluster analysis” was used to form two clusters of papers. Cluster one consists of 37 publications that either do not make use any multivariate techniques, or they use at least two bi-/univariate techniques. Cluster two consists of 88 publications, which all use at least one multivariate technique,

Table 16.5 Factor analysis—rotated component matrix, six components

Variables	1	2	3	4	5	6
Factor	0.783	0.180	0.000	-0.056	-0.074	-0.106
Multivariate	0.765	0.375	0.192	-0.388	-0.057	0.080
Cluster	0.745	-0.172	0.034	0.268	0.048	0.204
Brida et al	0.514	-0.306	-0.042	-0.055	-0.325	-0.127
SEM	-0.001	0.870	-0.185	0.024	-0.014	0.014
Petrick_Hung_Li	0.069	0.754	0.354	-0.045	-0.076	-0.102
MANOVA	0.130	0.036	0.804	0.034	-0.138	0.167
ANOVA	0.018	0.006	0.765	0.282	0.065	0.065
Regression	-0.074	-0.162	-0.020	-0.817	0.036	-0.264
Chi_square	-0.007	-0.111	0.209	0.617	0.003	-0.225
t_tests	-0.225	-0.034	0.393	0.470	0.134	-0.152
Averages_CI	-0.174	-0.245	-0.045	-0.158	0.787	-0.028
Bi_Univariate	-0.141	-0.006	0.406	0.517	0.698	-0.139
Correlations	0.106	0.421	-0.267	0.111	0.588	0.031
MCA	-0.001	-0.056	0.165	-0.044	-0.035	0.922
% of variance	14.380	12.683	12.628	12.592	10.790	7.554
Cumulative %	14.380	27.063	39.691	52.283	63.073	70.626

Note: “Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.” Rotation converged in 12 iterations

and excludes all those from cluster one. This completes the explanation of the results and analyses undertaken Fig. 16.3.

16.4 Discussion

One might be curious about which of the included variables, if any, can explain the number of citations that each paper received. A step-wise multiple regression analysis was performed, based on 75 studies from the “tourism” domain only and only studies with the term “cruise” in the title. In this subsection of papers, it turned out that the two best techniques for gaining citations are SEM, Structural Equation Modeling, and the bivariate technique “correlations”. Figure 16.3, which is based on all 125 quantitative studies, shows the same: SEM correlates most significantly both with the absolute number of citations and with the number of citations adjusted for year of publication. In addition, “correlations” comes in second, cf. the two last lines in Fig. 16.3. Many other techniques, whether multivariate or bi-/univariate, do not appear to contribute positively to the number of citations, either before or after controlling for the time span since publication.

As a result, the same conclusions can often be reached by using simple techniques, such as correlations, chi-square or t-tests on one hand, and multivariate techniques, such as multiple regression analysis on the other. Therefore, it is argued

Correlations	1	2	3	4	5	6	7	8	9	10	11	12	13
	SEM	Regression	Factor	Cluster	MCA	MANOVA	ANOVA	t-tests	Correlations	Chi square	Averages CI	Multivariate	Bi- / Univariate
1 SEM	1	-.189*	.094	-.202*	-.065		-.095	-.126	.276**	-.122	-.154	.302**	-.093
2 Regression	-.189*	1	-.112	-.218*	-.101	-.221*	-.231*	-.293**	-.034	-.223*	.083	.272**	-.277**
3 Factor	.094	-.112	1	.332**	-.079	.106	-.050	-.119	.030	-.087	-.191*	.693**	-.187*
4 Cluster	-.202*	-.218*	.332**	1	.135	.068	.101	-.077	-.071	.131	-.124	.434**	-.025
5 MCA	-.065	-.101	-.079	.135	1	.211*	.129	-.048	-.062	-.058	-.075	.149	-.056
6 MANOVA	-.142	-.221*	.106	.068	.211*	1	.502**	.182*	-.135	.121	-.163	.206*	.185*
7 ANOVA	-.095	-.231*	-.050	.101	.129	.502**	1	.267**	-.140	.240**	-.134	.011	.486**
8 ttests	-.126	-.293**	-.119	-.077	-.048	.182*	.267**	1	-.115	.161	.013	-.295**	.515**
9 Correlations	.276**	-.034	.030	-.071	-.062	-.135	-.140	-.115	1	-.051	.058	.052	.359**
10 Chi_square	-.122	-.223*	-.087	.131	-.058	.121	.240**	.161	-.051	1	-.114	-.162	.516**
11 Averages_CI	-.154	.083	-.191*	-.124	-.075	-.163	-.134	.013	.058	-.114	1	-.257**	.430**
12 Multivariate	.302**	.272**	.693**	.434**	.149	.206*	.011	-.295**	.052	-.162	-.257**	1	-.284**
13 Bi_Univariate	-.093	-.277**	-.187*	-.025	-.056	.185*	.486**	.515**	.359**	.516**	.430**	-.284**	1
14 JG_Brida_et_al	-.126	.065	.214*	.283**	-.048	.086	-.014	-.139	-.115	-.103	-.216*	.210*	-.265**
15 Petrick_Hung_Li	.500**	.036	.245**	-.113	-.036	.251**	-.116	-.105	.186*	-.127	-.091	.365**	-.105
16 Year	.064	.045	.165	.124	.078	-.026	.018	.030	.012	-.041	-.194*	.183*	-.092
17 Cruise_title	-.196*	.012	.066	.126	.040	-.131	-.031	-.231**	.004	.142	-.081	-.037	-.077
18 Tourism	.178*	-.276**	.119	.027	.089	.195*	.042	.100	.110	-.054	-.037	.079	.063
19 Team	-.167	.169	.008	.064	-.107	-.156	-.130	-.051	-.092	.143	-.046	-.009	-.076
20 Cited_by	.289**	-.081	-.087	-.088	-.061	.129	.081	.029	.228*	-.047	.013	.047	.134
21 Cited_by_W	.401**	-.112	.095	-.002	-.102	.088	.019	-.068	.245**	-.069	-.023	.195*	.051

	14	15	16	17	18	19	20
	JG Brida et al	Petrick Hung Li	Year	Cruise title	Tourism	Team	Cited by
16	.228*	.057	1	.105	-.055	.186*	-.363**
17	.117	-.240**	.105	1	-.035	.189*	-.275**
18	.047	.062	-.055	-.035	1	-.308**	.177
19	.217*	-.133	.186*	.189*	-.308**	1	-.208*
20	-.145	.036	-.363**	-.275**	.177	-.208*	1
21	.141	.243**	.052	-.166	.312**	-.050	.530**

Fig. 16.3 Correlations between 11 analytical techniques and other selected variables

that advanced techniques are not always superior to simple ones. But the most appropriate methods should be selected in each instance, probably starting with the simple ones and then elaborating on the analyses by using multivariate techniques. Many (cruise) tourism studies have used SEM and almost all of them focusing on variations and elaborations of the theme “satisfaction leads to loyalty”.

Although this is a very important theme, it is perhaps time that SEM also shows its applicability in other tourism and cruise-related contexts. Illustrating relationships between constructs in a conceptual model and testing these are not restricted to any specific technique. MDS or simple correlations can help to uncover which

constructs are closely related, and may be helpful when designing conceptual models illustrating the relationships between constructs.

16.5 Conclusion

This paper identifies 82 cruise-related empirical and quantitative cruise tourism studies that were published during the period of 2010–2014, and makes comparisons with 43 similar papers published in 1984–2009. A structured review of the analytical methods used in all of these 125 studies, as well as the relationships between the methods, is undertaken. On average, two different methods were used per study (0.9 bi- or univariate and 1.1 multivariate), with four typically being the maximum, since only one study used five techniques. Only three of the 125 studies used more than two uni-/bivariate techniques, and only five of the 125 used more than two multivariate techniques. During the latest period, 2010–2014, a regression analysis was used in 39 % of the studies, factor analysis in 32 % and structural equation modelling [modelling] in 22 %. Cluster analysis was used in 14 % of the studies, MANOVA in 7 %, and Multiple Correspondence Analysis in 2 %. Just one cruise-related study (1 %) used MDS, multidimensional scaling, and it was almost 20 years ago (Moscardo et al. 1996). A correlation analysis, not including MDS due to its rare usage, is applied to explore the techniques that are used together. Groups of techniques, along with selected authors, are formed through the use of the (exploratory) factor analysis, and finally a MDS diagram visualises the relationships between the different techniques.

Based on a factor analysis of 15 variables resulting in six factors, accounting for about 70 % of the variation in the data set of 125 quantitative cruise studies, a short summary of this study is as follows: Factor analysis and cluster analysis are typical multivariate analyses often used by Brida et al. in cruise-related studies (14 % of variation). Petrick et al. are the primary proponents of SEM in cruise studies (13 % of variation). ANOVA and MANOVA are typically used in conjunction (12 % of variation). Regression analysis is a multivariate analytical tool that may be used alone (6 % of variation), whereas both chi-square and t-tests are typical simple analytical techniques (6 % of variation).

Averages with standard deviations (SD) or confidence intervals (CI) and correlations are other typical uni- and bivariate techniques (11 % of variation). Finally, Multiple Correspondence Analysis, MCA, is rarely used in quantitative cruise studies (8 % of variation). The mentioned relationships, i.e. the result of the factor analysis, are illustrated in a MDS diagram, by means of a multidimensional scaling technique, which, in this study, was used for the first time since 1996 in the context of quantitative cruise tourism analyses. It cannot be concluded from this study that quantitative studies in general have become more popular in cruise tourism studies during the 2010–2014 period than in the previous period. However, within the quantitative, empirical, cruise tourism studies, there is a trend (but not strongly significant) towards an increased use of multivariate techniques, as indicated in the correlation analysis.

Note

Hu et al. (2003), Li (2010), Krieger et al. (2005), and Silvestre et al. (2008) are acknowledged as being quantitative cruise studies and are therefore included in the references, but the writer did not identify them early enough for them to be included among the 125 publications in Tables 16.2, 16.3 and 16.4. Surely others may have been missed, and this study makes no claim of being exhaustive. Green et al. (1988) is a textbook, not a cruise study.

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