Scenario Planning for the 2035 Cruise Industry

A Blue Ocean Strategy to Create New Market Space

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I cannot imagine any condition which would cause a ship to founder.

I cannot conceive of any vital disaster happening to this vessel.

Modern shipbuilding has gone beyond that.

– Edward John Smith, RD

Captain, RMS *Titanic* (1912)

Upon the maiden voyage of RMS *Adriatic* in New York (1907) [1]

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ABSTRACT

Although the cruise industry has experienced high growth in recent years, consumer segmentation and industry concentration suggest that the long tail of the market may be underserved. Cruise lines can respond by driving business model innovation via Blue Ocean Strategy to identify white space market opportunities and create value innovation. The long-term strategic cycle of the cruise industry can be accommodated by envisioning contrasting future scenarios in which present-day business decisions will be executed. This work generates actionable options that cruise lines may adopt to maintain steady growth through 2035 via scenario planning and option planning. The business model of a mass market cruise line is first mapped in a causality tree and a value cycle to visualize key performance indicators across financial, customer, internal and learning objectives. Qualitative market research is subsequently conducted through interviews with industry experts and consumers to define consumer personas, identify impactful macro-trends and evaluate customer satisfaction. Next, morphological vectors of macro-trends are arranged to construct plausible and consistent future scenarios with narratives, implications and warning signals. Finally, a set of portfolio options is created using the Four Actions Framework and Strategy Canvas to explore business model innovation via customer impact, value proposition impact and cost impact.

Keywords

Cruise industry, business modeling, market research, scenario planning, option planning

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1 INTRODUCTION

The cruise industry represents a rapidly growing area of the tourism industry and is branded by international fleets of ships that are not only considered to be floating hotels, but floating resorts [2]. This reimagination of the modern cruise industry as an entertainment tourism market, rather than as simply a mode of transportation, was triggered in the late 1960s in response to the rise of competitive air travel [3]. Since this pivot, the industry has developed under highly deregulated international maritime governance, allowing firms to largely avoid labor, environmental and safety oversight at national levels [3]. Over several decades, an oligopoly of three firms has consolidated market power, challenging new entrants through pricing, mergers and acquisitions [3]. The consumer market is highly segmented and coverage is focused on a few regional markets, though, offering both incumbents and niche operators with opportunities to diversify industry products and target emerging markets [3].

The early goal of the major cruise lines – Norwegian Cruise Line (1966), Royal Caribbean Cruises (1968) and Carnival Corporation (1972) – was to develop the mass market, since cruising had previously only been accessible for the elite [4]. To achieve massification, cruise lines have invested in dedicated cruise ships with broad consumer appeal [3]. Firms have also sought to leverage economies of scale since the 1990s, when ships rarely exceeded 2,000 passengers [3]. By 2018, the world's largest ship, MS *Symphony of the Seas* (Royal Caribbean Cruises *Oasis*-class), had grown to five times the size of the 1912 RMS *Titanic* (White Star Line *Olympic*-class) with capacity for 6,680 passengers and 2,200 crew [5]. Each *Oasis*-class ship costs over US$1 billion and can spend at least 32 months under construction in a shipyard [6]. Modern ships have a lifespan of 30 years [4], but are usually rebranded, resold or refurbished mid-cycle to renew their lifetime value after serving on premium routes [7].

The large-scale, multi-year investments required to procure ship assets necessitate long-term strategic master planning to inform present-day decisions [5]. During this decades-long strategic cycle [8], contextual and transactional trends may shape the evolution of the cruise industry, presenting individual firms with emergent opportunities and potential threats [9]. The prevailing future of the industry is unpredictable given that the effects of these trends are volatile, uncertain, complex and ambiguous [10]. Leaders of cruise lines would therefore be prudent to invest in strategic options that consider multiple alternative futures, rather than to plan for a sole deterministic future or a single contingent future [11]. A scenario development framework can provide a practical methodology to construct plausible future scenarios for the cruise industry at-large [12]. Such scenarios can then be interwoven into strategic planning to facilitate the generation of insightful and actionable options for decision-makers [13].

This report is organized to present (1) an introduction to the focus of the research; (2) an outline of the applied research method; (3) an analysis of the cruise industry; (4) development of a scenario planning framework; (5) generation of strategic industry options; and (6) conclusions and recommendations.

1.1 IMPACT HORIZON

The shipbuilding process for cruise ships includes distinct design, assembly and outfitting phases [14]. Although contracting through delivery of an individual vessel can be achieved in two years, cruise lines often stage fleet production over a 10-year period [15], adjusting to variability in shipyard capacity, market conditions and procurement financing [16]. While ships may be periodically repurposed, these fixed assets enter significant useful service lives of up to 30 years [8]. Since basic ship design can be tailored within a year [16], a strategic cycle of 15 years is assumed to be an appropriate impact horizon for this study, aligned with the operating lives of newbuild ships and vessels repurposed mid-cycle.

1.2 KEY FOCAL ISSUE

Cruise passengers grew at 8% annually since the beginning of the 21st century through 2011, outpacing the growth rate of global tourism by more than three times [17]. Subsequent five-year demand between 2011 and 2016 slowed, however, increasing by only 20.5% or 4% yearly [18]. Even disregarding uncertainty, such volatility alone would project compound growth to vary between 75% and 217% over a 15-year impact horizon, challenging industry leaders to maintain steady growth. To address this issue, high consumer segmentation suggests that the industry may first be represented by a long tail business model [19]. Next, high industry concentration and mass market focus may indicate that the long tail is being underserved. The key focal issue of this research study is thus articulated in the following query:

> *How can the cruise industry maintain steady growth through 2035 by developing opportunities in new market space?*

The scope of this research is bounded by a broad view of the cruise industry as a whole. Consequently, scenario planning components related to firm-specific strategy, including quantitative structural modeling, scenario monitoring and scenario evaluation, are considered out-of-scope. Further, firm-specific strategic analyses, such as sustainability of competitive advantage, financial performance of individual firms, options selection and options programming, are omitted from this study. Finally, although industry experts were interviewed to identify relevant and impactful macro-trends, firm-specific representatives were not solicited to develop the raw scenarios presented in this report.

1.3 RESEARCH OBJECTIVES

The primary objectives of this research are to develop (1) four scenarios representing contrasting 15-year futures of the cruise industry; and (2) three strategic options that can be adopted by individual cruise lines to create new market space for the industry. Long-term planning within the cruise industry provides a breadth of public secondary information, offering market research and proposing driving forces of change. This study includes primary research to understand the relevance, uncertainty and impact of such trends with the purpose of leveraging insights in a strategic value innovation framework.

2 RESEARCH METHOD

An overview of the research conducted for this study consists of (1) a review of the literature and state of the art of scenario planning and pertinent organizational strategy; (2) an outline of the theoretical framework applied to analyze the future of the cruise industry; and (3) a description of the primary market research undertaken as part of this study to contribute to the industry body of knowledge.

2.1 LITERATURE REVIEW

By 2001, scenario planning had been used by various organizations to complement strategic planning for over three decades, but the practice lacked sound theoretical foundations and the ability to measure its impact on organizational effectiveness [20]. Over the next decade, a variety of qualitative approaches and quantitative techniques were developed, coinciding with a significant increase in the use of scenario planning within organizations [21]. A brief summary of the major themes surrounding scenario planning is arranged according to (1) the relationship between scenario planning and prospective strategy; (2) the historical development of scenario planning; (3) scenario development methods; (4) scenario validation and assessment; and (5) option planning via Blue Ocean Strategy.

Scenario Planning and Prospective Strategy

Consensus has not coalesced around a unified definition of scenario planning, whose versatile nature has been described as (1) possible future outcomes, rather than accurate forecasts [22]; (2) a creative process for developing a view of alternative futures [9]; (3) a prescriptive methodology for conceptualizing the future [23]; (4) management of future uncertainties as part of strategic planning [24]; and (5) strategic tools to envision potential decision-making environments [12]. A scenario framework is characterized by a series of multiple scenario stories that are designed to aid organizations in visualizing and coping with future changes by challenging existing paradigms of thinking [20]. Scenario planning is therefore distinct from sensitivity analysis, in which the parameters of an official model of the future are varied, while the underlying assumptions of reality remain immutable [25].

Prospective strategy builds upon traditional strategic planning by using scenario planning to promote long-range thinking [26]. The three traditional paradigms of strategic management are (1) the rationalist school, where the purpose of strategy is to analytically predict the unique and correct solutions to problems; (2) the evolutionary school, in which strategy can only filter unsuccessful solutions because ideal solutions for complex problems can only be known in retrospect; and (3) the processual school, whose premise is that strategy is an internal process that makes organizations more adaptive by linking thinking, perception and action [13]. Within these paradigms, scenario planning contributes to internal learning and is positively associated with organizational performance through a chain of linked stages that consists of (1) scenarios; (2) learning; (3) mental models; (4) decisions; and (5) performance [27].

Historical Development of Scenario Planning

Herman Kahn, a military strategist at Rand Corporation and founder of the Hudson Institute (1961), is the pioneer of futures studies [20]. Kahn gained notoriety by contemplating the consequences of using thermonuclear weapons during the Cold War [28], challenging world leaders to imagine the "unthinkable" [29] and working with government to plan for massive societal changes [30]. Pierre Wack, leader of Shell Group Planning at Royal Dutch Shell in the late 1960s and 1970s, is the father of corporate scenario planning [31]. Wack incorporated scenarios based on Intuitive Logics into business strategy [21], which is credited for the firm's superior performance during the 1973 global oil crisis [32]. Peter Schwartz, head of scenario planning at Royal Dutch Shell in the 1980s, advanced the art of scenario-building [12] and refined a practical scenario framework after co-founding the Global Business Network [33]. Kees van der Heijden related scenario planning to strategic paradigms [20], emphasized that scenario planning afforded organizations with cognitive capability to perceive and respond to change [13] and introduced tangible organizational tools such as the impact-predicatability matrix [21].

Scenario Development Methods

A general-purpose approach to scenario planning cannot be prescribed because effective scenarios are influenced by the motivations of their stakeholders [13]. To address their unique objectives, therefore, practitioners typically customize methodologies according to their needs [21]. While an infinite number of scenario stories can be imagined about the future, the most meaningful ones may be surfaced by sifting them through a key focal issue [34]. Scenarios also gain perspective when considered over a long-term time horizon because external uncertainties grow and enterprise decisions broaden as scenario timelines are projected further into the future [21]. Practitioner-based scenario planning has led to the proliferation of nuanced and variant frameworks [35], but the principal schools of scenario approaches are (1) Intuitive Logics; (2) Probabilistic Modified Trends; and (3) La Prospective [36].

Intuitive Logics extends the dominant scenario planning tradition of the Global Business Network [37] and does not call for quantitative analysis [21]. Instead, the approach leverages the expertise of "remarkable people" to challenge organizational assumptions [36]. Practitioners adopt an inside-out perspective, in which scenarios revolve around a central issue and extend outward toward the external environment [38]. Probabilistic Modified Trends encompasses two distinct quantitative methods called Trend Impact Analysis and Cross Impact Analysis [21]. Trend Impact Analysis statistically augments trends with unprecedented future events [36] to create scenario-contingent forecasts [38], while Cross Impact Analysis evaluates causal linkages between trends to estimate the conditional probabilities of future events [21]. La Prospective, based on French philosopher Gaston Berger's contention that the future can be deliberately created [21], introduces developmental scenarios, which describe mechanistic sequences of events that can lead to desirable futures [38]. La Prospective blends the qualitative features of Intuitive Logics and the quantitative techniques of Probabilistic Modified Trends [36].

Scenario Validation and Assessment

Effective scenarios (1) articulate vivid stories of new future worlds; (2) create decision-making power by generating useful insights; (3) describe plausible versions of future realities; (4) earn credibility by maintaining internal and logical consistency; (5) express strutural or qualitative differences from one other; (6) remain memorable so that lessons persist over time within an organization; and (7) challenge an organization's conventional cultural wisdom [31]. Rich and effective scenario stories are developed in diverse teams, composed of subject matter experts from different cultures and disciplines, which are supported and empowered by decision-makers [8]. Moreover, the inclusion of multiple levels of seniority during scenario exercises stimulates debate, protecting organizations against groupthink [39] and preparing teams to quickly identify and adapt to new situations by "rehearsing the future" [8].

Prior to being considered as part of any decision rationale, scenarios should be validated [20] to ensure (1) plausibility; (2) consistency; (3) relevance; (4) novelty; and (5) differentiation [40]. Plausibility and consistency are the primary criteria that contribute to stakeholder acceptance of scenarios [21]. Plausibility can be verified first by visualizing and eliminating incompatible scenario drivers with Morphological Analysis [41]. A Consistency Matrix can then be used to correlate the strength and unity of the linkages and dependencies between selected scenario drivers [42]. Ultimately, scenario projects should be assessed as a whole via (1) overall participant and stakeholder satisfaction; (2) quality of learned knowledge and expertise; and (3) improved system performance and financial results [38].

Option Planning via Blue Ocean Strategy

To create sustainable advantage, firms should ensure that their business models generate virtuous cycles through (1) alignment with company goals; (2) self-reinforcement; and (3) robustness [43]. Business models interact with macro-trends via an innovation environment, which is characterized by (1) long tail markets; (2) network effects; (3) less-is-more innovations; (4) social media; (5) crowdsourcing; and (6) disruptive technologies [44]. Scenario-guided business model innovation enables organizations to understand how key business elements, outlined in the Business Model Canvas, may evolve over time under different conditions [45]. Organizations can thus use scenarios to develop portfolio and capability options by reviewing their strategies from external and internal perspectives, respectively [13].

Beyond core and adjacent businesses, firms can generate options for transformational growth by targeting white space opportunities that serve new or existing customers in fundamentally different ways or that fit poorly with their current organizations [46]. This transformation can be achieved with Blue Ocean Strategy, which introduces value innovation techniques such as the Strategy Canvas and the Four Actions Framework, to simultaneously reduce cost structure and improve value proposition [47]. Benefitting from scenario planning, firms can create new value-cost frontiers by participating in shaping irreversible macro-trends that decisively impact their industries over time [48].

2.2 APPLIED FRAMEWORK

This research of the cruise industry applies (1) scenario planning to envision alternative futures that are relevant to a key focal issue; and (2) option planning to offer firms with business model innovations.

Scenario Planning

Scenario development for the cruise industry is guided by a process derived from Intuitive Logics and the Global Business Network, which is composed of the following scenario planning components:

Table 1. Applied Components of Scenario Planning [11]

Key Focal Issue	Identification of a consequential, long-term issue for the cruise industry that is bounded in scope and timeframe.
Driving Forces	Discovery of social, technological, economic, environmental, political, regulatory and industry-specific trends relevant to industry stakeholders.
Critical Uncertainties	Isolation of the two most influential driving forces affecting the industry, ranked against all other driving forces by level of uncertainty and impact.
Scenario Framework	Combination of the critical uncertainties to explore four contrasting futures that will decisively influence the structure of the industry over time.
Scenarios	Construction of alternative futures based on plausible hypotheses regarding the effect of the future environments on the existing cruise industry.
Narratives	Creation of consistent stories describing alternative futures, emphasizing competitive issues and managerial decisions related to the key focal issue.
Implications	Analysis of the effects of alternative futures on industry firms, addressing strengths and vulnerabilities, gaps in capability and strategic decisions.
Early Warning Signals	Installation of leading indicators that alert the onset of any impending alternative future, providing firms with competitive time advantage.

Option Planning

Options for cruise lines are presented by exploring business model innovation via Blue Ocean Strategy:

Table 2. Applied Components of Option Planning [13]

Strategic Direction	Review of current capabilities and portfolios, considering option categories in market or product development, integration, diversification and innovation.
Option Set	Ideation of actionable responses through option surfacing, creation and clustering that account for implications identified across all alternative futures.
Option Evaluation	Evaluation of options against the full scenario set via financial assessment, scenario risk, strategic fit, organizational risk and “wind-tunneling.”

2.3 MARKET RESEARCH

Primary and secondary market research was conducted to develop specific scenario and option planning components, including (1) environmental scanning to discover a range of driving forces surrounding the cruise industry; (2) depth interviews with industry experts and consumers to identify relevant and impactful driving forces; and (3) a consumer survey to isolate the two most critical uncertainties.

Environmental Scanning

The marketing context of the Five C's Analysis [49] was analyzed using environmental scanning to discover an initial consideration set of 40 driving forces of change. The environment of the cruise industry was scanned according to the STEEP framework, which categorizes macro-trends as (1) social; (2) technological; (3) economic; (4) environmental; and (5) political [42]. As part of this independent research, environmental scanning is influenced by the experience, perception and introspection of the researcher [50], which is consistent with an Intuitive Logics scenario planning approach.

Depth Interviews

The consideration set was reduced to a choice set of the five most critical scenario drivers that are relevant to the key focal issue. Each driving force was applied to the Wilson Matrix and evaluated based on its level of impact and degree of uncertainty [40]. Impact and uncertainty were qualified through a series of depth interviews with industry experts and consumers, respectively. A targeted set of industry experts was interviewed to understand the following research question:

Which driving forces of change for the cruise industry are the most impactful?

Similarly, a diverse set of extreme consumers was interviewed to gauge the uncertainty of macro-trends:

Which driving forces of change for the cruise industry are the most uncertain?

The interviews were semi-structured, following interview guides designed with a funnel approach, where broader questions led to narrower ones [51]. Descriptive questions, seeking to evoke open dialogue, included (1) grand tours; (2) mini tours; and (3) example and experience probes [52]. Interviews underwent initial coding [53] so that themes and patterns could be summarized [54].

Consumer Survey

The choice set was finally distilled into a decision set of the two critical uncertainties that serve as the scenario framework logics. The five critical scenario drivers were assigned axes of uncertainty with extreme values. Their respective degrees of uncertainty were quantified via a consumer survey, in which participants offered their perceptions of the state of each driver both in the present and at the impact horizon. Based on these responses, the statistical means and variances [55] of the critical scenario drivers were used to estimate their relative positions, directions, speeds and uncertainties.

3 THE CRUISE INDUSTRY

A description of the cruise industry is presented with three layered perspectives, namely (1) the benefits of the industry value chain; (2) the industry structure that shapes intensity of competition; and (3) the contextual and transactional driving forces that may influence the nature of the industry over time.

3.1 INDUSTRY VALUE CHAIN

The value chain [22] of the cruise industry is discussed in terms of (1) the value created by key activities through vertical relationships; and (2) the market power held and the value captured by cruise lines.

Value Creation

The essential productive activity of the tourism industry, particularly as the consumption of experiences increases in popularity, has become "the creation of the touristic experience" [56]. Within the tourism industry, cruise tourism creates a unique value proposition that merges transportation, accommodation and leisure into the same physical space [57]. The key elements of the cruise tourism value chain are (1) cruise passengers; (2) distribution channels; (3) cruise lines; (4) cruise destinations; (5) cruise terminals and port reception facilities; (6) ground transportation; (7) activities, attractions and sites; and (8) local communities and heritage [58]. While distributors, such as travel agents, manage passenger transportation and accommodation before and after cruises [59], cruise lines are the central providers of the cruise experience [58]. Cruise lines operate fleets of ships, designed with all-inclusive marine resort environments, that offer a variety of itineraries [60]. This combination of onboard and destination experiences creates areas of cooperation and mutual benefit for key partners across the value chain [61].

Value Capture

Cruise lines exert market power over (1) buyers, via monopolistic competition once passengers board cruise ships; (2) suppliers, through the extraction of rent from onboard concessionaires; (3) destinations, with the threat of exit due to the mobility of cruise ships; and (4) government regulators, by the sponsorship of Cruise Lines International Association, which represents 90% of global cruise capacity as an international lobbying body [62]. This market power is monetized into ticket revenue and onboard revenue, where financial returns are influenced by (1) onboard revenue, which accounts for one-quarter of total revenue, partially subsidizing ticket sales and ensuring operating profitability; (2) a passenger tipping culture, allowing cruise lines to reduce costs and taxes by lowering staff salaries; (3) passenger prepayments, enabling cruise lines to earn financial income by requiring full ticket payments up to four months prior to departure; and (4) tax-free profits, legally taking advantage of tax loopholes by being incorporated in foreign tax havens outside the United States [63]. Carnival Corporation and Royal Caribbean Cruises, controlling nearly three-quarters of the global cruise market in 2017, were able to leverage their market power to achieve ROIC [64] of 9.4% [65] and 10% [66], respectively.

3.2 INDUSTRY STRUCTURE

The key dimensions of the Five C's Analysis and the Four P's Marketing Mix [67] that characterize the cruise industry are (1) market attractiveness; (2) competitive dynamics; and (3) product characteristics.

Market Attractiveness

The global market for the cruise industry topped US$126 billion in total economic impact in 2016, while over one million employees garnered $41 billion in wages [68]. In 2017, over 50 cruise lines operated 449 cruise ships [18] to nearly 1,000 ports [68] on seven continents, focusing deployments to the Caribbean (34.4%), the Mediterranean (17.3%) and the rest of Europe (11.1%) [69]. Between 2018 and 2025, cruise lines have committed to invest $51 billion to increase capacity with over 50 newbuild vessels representing 220,000 berths [68]. 30 million passengers will cruise in 2019, growing 6.4% over 2018, originating from the US (11.9 million), China (2.4 million) and Germany (2.19 million) [69]. Passengers consist of (1) the mass market, specializing in "budget," "contemporary" and "premium" segments; (2) the "niche" market, offering sailing ships, yachts, unusual itineraries, river cruises, exploration and adventure; and (3) the "luxury" market, commanding the highest prices [2].

Competitive Dynamics

By 2010, the mass market accounted for over 87% of cruise revenue, within which Carnival Corporation and Royal Caribbean Cruises collectively controlled 68.3% and 75% of the contemporary and premium segments, respectively [62]. Although the industry was served by 62 cruise lines in 2015 [70], 76.7% of total market share had been consolidated by Carnival Corporation, Royal Caribbean Cruises and Norwegian Cruise Line [62]. The cruise line portfolio of the market leader, Carnival Corporation, grew via a brand acquisition strategy that began in 1989 [71] and carried almost half of global cruise guests in 2017 [65]. Thus, industry entrants face (1) strategic barriers, imposed by incumbents that are committed to absorbing demand growth, defending oligopolistic ownership and increasing capacity; and (2) structural barriers, created by economies of scale and capital-intensive operations [4].

Product Characteristics

Cruise lines compete for consumer leisure time as substitutes to vacation alternatives [66], positioned against land-based resort hotel areas such as Las Vegas and Orlando [4] and even assisted-living facilities for the elderly [72]. Unlike land-based tourism alternatives, though, cruise lines emphasize mobility by selling itineraries rather than destinations [4]. Cruise products exhibit (1) heterogeneity, differentiated by ship, time of cruise, itinerary and booking process [73]; (2) inelasticity, sensitive to the perishable nature of experience goods; and (3) complementarity, augmented by accommodation, onboard dining, entertainment, shore excursions and photography [2]. Consumers evaluate ships based on size, age, level of service, overall condition and entertainment quality [74], while they select itineraries based on seasonality, length of cruise, ports of call and excursion offerings [4].

3.3 DRIVING FORCES OF CHANGE

The driving forces that are relevant to the focal issue are identified by analyzing (1) the key factors that impact cruise line business; and (2) the macro-trends that may influence those factors.

Key Factor Analysis

Decision-makers should be informed by the key factors in the local environment that are critical to the outcome of the key focal issue [12]. To achieve growth and gain competitive advantage, cruise lines implement several types of strategies, most notably (1) cost leadership; (2) differentiation; (3) focus; (4) conflict; (5) cooperation; and (6) consolidation [75]. Carnival Corporation, for instance, is the cost leader of onboard revenue, leveraging economies of scale to pursue an aggressive pricing strategy [75], while EasyCruise redefined the budget segment by introducing "no frills" cruises with low-cost access prices [76]. Christian Cruises and Bare Necessities Tour & Travel, on the other hand, are niche cruise lines that offer inspirational travel and nudist cruises, respectively [75]. These diverse strategies can be reviewed with Fuzzy Cognitive Maps [77], which are scenario tools that integrate mental models and highlight causal relationships [21]. The causality tree of mass market cruise lines given in Appendix A exhibits a Fuzzy Cognitive Map that diagrams cruise line business models using four interconnected perspectives, which are (1) financial; (2) customer; (3) internal; and (4) learning and growth [78].

The unique value proposition of cruise lines combines (1) transportation, offering itineraries to unique destinations; (2) accommodation, competing against land-based alternatives; and (3) leisure, providing all-inclusive experiences [57]. Internally, cruise lines manage (1) consumers, by partnering with travel agencies [58]; (2) innovation, by continually designing and renewing assets through shipbuilding [3]; and (3) regulation, by collectively sponsoring a lobbying body, Cruise Lines International Association [62]. Financially, Carnival Corporation and Royal Caribbean Cruises have similar revenue streams, cost structures [63] and, hence, profit formulas [46]. Cruise lines generate two revenue streams, tickets and onboard sales, which are scaled by the availability of Passenger Cruise Days (PCD) [63]:

$$Total\ Revenue = PCD \times (Ticket\ Revenue / PCD + Onboard\ Revenue / PCD) \quad [63]$$

Market leaders seek to grow revenue by increasing market penetration, which was 3% in North America and less than 0.2% in Asia in 2013 [4]. Carnival Corporation increased Passenger Cruise Days by 265% from 2001 to 2014 [63] and the industry continues to expand with 123 ocean ships on order [15]. Meanwhile, cruise lines maintain high asset utilization, where Royal Caribbean Cruises reached a record occupancy rate of 108.4% in 2017 [66]. The combination of high capacity and high utilization eroded average ticket prices by more than 20% between 2001 and 2014 [63], placing increasing pressure on onboard revenue (28.1%) to subsidize ticket sales (71.9%) [66]. Operating expenses, which exceed ticket sales, consist of (1) commissions and transportation; (2) marketing, selling and administrative; (3) payroll; (4) depreciation and amortization; (5) fuel; (6) food; and (7) cost of onboard business [65].

Contextual and Transactional Macro-Trends

A consideration set of the environmental trends [79] that are relevant to the cruise industry, outlined in Table 3, is arranged into categories, which are (1) social (SO); (2) technological (TE); (3) economic (EC); (4) environmental (EN); (5) political and regulatory (PR); and (6) industry-specific (IS).

Table 3. Driving Forces of Change: Relevant and Impactful Trends

#	ID	Driving Force	Relevance and Impact
1	SO-1	*Rising Global Middle-Class*	Developed countries struggle to meet mobility, housing and leisure needs of elderly, while BRIC countries see new growth [80].
2	SO-2	*Itinerary Affordability*	Poverty substantially decreases over 15 to 20 years, increasing consumer purchasing power and driving developing economies [81].
3	SO-3	*Mega-Hubs & Urbanization*	Middle class growth in Asia concentrates in mega-hubs, increasing consumer demand, global trade and competition for resources [82].
4	SO-4	*Global Migration*	The top 1% of the population owns 54% of global wealth by 2026, increasing migration to urban centers for economic opportunity [83].
5	SO-5	*Generational Responsibility*	Generation Z assumes strong sense of responsibility to develop a sustainable global economy for future generations [84].
6	SO-6	*Achievement Travel*	Experience travel evolves into achievement travel, where vacations become goal-oriented and travelers seek to gain skills [69].
7	SO-7	*Personal Restoration*	Travelers escape from fast-paced lives and disconnect from daily responsibilities, focusing on rejuvenation, fitness and wellness [69].
8	TE-1	*Digitalization*	Digital transformation and social media increasingly impact digital reputation, consumer engagement and talent recruitment [85].
9	TE-2	*The Internet of Things*	Data sensors proliferate in buildings, cities and the environment, collecting information for decision-making and optimization [86].
10	TE-3	*Data Protection*	Data emerges as the critical resource of the digital age, while the public debates issues of privacy, security and data collection [87].
11	TE-4	*Automation of Skilled Work*	Artificial intelligence, machine learning and natural language processing increase productivity of high-skilled workers [86].
12	TE-5	*Shipbuilding Technology*	Autonomous unmanned ocean-going shipping becomes common by 2035, reducing costs related to ship design, crew and fuel [88].
13	TE-6	*Smart Travel Technologies*	Travelers integrate technology into their vacations, using wearables and apps to create highly personalized experiences [69].
14	TE-7	*Hyper-Personalization*	Inter-industry collaboration deepens personalization, using DNA, image recognition and user data to tune one-of-a-kind services [87].
15	EC-1	*The Declining Cost of Distance*	Automation, connectivity and transportation efficiency reduce break-even costs, supporting the growth of suburbanization [89].
16	EC-2	*The Gig Economy*	Organizations increasingly contract freelancers, who may have many gigs over their careers, promoting lifelong learning [90].
17	EC-3	*Working Nomads*	The digital labor force combines leisure and work, allowing “digital nomads” to work remotely and offset leisure opportunity costs [69].
18	EC-4	*Inadequate Port Infrastructure*	Cruise tourism in Brazil decreased by 55% between 2012 and 2017, causing destinations to forego investment in port infrastructure [91].

#	ID	Driving Force	Relevance and Impact
19	EC-5	*Shipbuilding Backlogs*	Cruise shipbuilders fill multi-year backlogs as cruise ship orders rise, while the global shipbuilding sector falls to 20-year lows [16].
20	EC-6	*Inclusive Growth*	Global inequality decreases, but remains high within countries, acting as a destabilizing force in advanced economies [92].
21	EC-7	*Maritime Silk Road*	China's Belt and Road Initiative establishes maritime trade routes between Asia, Europe, Africa, the Middle East and the Pacific [92].
22	EN-1	*Climate Change*	Outdoor recreation, tourist economies and the natural environment degrade, causing loss of identity for indigenous communities [93].
23	EN-2	*Sea-Level Rise*	Coastal communities and ecosystems suffer financial impact as chronic high-tide flooding induces adaptation and relocation [93].
24	EN-3	*Step-Change in Energy Usage*	Developing nations, including China and India, enter energy-intensive phases of industrialization, surging global demand [94].
25	EN-4	*Global Oil Supply*	Countries with proven oil reserves experience peak production, while new and unconventional sources replace aging oil fields [95].
26	EN-5	*Extreme Weather*	Climate change increasingly causes extreme weather, damaging critical infrastructure and disrupting supply chains [93].
27	EN-6	*Polar Ice Melt*	Rapidly melting ice in the Arctic creates shipping lanes across the North Pole, allowing oceangoing ships to transit in summer [96].
28	PR-1	*Destination Utilization*	Policy measures in the European Union seek to curb mass tourism in favor of niche tourism to promote sustainable businesses [97].
29	PR-2	*National Protectionism*	Global migration to developed nations triggers backlash, provoking societies to erect protectionist barriers to reverse globalization [82].
30	PR-3	*The Disputed South China Sea*	China consolidates claims over the South China Sea, building islands and exerting military, economic and diplomatic leverage [98].
31	PR-4	*Ocean Governance*	International ocean stakeholders, organized by the United Nations, develop sustainable policies for growing ocean economies [99].
32	PR-5	*Sweatship Exploitation*	Cruise ship labor, 70% of which works under poor standards as hotel and catering staff, assemble to demand better conditions [100].
33	PR-6	*Floating Nation States*	The cruise industry tests international laws, probing the possibility of ships becoming sovereign nations with permanent homes [101].
34	IS-1	*Cruise Growth in Asia Pacific*	Between 2013 and 2018, the Asia cruise market increased at a CAGR of 19%, led by China with 60% of passenger volume [102].
35	IS-2	*Off-Peak Seasonality*	Growth of European cruise passengers is driven by Germans, who visit global destinations during off-peak seasons (Q1 & Q4) [103].
36	IS-3	*Activities & Excursions*	Total passenger satisfaction, countering lean supply chain principles, strains under high growth and rapid expansion [104].
37	IS-4	*Health & Safety*	A series of accidents, such as the capsizing of the Costa Concordia in 2012, expose lack of safety culture and gaps in oversight [105].
38	IS-5	*Sexual Crimes at Sea*	Sexual assault is significantly more common on cruise ships than on land, where 35% of female workers fear sexual harassment [106].
39	IS-6	*Panamax-Class Mega-Ships*	Capacity of the Panama Canal, expanded in 2016 after a decade-long infrastructure project, limits the size of transiting cruise ships [107].
40	IS-7	*Ship Selection*	Ship design increasingly focuses on timelessness, rather than on specific demographic, appealing to 170 nationalities [108].

4 SCENARIO PLANNING

Future scenarios for the cruise industry were designed through (1) identification of critical uncertainties; (2) construction of a logical scenario framework; and (3) development of individual scenario stories.

4.1 CRITICAL UNCERTAINTIES

The consideration set of 40 mega-trends was organized into the Impact and Uncertainty Matrix plotted in Table 4 and discussed in Appendix B. The level of impact and degree of uncertainty of each trend was ranked by relevance according to interviews with five experts and 11 consumers, respectively.

Table 4. Driving Forces of Change: Impact and Uncertainty Matrix

Level of Impact (Number of Cited Experts)	Low (0 – 2)	Medium (3 – 6)	High (7 – 11)
High (4 – 5)	*Shipbuilding Technology* *Ocean Governance*	*The Declining Cost of Distance* *Inadequate Port Infrastructure* *Polar Ice Melt* *Panamax-Class Mega-Ships*	*Itinerary Affordability* *Destination Utilization* *Activities & Excursions* *Health & Safety* *Ship Selection*
Medium (3)	*Generational Responsibility* *Shipbuilding Backlogs* *Climate Change* *National Protectionism* *Cruise Growth in Asia Pacific*	*Digitalization* *The Gig Economy* *Inclusive Growth* *Sweatship Exploitation*	*Mega-Hubs & Urbanization* *Personal Restoration* *Smart Travel Technologies* *Hyper-Personalization*
Low (0 – 2)	*Data Protection* *Maritime Silk Road* *Sea-Level Rise* *Step-Change in Energy Usage* *Global Oil Supply* *The Disputed South China Sea* *Sexual Crimes at Sea*	*Global Migration* *The Internet of Things* *Automation of Skilled Work* *Working Nomads* *Extreme Weather* *Floating Nation States* *Off-Peak Seasonality*	*Rising Global Middle-Class* *Achievement Travel*

Degree of Uncertainty (Number of Cited Consumers)

The choice set of the five critical scenario drivers, listed in Table 5, describes their axes of uncertainty. Their perceived uncertainties, detailed in Appendix B, were inferred from a survey of 137 consumers. The decision set ultimately isolates *Itinerary Affordability* and *Destination Utilization* as the two critical uncertainties, based on the position, direction, speed and uncertainty of each critical scenario driver.

Table 5. Driving Forces of Change: Critical Scenario Drivers

ID	*Critical Scenario Driver*	*0% Bound*	*2019*	*Std. Dev.*	*Direction*	*2035*	*100% Bound*
SO-2	***Itinerary Affordability***	**Expensive**	**58%**	**25%**	→	**64%**	**Affordable**
PR-1	***Destination Utilization***	**Crowded**	**50%**	**27%**	→	**53%**	**Spacious**
IS-3	*Activities & Excursions*	Boring	65%	25%	→	67%	Amazing
IS-4	*Health & Safety*	Dangerous	71%	26%	→	75%	Safe
IS-7	*Ship Selection*	Narrow	59%	24%	→	65%	Wide

4.2 SCENARIO FRAMEWORK

The two critical uncertainties for the cruise industry, based on primary market research, are *Itinerary Affordability* and *Destination Utilization*. *Itinerary Affordability* is measured between *expensive* and *affordable*, while *Destination Utilization* ranges between *crowded* and *spacious*. Consumers surveyed in 2019 currently perceive both critical uncertainties to be neutral, but expect the industry to evolve over the next 15 years towards being more *affordable* (64%) and *spacious* (53%) by 2034.

The bounds of the critical uncertainties, which exhibit low correlation, were combined to construct four situational scenarios [38] as outlined in the double uncertainty scenario matrix in Table 6. The *crowded* and *expensive* New York City housing market offers intuition about how these uncertainties might interact over time. Thus, memorable song titles from the hit Broadway musical, *Rent*, are used to name the scenarios, which are (1) "Out Tonight;" (2) "What You Own;" (3) "Rent;" and (4) "On the Street."

Table 6. Double Uncertainty Scenario Matrix

	Affordable	
Crowded	**"Out Tonight"** Consumers desire fun and exciting activities that they cannot experience in their homes or daily routines. They are drawn to social experiences and indulge in large-scale entertainment events and occasional travel.	**"What You Own"** Consumers are experienced and savvy globetrotters who are comfortable with technological innovation. They have developed unique tastes and expect end-to-end experiences tailored to their needs.
	"On the Street" Through financial shock events and growing inequality, consumers are concentrated in mega-cities with little disposable income. Consumers limit expenditures for leisure time and spend an increasing proportion of their time working to make ends meet.	**"Rent"** Large portions of the population work remotely in micro-hubs of nearby mega-cities, promoting development of suburban housing and port infrastructure. Consumers commute less and rely more on virtual experiences to minimize their cost of living.
	Expensive	**Spacious**

4.3 SCENARIO STORIES

Each scenario story is composed of (1) a narrative that describes the state of the most active contextual and transactional trends; (2) implications to the current business model of mass market cruise lines; and (3) early warning signals, which can be monitored to alert its onset. The scenarios can be interpreted as archetypes [109], where (1) "Out Tonight" represents *continued growth* of the status quo; (2) "What You Own" illustrates the *steady state* of a mature market; (3) "Rent" challenges current assumptions in a *transformational* future; and (4) "On the Street" cautions against *total collapse* of the current trends.

Affordable Itineraries and Crowded Destinations: "Out Tonight"

Narrative

By 2035, Millennial explorers in their 30s and 40s have cultivated stable careers, led by the high-skilled workforce in the information technology sector, which has expanded the middle class in undeveloped countries, particularly in Asia. Although real wage growth has remained stagnant, consumers readily augment their income by participating in the collaborative economy, allowing them to afford leisure time. Many explorers exploit their improved economic conditions by indulging on premium vacation experiences, electing to visit international mega-hubs that host iconic landmarks. Although destinations have become overrun with tourists, first-time explorers treasure the novel opportunities to travel.

Generation X relaxers in their 50s and 60s have raised families whose children are reaching an age of independence. After two decades of supporting their children, these middle-aged relaxers are able to redirect disposable income towards their personal interests. Relaxers enjoy visiting isolated, natural destinations, particularly tropical and Mediterranean islands, but encounter difficulty in finding availability at venues that are perennially booked. To gain access to their desired destinations, relaxers often pay premiums for all-inclusive intermediary experiences within mega-cities and on cruise ships. Ultimately, relaxers enjoy the alternating experience of live entertainment and serene environments.

Implications

This scenario represents continued growth of the status quo, driving three mass market virtuous cycles:

Growth Cycle: As passenger growth increases from new markets, cruise lines must scale up their information technology and human capital management systems accordingly.

Subsidy Cycle: Cruise lines must capture these new middle-class consumers from developing markets by subsidizing low-price tickets, which are recovered via onboard sales.

Investment Cycle: Cruise lines must continue to build innovative ships to absorb new capacity, while maintaining an efficient global supply chain and optimizing fleet deployment.

Early Warning Signals

The onset of this scenario may be recognized by monitoring the five scenario drivers shown in Table 7.

Table 7. Scenario Vectors and Early Warning Signals: "Out Tonight"

Scenario Driver	***Itinerary Affordability***	***Destination Utilization***	***Shipbuilding Technology***	***Cruise Growth in Asia Pacific***	***The Gig Economy***
Scenario Vector	***Affordable***	***Crowded***	***Innovative***	***Growing***	***Supplemental***
Opposition Vector	*Expensive*	*Spacious*	*Incremental*	*Stagnant*	*Essential*
Early Scenario Warning Signals	*Low Price Elasticity*	*High Dock Competition*	*Disruptive Ship Designs*	*Rapid Market Penetration*	*Moderate Gig Participation*

Affordable Itineraries and Spacious Destinations: "What You Own"

Narrative

By 2035, Millennial explorers in their 30s and 40s maintain a comfortable work-life balance in well-paying technology careers, where they enjoy ample leisure time. They are empowered by generational responsibility, selectively consuming goods and services that can demonstrate positive impact to the environment and society. After pursuing a decade of self-discovery, including multiple international vacations to readily-accessible destinations, explorers feel a strong sense of personal identity. By accumulating a diverse set of travel experiences, their personal preferences have become sophisticated and individualized, where they are willing and able to pay a premium for niche and curated vacations.

Like explorers, Generation X relaxers in their 50s and 60s have led successful careers and have raised families with children, most of whom are attending university and entering the workforce. As their children become increasingly independent, parents value family reunions and vacations to strengthen bonds among family members living in different cities. As the world has worked diligently to fight climate change, economic investments in natural habitats and ecosystems have fostered destination development in remote geographies. Increasingly, relaxers combine family vacations with ecotourism experiences, which allow them to financially support and participate in environmental enterprises.

Implications

This scenario represents the steady state of a mature market, raising issues for existing virtuous cycles:

Growth Cycle: As consumers become more familiar with cruising, cruise lines face declining retention as consumers become fatigued by generic cruise experiences.

Subsidy Cycle: Onboard revenue begins to decline as mature explorers and relaxers alike increasingly seek natural destination experiences instead of onboard entertainment.

Investment Cycle: Utilization of shipboard capacity reaches a plateau, reducing the need for new mega-ships, while demand for smaller sailing vessels and riverboats increases.

Early Warning Signals

The onset of this scenario may be recognized by monitoring the five scenario drivers shown in Table 8.

Table 8. Scenario Vectors and Early Warning Signals: "What You Own"

Scenario Driver	***Itinerary Affordability***	***Destination Utilization***	***Generational Responsibility***	***Climate Change***	***Hyper-Personalization***
Scenario Vector	***Affordable***	***Spacious***	***Responsible***	***Manageable***	***Individualized***
Opposition Vector	*Expensive*	*Crowded*	*Indifferent*	*Uncontrollable*	*Standardized*
Early Scenario Warning Signals	*Low Price Elasticity*	*Destination Proliferation*	*Social Impact Investing*	*U.N. Climate Targets*	*Consumer Fragmentation*

Expensive Itineraries and Spacious Destinations: "Rent"

Narrative

By 2035, Millennial explorers in their 30s and 40s work long hours in technology careers that have become increasingly competitive. A boom in innovative breakthroughs enables companies to leverage virtual and augmented reality to physically distribute their employees, many of whom work remotely from home. Most technology employees live in micro-hub communities outside dense mega-cities to maintain their quality of life. To reduce leisure expenses, explorers increasingly experience the world through digital tourism [110], where immersive vacations are realistically reproduced. Explorers can thus create vacations that are physically impractical, such as deep ocean, space and time travel.

Generation X relaxers in their 50s and 60s expect to work into their 70s out of financial need, but most have the option to work remotely and decide to move into less expensive suburban neighborhoods that offer more space. As their children become independent and leave home, relaxers take the opportunity to downsize their homes and relocate to affordable areas with better weather and more natural scenery, driving regional migration. Financially constrained, they engage with nature more often through local tourism, such as weekend trips to national parks and weeklong river excursions. This kind of local consumerism ultimately strengthens suburban communities and revitalizes local port infrastructure.

Implications

This scenario represents transformation of consumer behavior, challenging the existing business model:

Growth Cycle: As digital tourism becomes more competitive with physical tourism, international destinations become less crowded due to diminishing levels of global tourists.

Subsidy Cycle: Explorers are less interested in paying for onboard entertainment experiences that can be reproduced through virtual and augmented reality technologies at home.

Investment Cycle: Rather than traveling to expensive international destinations, relaxers prefer more affordable local port destinations, which cannot be accessed by mega-ships.

Early Warning Signals

The onset of this scenario may be recognized by monitoring the five scenario drivers shown in Table 9.

Table 9. Scenario Vectors and Early Warning Signals: "Rent"

Scenario Driver	***Itinerary Affordability***	***Destination Utilization***	***Digitalization***	***The Declining Cost of Distance***	***Inadequate Port Infrastructure***
Scenario Vector	***Expensive***	***Spacious***	***Inclusive***	***High Mobility***	***Revitalized***
Opposition Vector	*Affordable*	*Crowded*	*Exclusive*	*Low Mobility*	*Dilapidated*
Early Scenario Warning Signals	*High Price Elasticity*	*Destination Proliferation*	*Network Coverage*	*Regional Migration*	*Infrastructure Projects*

Expensive Itineraries and Crowded Destinations: "On the Street"

Narrative

By 2035, Millennial explorers in their 30s and 40s have suffered through a decade of economic volatility, leading to business and career uncertainty, even for those in the technology sector. Increased governmental oversight and corporate regulations, particularly restricting emissions and environmental impact, have placed downward pressure on corporate profits and wages, which have remained persistently low. Most workers are over-skilled for their jobs with little mobility in the job market, hoping to encounter new opportunities by living in mega-cities. Consequently, explorers have virtually eliminated leisure travel from their immediate goals and rely on financial assistance from their parents.

Generation X relaxers in their 50s and 60s are concerned about their economic future and remain fixed in stable positions in the workforce. Many financially support their children, especially for costly college tuition expenses. Even working age children in their 20s live at home with their parents in major cities to consolidate financial resources. Most relaxers thus limit their leisure time to local urban entertainment – global environmental regulations have imposed restrictions on numerous national and international destinations, severely reducing accessibility and availability to the general public. As with explorers, most relaxers curb their leisure activities, saving any disposable income they earn.

Implications

This scenario represents collapse of the status quo, driven by weakening of mass market consumerism:

Growth Cycle: Large portions of mass market consumers are unable to afford leisure activities and spend more time working, creating industry overcapacity of ships and itineraries.

Subsidy Cycle: Consumers are highly sensitive to price, especially for large purchases, reducing the attractiveness of low-price cruise tickets, cascading losses of onboard sales.

Investment Cycle: Ship overcapacity limits the need for newbuild investments and excess cash is diverted towards increased marketing to attract a shrinking leisure tourism market.

Early Warning Signals

The onset of this scenario may be recognized by monitoring the five scenario drivers given in Table 10.

Table 10. Scenario Vectors and Early Warning Signals: "On the Street"

Scenario Driver	***Itinerary Affordability***	***Destination Utilization***	***Ocean Governance***	***Inclusive Growth***	***Mega-Hubs & Urbanization***
Scenario Vector	***Expensive***	***Crowded***	***Regulated***	***Concentrated***	***Dense***
Opposition Vector	*Affordable*	*Spacious*	*Unregulated*	*Distributed*	*Sprawling*
Early Scenario Warning Signals	*High Price Elasticity*	*High Dock Competition*	*Corporate Penalties*	*Labor Protests*	*High Urban Population*

5 OPTION PLANNING

Strategic options for the cruise industry were formulated by (1) developing strategic direction to target white space market opportunities with Blue Ocean Strategy via value innovation; (2) creating an option set by reshaping the business model of mass market cruise lines with the Four Actions Framework; and (3) evaluating options against each other by comparing their properties using the Strategy Canvas.

5.1 STRATEGIC DIRECTION

Scenario planning can be applied to strategic thinking by adopting either (1) an internal perspective, reviewing the ability of an organization to survive with existing capabilities in future environments; or (2) an external perspective, reviewing opportunities to develop the business portfolio of an organization in emergent future territories [13]. This research focuses on the cruise industry at-large, rather than on firm-specific strategic analyses of the sustainable advantages of individual competitors. Thus, the strategic direction of option planning is oriented towards portfolio review for the entire cruise industry.

Blue Ocean Strategy seeks to create and capture uncontested market space, referred to as blue oceans, through value innovation, which is achieved by simultaneously (1) differentiating value proposition for buyers; and (2) improving cost structure. The Strategy Canvas enumerates the factors over which the industry competes and assesses benefits received by consumers. Strategic options with new value curves are then crafted with the Four Actions Framework and the Eliminate-Reduce-Raise-Create Grid. Consequently, costs associated with competitive factors are eliminated and or reduced, while factors that attract demand with new experiences across alternative industries are raised and or created [47].

5.2 OPTION SET

The Four Actions Framework of Blue Ocean Strategy can be blended with the Business Model Canvas to identify competitive industry elements. The Business Model Canvas can be divided into a cost-side (key partnerships, key activities, key resources and cost structure) and a value-side (customer segments, customer relationships, channels and revenue streams), which are connected through value propositions. Business model innovation can be driven from three perspectives, namely (1) exploration by customer impact; (2) exploration by value proposition impact; and (3) exploration by cost impact [45].

“Out Tonight” is the future scenario that represents the status quo for the cruise industry, where the virtuous cycles of the existing business model are likely to be reinforced. The option set contains three options, each of which is designed to respond to a divergent scenario archetype. First, the sophisticated passengers of the mature market in “What You Own” are targeted with exploration by customer impact. The transformation of consumer behavior in “Rent” is then explored by value proposition impact. Finally, the collapse of mass market consumerism in “On the Street” is explored by cost impact.

Customer Impact: "Hub-and-Spoke Ecotourism"

The future scenario of "What You Own" is driven by (1) affordable cruise itineraries; (2) spacious port destinations; (3) environmentally and socially responsible consumers; (4) manageable effects of climate change; and (5) individualized hyper-personalization of consumer services. The growing segment of mature and sophisticated consumers, having traveled on multiple cruise itineraries, seek curated and sustainable experiences. **This cruise industry response offers multi-day stopover itineraries from major ports of call to the growing number of nearby ecotourism port destinations.** Destination capillarity can be increased with smaller ships in a maritime hub-and-spoke model. The implications for the cost-side and value-side of the existing mass market business model are outlined in Table 11.

Table 11. Eliminate-Reduce-Raise-Create Grid: "Hub-and-Spoke Ecotourism"

Eliminate	**Raise**
• Limited experiences due to restricted travel freedom and inflexible cruise schedules • Artificial ship atmosphere and inauthentic excursions to touristic mega-ports of call • Rushed disembarkation and noisy port dockings with oversized cruise ships	• Availability of diverse global itineraries to natural and sustainable eco-destinations • Opportunities for immersive cultural excursions at regional port destinations • Length of extended, multi-day shore leave and additional days at sea in smaller ships
Reduce	**Create**
• Time and effort spent ferrying from oversized cruise ships to tendering ports • Multi-stage logistics and time spent planning for cruises and accommodation • Long lines to book shore excursions for eco-destinations with shipboard concierge	• Small, personalized tours with local guides at natural and sustainable eco-destinations • Itineraries featuring intimate cruise ships with knowledgeable local maritime crew • Multi-day excursions experiencing nature, including glaciers, safaris and eco-cruising

Cruise lines that invest in this option for Hub-and-Spoke Ecotourism can augment their business portfolios by constructing three new virtuous cycles, including (1) the growth cycle, creating excess demand and gaining market bargaining power by offering immersive, multi-day excursions to natural destinations; (2) the premium cycle, capturing additional value through higher ticket fares and offering higher trade discounts to exclusive destination partners; and (3) the investment cycle, plowing back high net income from high fares to complement the existing fleet with smaller, regional cruise ships.

Growth Cycle: New destinations → High volume → Market power → Even newer destinations

Premium Cycle: High fares → High trade discounts → Exclusive destinations → Even higher fares

Investment Cycle: High fares → High net income → New smaller ships → Even higher fares

Value Proposition Impact: "Community Mega-Events"

The future scenario of "Rent" is driven by (1) expensive cruise itineraries; (2) spacious port destinations; (3) socially-inclusive digitalization; (4) high regional mobility due to the declining cost of distance; and (5) revitalization of port infrastructure. Digital tourism competes with physical tourism, transforming consumer behavior by commoditizing virtual and augmented reality. **This cruise industry response targets large-scale convention events, focusing on the collective belonging to community, rather than the individual pursuit of leisure.** The economies of scale of mega-cruise ship design and onboard entertainment can then be further increased by eliminating marginal-value amenities. The implications for the cost-side and value-side of the existing mass market business model are outlined in Table 12.

Table 12. Eliminate-Reduce-Raise-Create Grid: "Community Mega-Events"

Eliminate	**Raise**
• Social avoidance of incompatible groups, families with kids, retirees and party ships • Feeling of idleness, monotony or repetitiveness due to lack of community • Artificial atmosphere or inauthentic excursions focused on individual leisure	• Social interaction among passengers with mutual experiences and interests • Opportunities for immersive cultural excursions designed for target persona • Live performances from speakers, musicians and artists for target persona
Reduce	**Create**
• Overall ticket prices for all-inclusive itineraries through block ticket pricing • Unappealing entertainment or amenities designed for divergent consumer personas • Multi-stage logistics and time spent planning for cruises and accommodation	• Opportunities to network and achieve personal and professional goals • Social events, reunions and celebrations tailored to niche collective subcultures • Fun activities for young teenagers to mingle, socialize and make new friends

Cruise lines that invest in this option for Community Mega-Events can extend their business portfolios by constructing three new virtuous cycles, including (1) the growth cycle, hosting international mega-events that maintain high passenger volume and ship utilization; (2) the event cycle, achieving high asset turnover by attracting large convention groups that are composed of niche audiences and collective subcultures, which draw top-flight performers; and (3) the investment cycle, attracting large convention groups that improve funds management through deferred revenue and block ticket pricing.

Growth Cycle: Mega-events → High volume → High ship utilization → Even larger mega-events

Event Cycle: Large groups → Niche audiences → Top-flight performers → Even larger groups

Investment Cycle: Large groups → Block ticket pricing → Deferred revenue → Even larger groups

Cost Impact: "Maritime Digital Nomads"

The future scenario of "On the Street" is driven by (1) expensive cruise itineraries; (2) crowded port destinations; (3) highly-regulated ocean governance of maritime waste and emissions; (4) concentrated economic growth; and (5) dense mega-hubs and urbanization. Aggressive international rules designed to combat the effects of climate change have created economic stress, driving mass-urbanization of the workforce. **This cruise industry response leases long-term residences and collaborative office spaces to remote workers, known as digital nomads.** Cruise lines can supplement housing supply in crowded cities, while reducing major cost drivers such as fuel and travel commissions. The implications for the cost-side and value-side of the existing mass market business model are outlined in Table 13.

Table 13. Eliminate-Reduce-Raise-Create Grid: "Maritime Digital Nomads"

Eliminate	**Raise**
• Feeling of idleness, monotony or repetitiveness due to lack of community • Artificial atmosphere or inauthentic excursions focused on individual leisure • Unhealthy meals and exclusive restaurants designed for leisure tourism passengers	• Safe and healthy environment, promoting reliable living and working conditions • Length of shore leave or additional days at sea, decreasing reliance on destinations • Social interaction among passengers with mutual experiences and interests
Reduce	**Create**
• Overall ticket prices for all-inclusive itineraries through long-term tenant leases • Overcrowding on ships and in mega-cities by supplementing housing and office supply • Major operating expenses, including fuel, transportation and travel commissions	• Convenience services and luggage handling for long-term residents and business tenants • Collaborative community events, facilitating marketplace and business development • Opportunities to network and achieve personal and professional goals

Cruise lines that invest in this option for Maritime Digital Nomads can bolster their business portfolios by creating three new virtuous cycles, including (1) the growth cycle, building community workspaces for the collaborative economy that support entrepreneurs and growing marketplaces; (2) the business cycle, establishing long-term residential and workspace leases that attract stable business tenants and reduce customer churn; and (3) the investment cycle, benefitting from long-term business tenant leases with fewer transaction costs and travel commissions, leading to higher customer lifetime value.

Growth Cycle: New workspaces → High volume → High utilization → Even newer workspaces

Business Cycle: Long leases → Stable business tenants → Low churn rate → Even longer leases

Investment Cycle: Long leases → Few transaction costs → High lifetime value → Even longer leases

5.3 Option Evaluation

Considering scarcity of resources, each option is evaluated against (1) the entire option set, plotting the value curves of offerings across the range of competitive industry factors in the Strategy Canvas [47]; and (2) the scenario framework, wind-tunneling performance across equally plausible scenarios [13]. The Strategy Canvas, charted in Figure 1, ranks the relative importance of competitive factors for the existing mass market business model and the option set. Each option demonstrates its commitment to succeed in an individual scenario, concentrating on a distinct cluster of three critical scenario factors.

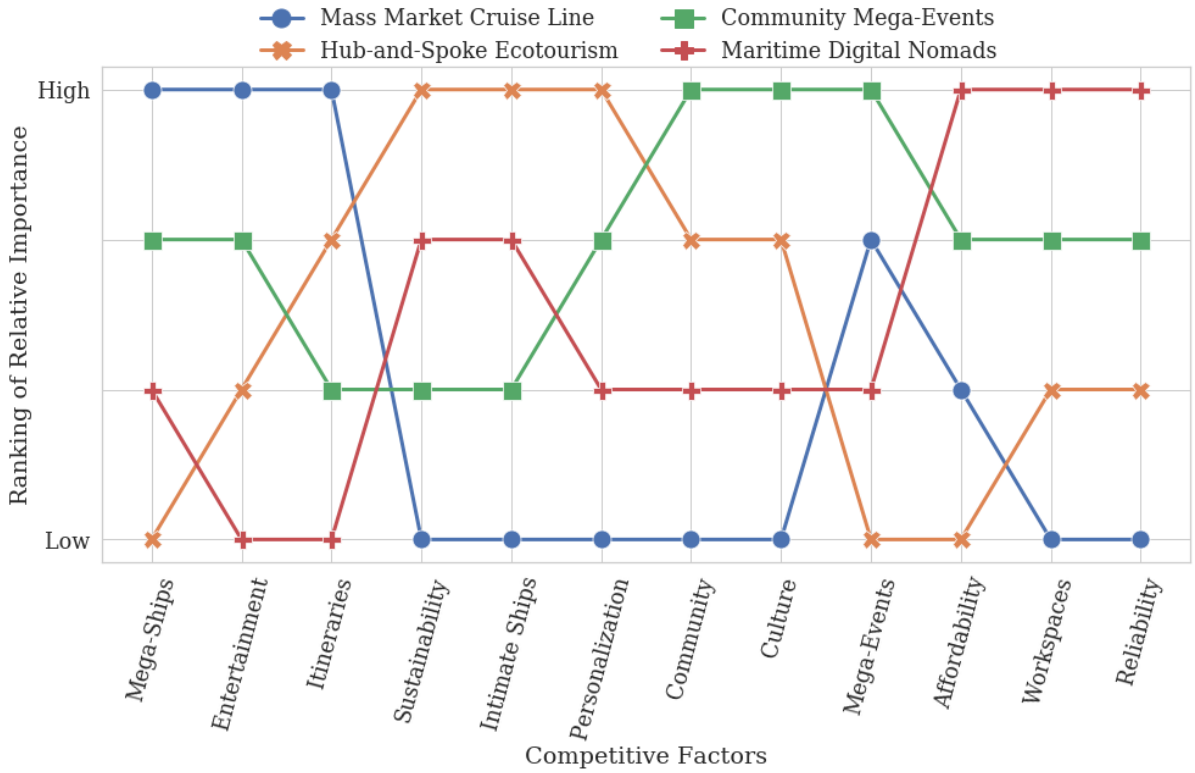

Figure 1. The Strategy Canvas of a Mass Market Cruise Line (Source: Author)

Although each option is designed towards a unique scenario, the likelihood that a particular scenario will occur is uncertain. The Scenario / Option Matrix in Table 14, therefore, compares the robustness of options across scenarios, relative to the existing mass market business model. The attractiveness of an option in a scenario is scored according to its respective emphasis on critical scenario factors.

Table 14. Wind-Tunneling: The Scenario / Option Matrix [13]

Options	**Scenarios**			
	Out Tonight	What You Own	Rent	On the Street
Mass Market Cruise Line	Existing Business Model (Baseline Option)			
Hub-and-Spoke Ecotourism	- -	+++	+ +	+
Community Mega-Events	-	+	+ + +	+ +
Maritime Digital Nomads	- - -	+ +	+	+ + +

6 CONCLUSIONS

This research integrates business modeling, market research, scenario planning and option planning to provide business leaders with a Blue Ocean Strategy to create new market space for the 2035 cruise industry. The critical elements of this strategic framework are presented in (1) key research findings; (2) strategic industry recommendations; and (3) research limitations and opportunities for future work.

6.1 KEY FINDINGS

1. The **current business model** of mass market cruise lines is governed by three virtuous cycles, which are (1) the growth cycle, connecting new ships, high passenger volume and high ship utilization; (2) the subsidy cycle, driving low fares, high onboard sales and high ticket subsidies; and (3) the investment cycle, interlinking low fares, high onboard sales and high net income.
2. The **impactful factors** of the cruise industry are (1) excess passenger demand and undersupply of cruise ships; (2) access to low-cost international labor markets; (3) scarcity of experienced cruise designers and shipbuilders; and (4) high waterfront utilization and operational bottlenecks.
3. The **financial goals** of cruise lines are (1) optimization of operational cost structures to increase revenue yield; (2) reduction of variable costs via investments in long-term revenue-generating fixed cost assets; and (3) reliance on local communities to redevelop dilapidated waterfront infrastructure.
4. The **consumer value proposition** of cruise lines offers all-inclusive experiences, however, there are opportunities to (1) specialize in curated travel; and (2) connect with nature through small boats.
5. The **internal processes** of cruise lines rely on (1) high-quality human capital, including service, maritime and design staff; and (2) attention to marine logistics, guided by a crew safety culture.
6. **Learning and growth** of cruise lines can be facilitated through (1) fragmentation of consumer demand; (2) technological innovation driven by high-speed boat designs; and (3) personalization of passenger experiences with the local knowledge of professional maritime crews.
7. **Consumer personas** go on cruises (1) with a spouse or partner (24%), friends or acquaintances (18%) or parents or grandparents (14%); and (2) when they seek to relax in a comfortable environment (24%), discover or try something new (21%) or celebrate with a large group (17%).
8. **Consumer satisfaction** and cruise adoption is (1) driven by attraction to unique itineraries (19%), immersive experiences (18%) and social events (18%); and (2) inhibited by resistance to limited experiences (14%), boredom and idleness (14%) and undesirable destinations (14%).
9. **Value innovation** across the cruise industry can be achieved by (1) eliminating a feeling of idleness, monotony or repetitiveness (42%) as well as artificial atmospheres or inauthentic excursions (30%); (2) reducing overall ticket prices for all-inclusive itineraries (46%) and overcrowding on ships or at port destinations (27%); (3) raising the availability of diverse global itineraries (43%) and opportunities for immersive cultural excursions (27%); and (4) creating small, personalized tours with local guides (40%) and itineraries featuring intimate cruise ships (28%).

6.2 STRATEGIC RECOMMENDATIONS

The two critical uncertainties for the cruise industry are (1) *Itinerary Affordability*, which ranges between *expensive* and *affordable*; and (2) *Destination Utilization*, which varies between *crowded* and *spacious*. Three actionable options respond to the four future scenarios created from these uncertainties:

1. The **existing business model** of mass market cruise lines responds to the *continued growth* scenario in "Out Tonight," which envisions affordable itineraries and crowded destinations. Consequently, consumers desire fun and exciting activities that they cannot experience in their homes or daily routines. The existing business model offers novel experiences through (1) a variety of mega-ships; (2) all-inclusive entertainment; and (3) affordable itineraries to international destinations.
2. The option for **"Hub-and-Spoke Ecotourism"** responds to the *steady state* scenario in "What You Own," which imagines affordable itineraries and spacious destinations. Consumers are experienced and savvy globetrotters who are sophisticated and generationally-responsible. This option offers multi-day stopover itineraries from major ports of call to the growing number of nearby ecotourism port destinations, focusing on (1) sustainability; (2) intimate ships; and (3) personalization.
3. The option for **"Community Mega-Events"** responds to the *transformational* scenario in "Rent," in which the future is described by expensive itineraries and spacious destinations. Large portions of the population work remotely in micro-hubs of nearby mega-cities, who are attracted to virtual and augmented reality technology in digital tourism. This option focuses on (1) the collective belonging to community; (2) immersive cultural experiences; and (3) large-scale convention events.
4. The option for **"Maritime Digital Nomads"** responds to the *total collapse* scenario in "On the Street," which results in expensive itineraries and crowded destinations. Through financial shock events and growing inequality, consumers are concentrated in mega-cities with little disposable income. This option offers long-term residential leases and collaborative office spaces to remote workers, known as digital nomads, delivering (1) affordability; (2) workspaces; and (3) reliability.

6.3 LIMITATIONS AND FUTURE WORK

The completeness of this research is limited due to its academic nature with a sole researcher:

1. Scenario planning is most effective with multiple team members contributing diverse knowledge.
2. Research partnerships with industry experts improve business modeling and assumed implications.
3. A sole researcher is constrained by bounded rationality, myopic perception and personal bias.

Opportunities for this research to be enriched include scenario development and option validation:

1. Developmental scenarios can be investigated for duopolistic markets with concentrated power.
2. Contextual and transactional trends could be quantitatively analyzed with probabilistic methods.
3. Strategic options can be validated via stakeholder testing, market research and prototyping.

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APPENDIX A: BUSINESS MODEL OF A MASS MARKET CRUISE LINE

The business model of a mass market cruise line can be examined by (1) clarifying the firm's intangible vision and strategy; and (2) visualizing how these intentions are translated into tangible actions [111]. The strategic goals of a mass market cruise line can be outlined in a causality tree that links (1) financial; (2) customer; (3) internal; and (4) learning and growth objectives [78], while business activities may be presented as a value cycle, consisting of (1) creation; (2) delivery; and (3) capture mechanisms [45]. The causality tree in Figure 2 traces organizational cause-and-effect relationships across the mental model of a mass market cruise line. The principal financial goal of a cruise line is to generate long-term shareholder value by (1) achieving double-digit ROIC; and (2) growing profitably [112]. These financial objectives are supported by the consumer value proposition offered by the cruise line, which synergizes (1) transportation; (2) accommodation; and (3) hospitality within the same physical space.

A mass market cruise line can leverage its size advantage to (1) assume a leadership role in the industry; which (2) drives the construction of large, attractive and efficient ships; which in turn (3) increases cabin availability and preserves brand identities; which ultimately (4) generates consumer demand in excess of capacity. Additionally, a cruise line can operationalize its information resources to (1) manage its revenue system, analyze guest behavior and develop a guest experience platform; which (2) allows the firm to optimize fleet deployment and streamline its global supply chain; which in turn (3) expands itinerary selection options and improves ticket prices; which ultimately (4) maximizes ship occupancy rates and optimizes its cost structure. Moreover, a cruise line can rely on human capital to (1) recruit the finest service and maritime staff; which (2) allows the firm to better understand consumer vacation needs; which in turn (3) enhances cruise services; which ultimately (4) increases revenue yield.

The value cycle in Figure 3 diagrams the relationship between (1) policy, asset and governance choices made by a cruise line; (2) rigid and inimitable consequences that are built over time; and (3) flexible consequences that respond quickly to change [43]. The cruise line business model exhibits robustness by defending against key threats to sustainability [113], including (1) holdup, by using its scale to exert market bargaining power over both consumers and suppliers; and (2) slack, by constantly designing and enhancing ships. Finally, a successful cruise line ensures that its business model is self-reinforcing with virtuous cycles [43]. Three virtuous cycles relevant for a cruise line include (1) the growth cycle, further increasing economies of scale; (2) the subsidy cycle, continually pursuing market penetration pricing; and (3) the investment cycle, iteratively plowing back financial resources to build or acquire ships.

Growth Cycle: New ships → High passenger volume → High ship utilization → Even newer ships

Subsidy Cycle: Low fares → High onboard sales → High ticket subsidies → Even lower fares

Investment Cycle: Low fares → High onboard sales → High net income → Even lower fares

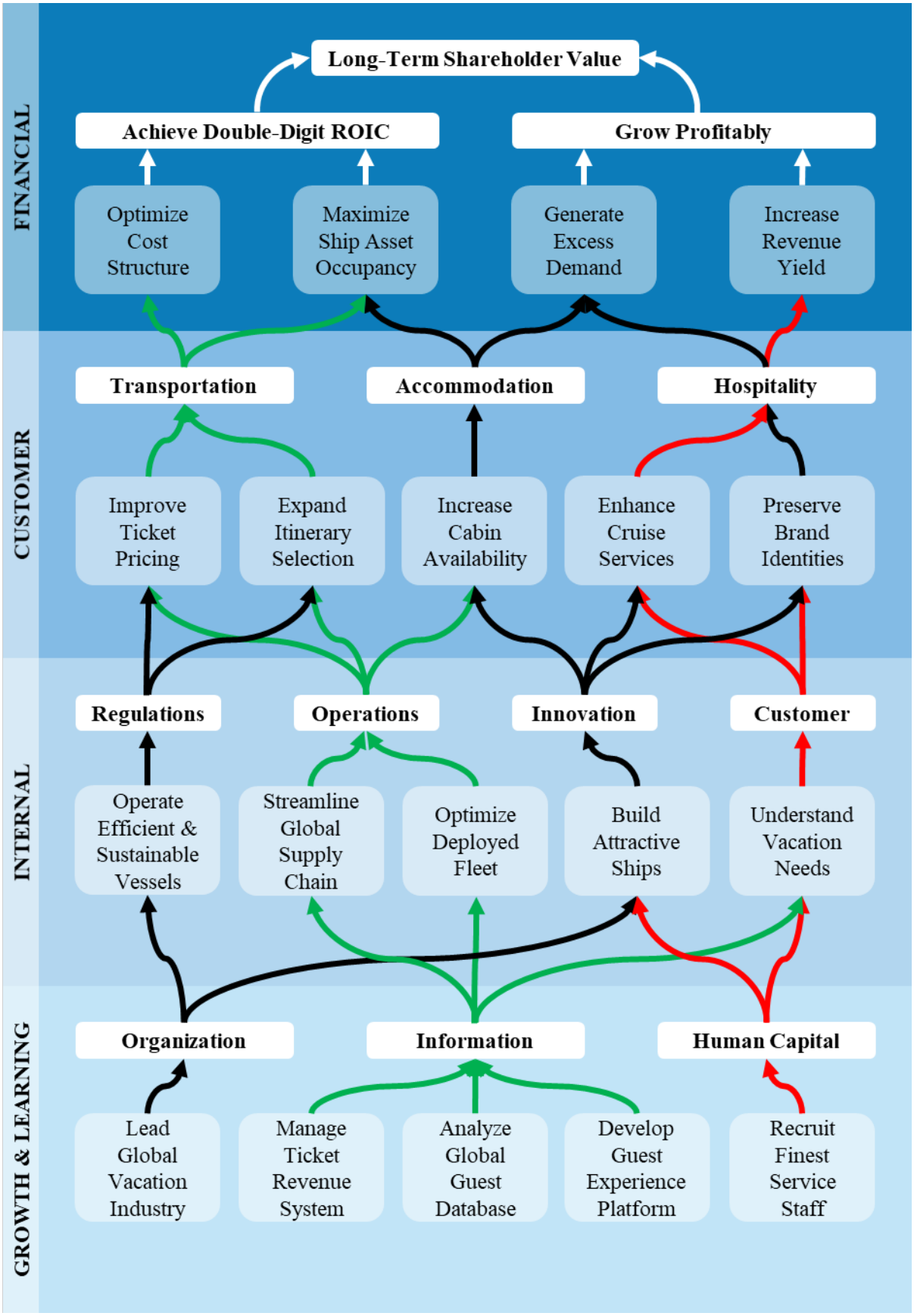

Figure 2. Causality Tree of a Mass Market Cruise Line (Source: Author)

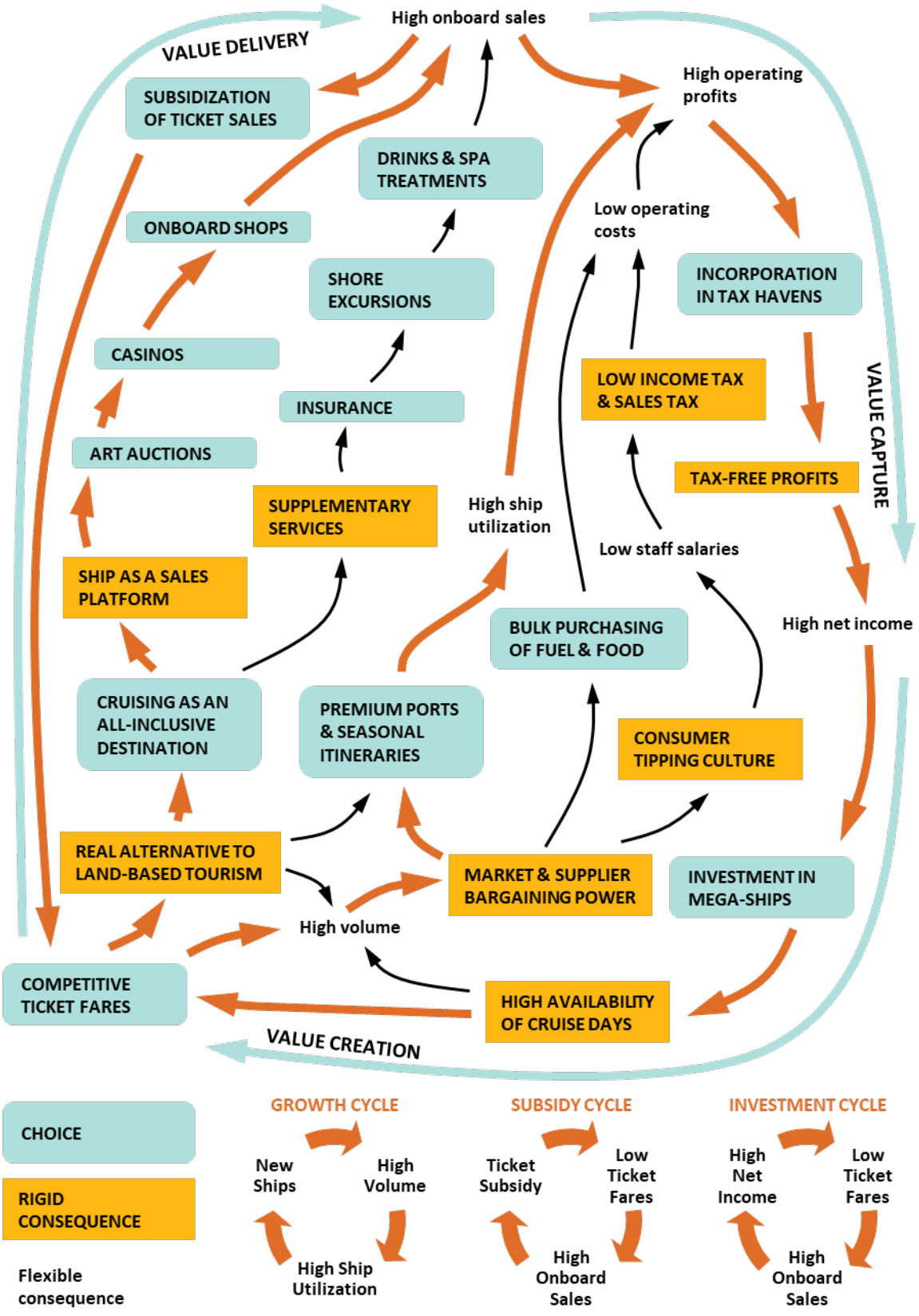

Figure 3. Value Cycle of a Mass Market Cruise Line (Source: Author)

APPENDIX B: PRIMARY MARKET RESEARCH

Primary market research, seeking to collect qualitative data to identify the two critical uncertainties for the cruise industry, consisted of (1) five semi-structured depth interviews with cruise industry experts; (2) 11 semi-structured depth interviews with consumers; and (3) a consumer survey of 137 participants.

The objective of the qualitative interviews was to populate the Wilson Matrix of Critical Uncertainties, explained in Table 15, with the consideration set of 40 contextual and transactional macro-trends that were discovered via environmental scanning. 16 depth interviews spanning nine hours and one minute were recorded with extreme users [114], in which experts had years of industry knowledge, whereas nine of 11 consumers had been on two or fewer cruises. Table 16 summarizes whether or not meaningful topics associated with each macro-trend were highlighted by participants during interviews. The level of impact and degree of uncertainty of each macro-trend was ranked based on the perspectives of industry experts and consumers, respectively. Consequently, the choice set of critical scenario drivers is the subset of macro-trends that were highly cited by both experts and consumers. Each critical scenario driver was then assigned an axis of uncertainty as listed in Table 5, whose current and future state was measured by the consumer survey. Finally, the two critical uncertainties that form the decision set were selected due to the centrality of their statistical means in the both the present and in the future.

Table 15. Wilson Matrix of Critical Uncertainties (Adapted from [115])

Level of Impact (Number of Cited Experts)	Low (0 – 2)	Medium (3 – 6)	High (7 – 11)
High (4 – 5)	**Critical Planning Issues** Highly relevant and fairly predictable (can often be based on existing projections). Should be taken into account in *all* scenarios.	**Important Scenario Drivers** Extremely important and fairly certain. Should be used to differentiate scenarios. Should be based on projections but potential discontinuities also should be investigated.	**Critical Scenario Drivers** Factors and forces essential for success and highly unpredictable. Should be used to differentiate scenario plots and trigger exit strategies.
Medium (3)	**Important Planning Issues** Relevant and very predictable. Should be figured into most scenarios.	**Important Planning Issues** Relevant and somewhat predictable. Should be present in most scenarios.	**Important Scenario Drivers** Relevant issues that are highly uncertain. Plausible, significant shifts in these forces should be used to differentiate scenario plots.
Low (0 – 2)	**Monitorable Issues** Related to the decision focus but not critical. Should be compared to projections as scenario is implemented.	**Monitorable Issues** Related but not crucial to the decision focus. Should be monitored for unexpected changes.	**Issues to Monitor and Reassess Impact** Highly unpredictable forces that do not have an immediate impact on the decision focus. Should be closely monitored.

Degree of Uncertainty (Number of Cited Consumers)

Note: Shaded areas indicate key focus.

Source: Adapted from Wilson [40].

Table 16. Driving Forces of Change: Relevance to Experts and Consumers

		Experts					*Consumers*										
ID	*Driving Force*	*1*	*2*	*3*	*4*	*5*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*
SO-1	*Rising Global Middle-Class*			✓			✓	✓	✓	✓	✓		✓	✓	✓	✓	
SO-2	*Itinerary Affordability*	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
SO-3	*Mega-Hubs & Urbanization*	✓		✓		✓	✓		✓	✓		✓	✓	✓	✓	✓	✓
SO-4	*Global Migration*	✓			✓		✓			✓						✓	✓
SO-5	*Generational Responsibility*			✓	✓	✓				✓							
SO-6	*Achievement Travel*				✓	✓		✓		✓		✓	✓	✓	✓	✓	
SO-7	*Personal Restoration*			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TE-1	*Digitalization*			✓	✓	✓		✓			✓			✓	✓		
TE-2	*The Internet of Things*			✓				✓		✓							✓
TE-3	*Data Protection*									✓							
TE-4	*Automation of Skilled Work*	✓				✓			✓					✓	✓		
TE-5	*Shipbuilding Technology*	✓	✓	✓	✓				✓								
TE-6	*Smart Travel Technologies*			✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			
TE-7	*Hyper-Personalization*			✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
EC-1	*The Declining Cost of Distance*	✓	✓	✓		✓	✓		✓		✓	✓	✓				✓
EC-2	*The Gig Economy*			✓	✓	✓		✓	✓					✓	✓	✓	✓
EC-3	*Working Nomads*				✓				✓		✓						✓
EC-4	*Inadequate Port Infrastructure*	✓	✓	✓	✓	✓			✓	✓		✓		✓	✓	✓	
EC-5	*Shipbuilding Backlogs*	✓	✓	✓					✓								
EC-6	*Inclusive Growth*	✓			✓	✓	✓							✓		✓	✓
EC-7	*Maritime Silk Road*								✓								
EN-1	*Climate Change*	✓			✓	✓			✓	✓							
EN-2	*Sea-Level Rise*				✓				✓	✓							
EN-3	*Step-Change in Energy Usage*		✓	✓					✓								
EN-4	*Global Oil Supply*								✓								
EN-5	*Extreme Weather*		✓		✓		✓		✓	✓		✓					
EN-6	*Polar Ice Melt*	✓	✓		✓	✓				✓			✓			✓	
PR-1	*Destination Utilization*	✓	✓	✓	✓	✓		✓	✓	✓	✓			✓	✓	✓	✓
PR-2	*National Protectionism*	✓		✓	✓												
PR-3	*The Disputed South China Sea*		✓						✓								
PR-4	*Ocean Governance*	✓	✓	✓		✓			✓	✓							
PR-5	*Sweatship Exploitation*	✓	✓	✓				✓	✓					✓			
PR-6	*Floating Nation States*	✓						✓	✓	✓	✓						
IS-1	*Cruise Growth in Asia Pacific*	✓	✓			✓			✓								
IS-2	*Off-Peak Seasonality*			✓	✓				✓	✓	✓	✓	✓				✓
IS-3	*Activities & Excursions*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
IS-4	*Health & Safety*	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		
IS-5	*Sexual Crimes at Sea*																
IS-6	*Panamax-Class Mega-Ships*	✓	✓	✓	✓	✓	✓	✓		✓			✓	✓	✓		
IS-7	*Ship Selection*	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓

B.1 INDUSTRY EXPERT INTERVIEWS

Qualitative depth interviews with cruise industry experts were (1) semi-structured with an interview guide; (2) individually recorded for initial coding; and (3) summarized in a cross-interview comparison.

Interview Guide

The interview guide [51] in Table 17 was designed to gather specific information regarding participant expertise, relevant driving forces and causality mapping to understand the following research question:

Which driving forces of change for the cruise industry are the most impactful?

Table 17. Industry Experts: Interview Guide

Topic	*Target Information*	*Descriptive Questions* [52]
Opening	*Area of Expertise*	Please tell me about your professional background.
Grand Tour	*Industry Experience*	What is your experience with the cruise industry?
Driving Forces	*Impactful Factors*	What are the fundamental drivers of the cruise industry?
	Future Uncertainties	How would the cruise industry change in 15 years?
Causality Mapping	*Financial*	What are the corporate objectives of the industry?
	Customer	What does the industry seek to provide to customers?
	Internal	What are the critical activities of the cruise industry?
	Learning & Growth	What long-term challenges does the cruise industry face?
Closing	*Blind Spots*	Would you like to share anything else?

Interview Participants

The interviews with five cruise industry experts, totaling three hours and 26 minutes, were individually recorded and qualitatively coded [53] in Table 18. The interview codes (1) emphasize the diversity of participant expertise; (2) highlight impactful factors; and (3) establish fundamental causal relationships.

Table 18. Industry Experts: Initial Coding of Participant Interviews

ID	*Expertise*	*Impactful Factors*	*Financial*	*Customer*	*Internal*	*Learning & Growth*
E-1	Ship Design, Construction	Low costs, regulations	Operating costs, ship investments	Ships, price, service	Service staff, officer staff	Incidents, automation
E-2	Marketing, Strategy	Passengers, capacity	High fixed costs, shipyards, ports	Destinations, diversity	Customer satisfaction	Cost-saving technology
E-3	Port Captain, Operations	Bottlenecks, utilization	Waterfront infrastructure	Safety, local river tourism	Logistics, safety culture, seasons	Renewable resources
E-4	Amateur Racing Sailor	Technology, sailing decline	Sailing clubs, time-sharing	Seamanship, near to nature	Yacht delivery, local knowledge	Sporting competition
E-5	Maritime Historian	Sustainability, sea nostalgia	Ecotourism, curated travel	Affordability, specialization	Volunteer staff, vessel upkeep	Millennials, tech culture

Interview Summary

Five target topics were discussed and summarized [54] following the industry expert interviews, specifically (1) macro-trends and impactful factors; (2) financial objectives; (3) customer value propositions; (4) internal effectiveness and efficiency; and (5) learning and growth perspectives.

Scenario Planning: Impactful Factors

Experts cited excess passenger demand and an undersupply of cruise ships as the factors that most influence market dynamics. **Cruise lines expect the current 3% market penetration rate to grow:**

> "There's over 100 cruise ships on order, so the orderbook shows the confidence that these cruise companies have for the future of the market and the ability to capture that additional penetration. At the shipyard[s], cruise companies [are] begging to deliver the ships sooner. They're sailing at 108% occupancy rates on average every year – all of these cruise companies – they're really not having trouble filling ships" [E-2].

Commercial shipping has steadily reduced costs by accessing low-cost, global labor markets:

> "What's driven the location of shipbuilding has been labor rates in Europe and the United States. [Shipbuilding] moved overseas to Asia and Japan, then migrated to Korea and China. [Shipbuilders] have chased low-cost shipping for low-cost ships – bulk carriers, container ships – and then those countries that lose it work their way up the value chain to natural gas ships to floating offshore platforms to cruise ships, that take more skill and cost more money, where you can differentiate yourself" [E-1].

However, there are few experienced shipbuilders that can design and construct cruise ships:

> "The industry is limited by supply factors because a cruise ship takes a while to build and there's only a few qualified shipyards that can really build a cruise ship. Mitsubishi Heavy Industries [built] two AIDA ships, but they were delayed and they lost millions of dollars on that attempt to build a big cruise vessel. [Smaller-sized, luxury] ships are already being delayed or the shipyards are going bankrupt in the process because [they] don't understand the supply chain that it takes to build a cruise vessel" [E-2].

This imbalance in supply and demand has led to high waterfront utilization and bottlenecks:

> "The boats get newer, faster [and] bigger, but the purposes they serve stay the same. The water is more utilized now than it has been over the last 20 years [and] the use of the water will continue to increase as costs continue to decrease. How [can] we get as many visitors that want to go in a single day – how can we get them there? Airport-style security [is] the choke point, along with vessel capacity and dock space" [E-3].

Causality Tree of Mass Market Cruise Lines: Financial Perspective

Cruise lines are focused on optimizing their operational cost structures to increase revenue yield:

> "It [is] getting the cost of transportation down [by] looking at power plant propulsion systems to be the most efficient – ton of cargo per dollar. In the cruise industry – cost per passenger per trip – they're trying to drive that downwards to improve profitability. You've got to drive down your cost to drive down the passenger cost" [E-1].

To decrease variable costs, cruise lines invest in fixed cost assets that generate long-term return:

> "They're heavily investing in technology because maybe they'll spend an extra several million dollars in the beginning, but the long-term payout or energy savings that they will save for each sailing – that will help the ship glide through the water more efficiently. Those savings really add up if you think about these fixed costs" [E-2].

Cruise lines rely on local communities to help redevelop dilapidated waterfront infrastructure:

> "It costs a lot to maintain these facilities [that are] constantly battered by the water. People didn't want to put the money into rebuilding them, but that's starting to change as people are more interested in being by the water. Municipalities are revitalizing and pouring money into the waterfront infrastructure to allow it to be utilized again" [E-3].

Causality Tree of Mass Market Cruise Lines: Customer Perspective

Cruise lines offer all-inclusive experiences, but experts see market opportunities in curated travel:

> "People are drawn to ocean travel because it's our past, [much in] the same way you would romanticize taking the train across the country. It might take a lot longer, but it's the destinations that you could see along the way. There's a lot more of that historic nostalgia to sailing on a tall ship, whereas a cruise – it doesn't feel like a ship anymore. A lot of people see the larger cruises as bloated and excessive. Millennials don't just want to sit and eat all day, [so] a more catered experience [can be] profitable" [E-5].

Although large ships offer rewarding challenges, small boats strongly connect with nature:

> "Whenever you start learning anything, you learn on simple things, so all sailors should learn on the smallest boat possible. The reason to progress to bigger boats is that [they] tend to be more impressive and more fun. They're more challenging, but also more rewarding. [But] most big boat sailors also enjoy small boat sailing because if the weather is good, you can get wet. You're closer to the water, which is fun, especially on a hot day. You feel directly connected to the wind, which is pushing you along, and that connection is very rewarding. We enjoy going back to smaller boats" [E-4].

Causality Tree of Mass Market Cruise Lines: Internal Process Perspective

Cruise lines need to maintain quality human capital, including service, maritime and design staff:

> "The service staff has a big impact on people's impression of the cruise company – those people that have that day-to-day interaction with paying customers is huge. The officer staff is important for maintaining the safety of the passengers and the ships. You've got to have top-class designers and sales staff that can come up with new ideas that are going to attract people and differentiate their ship and their company" [E-1].

Marine operations rely upon attention to logistics, which is cultivated by a crew safety culture:

> "It comes down to logistical things. Where are you tying up? How are we going to get fuel? How often do we need fuel? What are we going to do about potable water? Sewage – how are we pumping it off? You've got to come to a port and dispose of that properly. [It's about] how you get your crew focused on being a cohesive unit and following whatever safety system you have in place and getting that buy-in" [E-3].

Causality Tree of Mass Market Cruise Lines: Learning & Growth Perspective

Experts imagine fragmentation in demand, where some passengers seek higher personalization:

> "You'll find two extremes – I can see cruises getting bigger, like a floating Disneyland, out of economic reasons. But there's more push for curated, smaller experiences – something more personal, destinations where you spend more time at [and] fun stuff built into the actual sailing of it. It's like pumping out superhero movies versus taking time to craft a really good film. I can see the cruise industry getting better as opposed to bigger. The world is opening up and you have to personalize to your guest" [E-5].

Small boat experiences may become attractive with high-speed boat designs and technologies:

> "Sailing seems to be a declining sport – people are less interested in low-tech and old-fashioned things. In society, we put a premium on speed and sailing is perceived as a slow and inefficient way to get around. At the highest levels, technology has improved sailboats – the last America's Cup was contested on multihulled boats, which are not constrained by hull speed [and] can go several times faster than the wind" [E-4].

Personalized experiences are enriched by the local knowledge of professional maritime crews:

> "I like having a captain for safety and security because they're a wealth of knowledge. It's nice to have a professional with you who has encyclopedic knowledge about that boat and local knowledge because every harbor is different. My ideal scenario would be my family, close friends and a local captain with that local knowledge" [E-4].

B.2 CONSUMER INTERVIEWS

As with experts, qualitative depth interviews with consumers were (1) semi-structured with an interview guide; (2) individually recorded for initial coding; and (3) summarized in a cross-interview comparison.

Interview Guide

The interview guide [51] in Table 19 was designed to gather specific information regarding participant persona, relevant driving forces and value innovation to understand the following research question:

Which driving forces of change for the cruise industry are the most uncertain?

Table 19. Consumers: Interview Guide

Topic	*Target Information*	*Descriptive Questions* [52]
Opening	*Demographic*	Please tell me about yourself.
Grand Tour	*Tourism Persona*	Please describe your last vacation experience.
	Cruise Persona	What is your experience with cruises?
Driving Forces	*Impactful Factors*	How would you describe cruises?
	Future Uncertainties	How do you imagine cruises would change in 15 years?
Value Innovation	*Eliminate & Reduce*	What annoys you about cruises (or vacations)?
	Raise & Create	What do you do the most on cruises (or vacations)?
	Adoption & Resistance	What would make you try (or stop) taking cruises?
Closing	*Blind Spots*	Would you like to share anything else?

Interview Participants

The interviews with 11 consumers, totaling five hours and 35 minutes, were individually recorded and qualitatively coded [53] in Table 20. The interview codes (1) characterize participant tourism personas; (2) highlight uncertain driving forces; and (3) expose potential avenues for business model innovation.

Table 20. Consumers: Initial Coding of Participant Interviews

ID	*Persona*	*Uncertainties*	*Eliminate & Reduce*	*Raise & Create*	*Adoption & Resistance*
C-1	Explorer	Excitement	Lack of achievement	Teenager activities	Trapped with seasickness
C-2	Relaxer	Custom trips	Poor issue resolution	Excursion choices	Overcoming fear of ships
C-3	Explorer	Cost factors	Nickel-and-diming	Cultural intimacy	Boredom and idleness
C-4	Relaxer	Oversaturation	Repetitive activities	Luggage logistics	Drive-to home ports
C-5	Relaxer	Business travel	Excessive big meals	Natural immersion	Fake port experiences
C-6	Explorer	Port diversity	Tiny, noisy rooms	Longer shore stays	Variety of itineraries
C-7	Relaxer	Extreme ships	Extraneous features	Friendly people	Small ships in new routes
C-8	Relaxer	Overcrowding	Optional restaurants	Small guided tours	Reputation and accidents
C-9	Explorer	Ships vs. ports	Port tendering lines	Extra days at sea	Family consensus of ship
C-10	Explorer	Inauthenticity	Staged experiences	Social alignment	Limiting travel freedom
C-11	Relaxer	Empowerment	Regional scarcity	Premium options	Social expectation gaps

Interview Summary

Five target topics were discussed during the consumer interviews, specifically (1) consumer persona; (2) macro-trends and critical uncertainties; (3) value-driven innovation via eliminating and reducing; (4) value-driven innovation via raising and creating; and (5) consumer cruise adoption and resistance.

Market Research: Consumer Tourism Persona

Two consumer tourism persona archetypes were recurrent throughout the consumer interviews, where consumers exhibited tendencies toward being explorers, relaxers or a combination of the two. Explorers described previous vacations and cruises as unique opportunities to "experience something new" [C-9], "be in a different culture" [C-1], "have active vacations" in natural settings [C-10] or "explore urban environments" [C-3]. Fundamentally, explorers value autonomy while traveling, explaining that their vacations are "primarily self-guided" [C-9], sometimes spent for a "few weeks alone" [C-10] and that a "perfect vacation would be to go backpacking in Europe" [C-1]. Single, young explorers have more available time, allowing them to take a "monthlong tourism trip to Europe" [C-3] or spend "one month in Argentina" [C-10]. These young explorers are often brought onto cruises as part of family vacations, for example, from "Moscow to Saint Petersburg with a grandmother and her grandchildren" [C-10], but feel that they are "doing nothing on a boat" [C-1]. Married travelers with children, on the other hand, motivate themselves to justify the cost-benefit of vacations, "wanting to make it worth the while for two full weeks" [C-9] and "almost have to do everything" [C-6]. Consequently, married travelers seek nearby destinations with an "economical direct flight within a price range" because their "kid situation changes where they go" [C-6] and weigh "losing two full days in travel" [C-9] to distant locations.

Relaxers would "spend vacations at home with friends and family" [C-11], "travel with [a] boyfriend in Thailand" [C-4], "celebrate a long birthday weekend" [C-2] or enjoy a vacation with the "objective of having fun" [C-8]. Sometimes, relaxers book "a last-minute, unplanned vacation" [C-7] just "48 hours in advance" [C-8] because they value temporary relief from making decisions, particularly if they are "not very good at planning" [C-7] or are "desperate for vacation" [C-8]. Hence, all-inclusive cruises are an "easy way to travel" [C-5] because relaxers "don't have to think about price" [C-4]. Cruises are also "nice and convenient" options when homeports are "within driving distance" [C-7]. Often, relaxers "value the empty time" [C-11] and "don't want to think about anything" [C-8] nor "have to figure anything out for [themselves]" [C-4]. Instead, they prefer to "wing it" and "just lie around and not feel guilty about not doing anything" [C-7]. Many relaxers consider "eating to be the best part of the trip" [C-8], but some seek "organized fun" on a "large boat with activities" [C-4], while others prefer "vacation in the sun" [C-4] at a "very nice resort with a pool and beach" [C-2] in a "very quiet and calm, isolated place" away from "really crowded and expensive places during summer holidays" [C-5]. Finally, family-friendly cruises such as "Disney Cruises" [C-2] are considered a "safe way to travel" [C-4] for "older people or families with kids that don't want to worry" [C-5] while they are on vacation.

Scenario Planning: Future Uncertainties

Consumers frequently cited the tradeoff between the novel entertainment options afforded by large cruise ships and the increasing discomfort of mass market crowding. Cruise lines are building "bigger, better" [C-1] and "larger ships" [C-2] that are "constantly getting more elaborate" [C-7] to "outcompete with each other" [C-1]. With a "bigger ship, there are more things to do" [C-9], but some passengers now feel that there are "a ridiculous amount of people on a ship" [C-7]. Seasoned travelers especially "don't like bigger ships," which are "getting overwhelming" with "hordes of people on a ship" [C-8]. Moreover, the "industry is oversaturated" [C-4] with a "boom of cruises" [C-6] that is "overshadowing ports of call" [C-9], creating a "port experience that is not authentic" [C-10]. As "destinations are overrun," consumers believe there will eventually be a "reckoning on the cruise industry" [C-4].

Consumers voiced varying sensitivities to cruise price, particularly based on age and geographic market. Young travelers felt that prices of "cruises are on the expensive end" and contemplated "working while vacationing" on cruise ship gigs [C-3] or doing "work on a cruise on business travel" [C-5]. Price is a secondary factor on "cruises that cater to the retired age" [C-2] and hold a "strong grip on people who want a vacation" that is "very easy" [C-10] with special interest in being "taken care of with safe access to everything" [C-5]. Internationally, a growing Chinese middle class is producing "Asian people trying to have western experiences" [C-4], while cruise "prices dropped" in South America and "higher middle-class" vacationers are lamenting that a "premium experience in Brazil does not exist" [C-11].

Value Innovation: Eliminate & Reduce

Cruisegoers highlighted logistical issues boarding cruise ships, complaining that "transporting luggage is annoying" [C-10], the "noise of docking at 6:30 to 7 am [is] intense" [C-6] and there is a "rushed process to disembark" [C-2]. Tendering during port excursions, though, draws the most vocal criticism:

> "Because the cruise ships are getting so big, they have to do more tendering when they go to all the ports. And that's another thing that I hate – I don't want to wait on line to tender on a tiny, little boat just because your stupid cruise ship is so big that it can't pull into the dock. That's huge – tendering is a waste of time. That's easily two-hours' worth of waiting. And then it's flooding so many tourists at the port all at once – it's not enjoyable. I would actually deliberately avoid those big ships – there's no way in hell you'll ever catch me on one. It's worse than a New York subway" [C-8].
>
> "Santorini was the prettiest place I've ever been to, but tendering back and forth and getting around that island was almost a nightmare. I can't imagine a cruise ship twice the size, three times the size, going there and then having to ferry these people back. These ports of call won't be able to handle that population. They're setting themselves up for failure with having way too many people at these ports of call" [C-9].

Value Innovation: Raise & Create

Consumers had fond cruise memories as children, recalling that "stopovers were not the primary purpose" because activities "were way more interesting onboard" and they had "fun with kids their age" [C-11]. Memories from teenage years, though, were negative since they "stayed by the pool because there's nothing else to do at that awkward age" when they were "not old enough to party, but not young enough for kiddie activities" [C-1]. Young adults "would have liked to have been more active" and thought that "if there had been people at the same age, it would have been more fun" [C-10].

Several consumers expressed a lack of cultural or social engagement and would enjoy "more days at sea" [C-9], "immersive experiences" to "get in touch with other cultures" [C-5] and "intimate boat experiences" such as "sailboats, a fisherman boat for a day and tailored experiences for subcultures" [C-3]. A "whole well-known subculture" called "Fish Extenders" has even formed an "underground gift exchange through Facebook groups for future cruises to ask questions and get information" [C-2].

Ultimately, travelers "valued the places that were visited" because the "destination is the most important factor," but noted that "in bigger cities, one full night docked in a city would be nice" since "all of the destinations were first time experiences. Smaller ships and shorter trips from Lisbon to Madeira could be interesting" or when "complemented with different types of tourism," such as an "African safari" [C-6]. Some feared "language barriers in foreign countries" [C-4] and "would love small tour guides at every place" because they provide "personal attention" and "a lot of freedom and flexibility" [C-8].

Market Research: Consumer Adoption & Resistance

The first cruise experience for many consumers was arranged by someone else, where some "went on a family cruise" [C-3], while others "went on a cruise during spring break in grad school" [C-7]. Some passengers were "open to cruising" [C-3] and "persuaded by a friend" [C-4], but others said, "it wasn't my choice" [C-5] and "had no expectation of what a cruise was at 16" [C-10]. Those that initiated a cruise trip were "very scared to take a cruise," but wanted to "challenge [oneself]" to "get over the fear of cruises" and "being on a boat so far from land" [C-2]. For large groups, the "hardest part is agreeing to cruise" [C-8] because the "cruise is swayed by other family members and bigger groups" [C-9].

Teenagers that went on family vacations did "not like to be confined to a cruise experience while young" [C-3] because "traveling is the freedom to do what you want to do and a cruise is the opposite" [C-10]. "Experience on cruise lines develops reputation" [C-9] and passengers with poor initial experiences "definitely would not go on a cruise again" and "would do everything in [their] power to make [their families] change their mind" [C-1]. Couples "did not do another cruise because [one's] wife did not think it was amazing" [C-6], avoiding repeat situations where "you don't have the option to leave if you don't like it" [C-11]. Families with children "would stay with Disney because of quality" [C-2], while others would "skip Disney because it has families with screaming kids that are running around" [C-8].

B.3 CONSUMER SURVEY

A quantitative consumer survey was conducted with 137 participants, who responded between March 19th, 2019 and March 24th, 2019, to measure how insights, which were extracted from the qualitative market research depth interviews with experts and consumers, generalize to public perception.

Survey Summary

Participants were asked 10 questions relating to (1) scenario planning, gauging critical uncertainties; (2) market research, defining consumer identity and measuring consumer satisfaction; and (3) value innovation, considering competitive industry factors to eliminate, reduce, raise and create.

Scenario Planning: Critical Uncertainties

***Question 1*:** Thank you for completing this 10-minute survey about your experience with cruises. Please indicate how you feel about cruises according to each of the following scales.

Table 21. Consumer Survey: Question 1 – Critical Uncertainties (2019)

ID	*Critical Scenario Driver*	*0% Bound*	*Min.*	*Max.*	*Mean*	*Std. Dev.*	*100% Bound*
SO-2	*Itinerary Affordability*	Expensive	0%	100%	58%	25%	Affordable
PR-1	*Destination Utilization*	Crowded	0%	100%	50%	25%	Spacious
IS-3	*Activities & Excursions*	Boring	0%	100%	65%	26%	Amazing
IS-4	*Health & Safety*	Dangerous	0%	100%	71%	26%	Safe
IS-7	*Ship Selection*	Narrow	0%	100%	59%	24%	Wide

***Question 10*:** Imagine yourself 15 years in the future during the year 2034. Please indicate how you believe you will feel about cruises according to each of the following scales.

Table 22. Consumer Survey: Question 10 – Critical Uncertainties (2034)

ID	*Critical Scenario Driver*	*0% Bound*	*Min.*	*Max.*	*Mean*	*Std. Dev.*	*100% Bound*
SO-2	*Itinerary Affordability*	Expensive	0%	100%	64%	24%	Affordable
PR-1	*Destination Utilization*	Crowded	0%	100%	53%	28%	Spacious
IS-3	*Activities & Excursions*	Boring	0%	100%	67%	24%	Amazing
IS-4	*Health & Safety*	Dangerous	11%	100%	75%	25%	Safe
IS-7	*Ship Selection*	Narrow	8%	100%	65%	23%	Wide

Market Research: Consumer Identity

***Question 2*:** With whom would you go on a cruise? Please check all that apply.

Table 23. Consumer Survey: Question 2 – Consumer Demographics

#	Field	%	Count
1	Solo	3%	14
2	A spouse or partner	24%	118
3	Children or grandchildren	13%	66
4	Parents or grandparents	14%	71
5	Siblings or close family members	13%	67
6	Extended family members	8%	38
7	Friends or acquaintances	18%	88
8	Coworkers or colleagues	4%	22
9	People with similar interests	3%	17
10	Other	0%	2

***Question 3*:** When would you go on a cruise? Please check all that apply.

Table 24. Consumer Survey: Question 3 – Consumer Tourism Persona

#	Field	%	Count
1	To discover or try something new	21%	75
2	To explore a different culture	13%	45
3	To explore a natural environment	12%	44
4	To explore an urban environment	4%	14
5	To relax in a comfortable environment	24%	87
6	To work in a mobile environment	1%	4
7	To live in an accessible environment	2%	8
8	To celebrate with a large group	17%	62
9	To meet new people	3%	12
10	Other	2%	6

Market Research: Consumer Satisfaction

***Question 4*:** Why would you go on a cruise? Please check all that apply.

Table 25. Consumer Survey: Question 4 – Consumer Adoption

#	Field	%	Count
1	Achieving goals (e.g. working on a cruise, overcoming fear of the sea, etc.)	1%	4
2	Immersive experiences (e.g. reaching remote destinations with natural scenery such as glaciers, safaris and eco-cruising or cultural and historical cruises, etc.)	18%	83
3	Unique itineraries (e.g. desirable destinations, broad variety of itineraries, etc.)	19%	87
4	Diversity of ships (e.g. large state-of-the-art ocean liners, amenities and attractions for different passengers, boutique ships, small river cruises, etc.)	8%	34
5	Brand reputation (e.g. good word of mouth, positive personal experience, etc.)	10%	44
6	Exclusive benefits (e.g. premium access, discounts, loyalty perks, etc.)	5%	22
7	Social events (e.g. family vacation, honeymoon, anniversary, reunion, group event, milestone celebration, birthday party, social gathering, etc.)	18%	79
8	Safe and healthy environment (e.g. family-friendly atmosphere, child-safe environment, high-quality standards, reliable conditions, etc.)	8%	37
9	Convenient access (e.g. short drive, affordable flights and quick transportation to ports of embarkation, no hassle experience, easy luggage handling, etc.)	12%	56
10	Other	1%	3

***Question 5*:** What would prevent you from going a cruise? Please check all that apply.

Table 26. Consumer Survey: Question 5 – Consumer Resistance

#	Field	%	Count
1	Boredom and idleness (e.g. long periods of monotony, nothing to do, etc.)	14%	75
2	Limited experiences (e.g. restricted travel freedom, inflexible schedules, etc.)	14%	78
3	Undesirable destinations (e.g. overcrowded cities, inauthentic excursions, etc.)	14%	75
4	Shipboard discomfort (e.g. seasickness, motion sickness, dizziness, rolling seas, feelings of entrapment or claustrophobia, fear of distance from land, etc.)	12%	64
5	Brand reputation (e.g. poor word of mouth, negative personal experience, etc.)	10%	52
6	Cost factors (e.g. high expenses for large families, low cost-benefit value, etc.)	13%	71
7	Social avoidance (e.g. crowds, families with kids, retirees, party ships, etc.)	7%	37
8	Lack of safety (e.g. accident history, disease breakouts, unsafe conditions, etc.)	9%	48
9	Logistics (e.g. planning time for cruises, low availability of itineraries, etc.)	7%	39
10	Other	0%	2

Value Innovation: Eliminate & Reduce

***Question 6*:** If eliminated, what would provide a better cruise experience? Please rank the following items in order of importance (Most Important = 1, Least Important = 6).

Table 27. Consumer Survey: Question 6 – Eliminate (Ranking Distribution)

#	Field	1	2	3	4	5	6
1	Feeling of idleness, monotony or repetitiveness	42%	23%	21%	7%	6%	1%
2	Artificial atmosphere or inauthentic excursions	30%	42%	14%	9%	5%	1%
3	Unhealthy meals or exclusive restaurants	13%	13%	34%	22%	17%	2%
4	Rushed disembarkation or noisy port dockings	6%	16%	18%	30%	30%	1%
5	Inability to find information or resolve issues	6%	6%	12%	31%	40%	4%
6	Other	2%	0%	2%	1%	3%	92%

Table 28. Consumer Survey: Question 6 – Eliminate (Ranking Statistics)

#	Field	Min.	Max.	Mean	Std. Dev.
1	Feeling of idleness, monotony or repetitiveness	1	6	2.13	1.24
2	Artificial atmosphere or inauthentic excursions	1	6	2.18	1.15
3	Unhealthy meals or exclusive restaurants	1	6	3.22	1.27
4	Rushed disembarkation or noisy port dockings	1	6	3.65	1.23
5	Inability to find information or resolve issues	1	6	4.04	1.23
6	Other	1	6	5.78	0.87

***Question 7*:** If reduced, what would provide a better cruise experience? Please rank the following items in order of importance (Most Important = 1, Least Important = 6).

Table 29. Consumer Survey: Question 7 – Reduce (Ranking Distribution)

#	Field	1	2	3	4	5	6
1	Overall ticket prices for all-inclusive itineraries	46%	18%	12%	11%	11%	1%
2	Overcrowding on ships or at port destinations	27%	36%	24%	11%	2%	0%
3	Unappealing entertainment or amenities	15%	25%	32%	17%	11%	0%
4	Long lines to book excursions with concierge	3%	9%	16%	38%	33%	1%
5	Time and effort spent ferrying at tendering ports	9%	11%	16%	22%	41%	2%
6	Other	0%	2%	0%	0%	2%	97%

Table 30. Consumer Survey: Question 7 – Reduce (Ranking Statistics)

#	Field	Min.	Max.	Mean	Std. Dev.
1	Overall ticket prices for all-inclusive itineraries	1	6	2.26	1.46
2	Overcrowding on ships or at port destinations	1	5	2.27	1.05
3	Unappealing entertainment or amenities	1	5	2.85	1.20
4	Long lines to book excursions with concierge	1	6	3.90	1.08
5	Time and effort spent ferrying at tendering ports	1	6	3.80	1.35
6	Other	2	6	5.92	0.52

Value Innovation: Raise & Create

***Question 8*:** If enhanced, what would provide a better cruise experience? Please rank the following items in order of importance (Most Important = 1, Least Important = 6).

Table 31. Consumer Survey: Question 8 – Raise (Ranking Distribution)

#	Field	1	2	3	4	5	6
1	Availability of diverse global itineraries	43%	31%	13%	11%	2%	0%
2	Length of shore leave or additional days at sea	22%	23%	30%	14%	12%	0%
3	Opportunities for immersive cultural excursions	27%	31%	26%	10%	6%	0%
4	Social interaction with other passengers	4%	7%	14%	35%	39%	2%
5	Live performances from musicians or artists	3%	8%	18%	31%	41%	0%
6	Other	1%	0%	0%	0%	1%	98%

Table 32. Consumer Survey: Question 8 – Raise (Ranking Statistics)

#	Field	Min.	Max.	Mean	Std. Dev.
1	Availability of diverse global itineraries	1	5	1.97	1.07
2	Length of shore leave or additional days at sea	1	5	2.70	1.28
3	Opportunities for immersive cultural excursions	1	5	2.37	1.16
4	Social interaction with other passengers	1	6	4.03	1.12
5	Live performances from musicians or artists	1	5	3.98	1.07
6	Other	1	6	5.95	0.47

***Question 9*:** If introduced, what would provide a better cruise experience? Please rank the following items in order of importance (Most Important = 1, Least Important = 6).

Table 33. Consumer Survey: Question 9 – Create (Ranking Distribution)

#	Field	1	2	3	4	5	6
1	Itineraries featuring intimate cruise ships	28%	19%	36%	13%	4%	0%
2	Fun activities for young teenagers	6%	8%	15%	29%	40%	2%
3	Small, personalized tours with local guides	40%	32%	11%	13%	4%	0%
4	Multiday excursions experiencing nature	20%	32%	25%	12%	11%	0%
5	Luggage transportation or logistics services	6%	7%	14%	33%	40%	1%
6	Other	0%	1%	0%	1%	1%	97%

Table 34. Consumer Survey: Question 9 – Create (Ranking Statistics)

#	Field	Min.	Max.	Mean	Std. Dev.
1	Itineraries featuring intimate cruise ships	1	5	2.46	1.15
2	Fun activities for young teenagers	1	6	3.93	1.22
3	Small, personalized tours with local guides	1	5	2.09	1.18
4	Multiday excursions experiencing nature	1	5	2.61	1.24
5	Luggage transportation or logistics services	1	6	3.97	1.17
6	Other	2	6	5.94	0.42