

Cruise Ship Data Insights & Market Segmentation



WHY WE'RE HERE?

- Identify how Lobster Land Voyage can enter into Luxury cruise market

OUR APPROACH:

- Analyze industry leaders to assess performance standards and gaps
- Segment Ports: Cluster ports based on traffic, amenities, and strategic value
- Optimize Offerings: Tailor cruise experiences to match market demand and customer preferences
- Model Risks: Identify and simulate financial, operational, and geopolitical risks

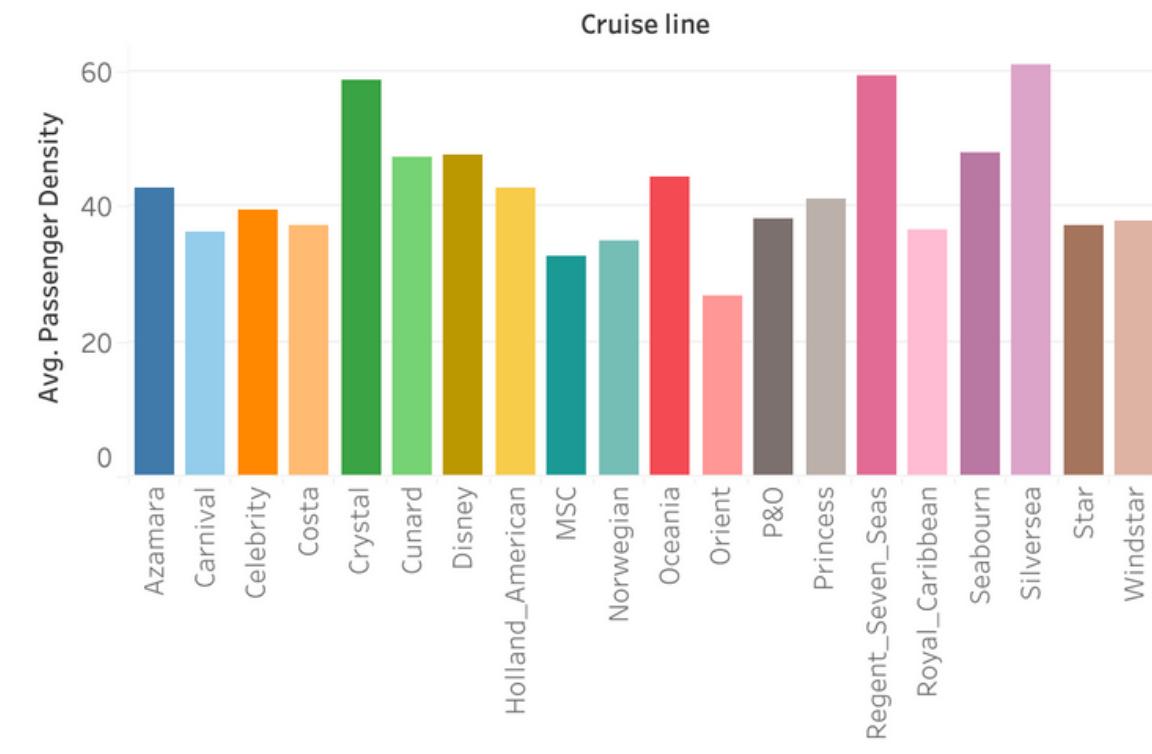




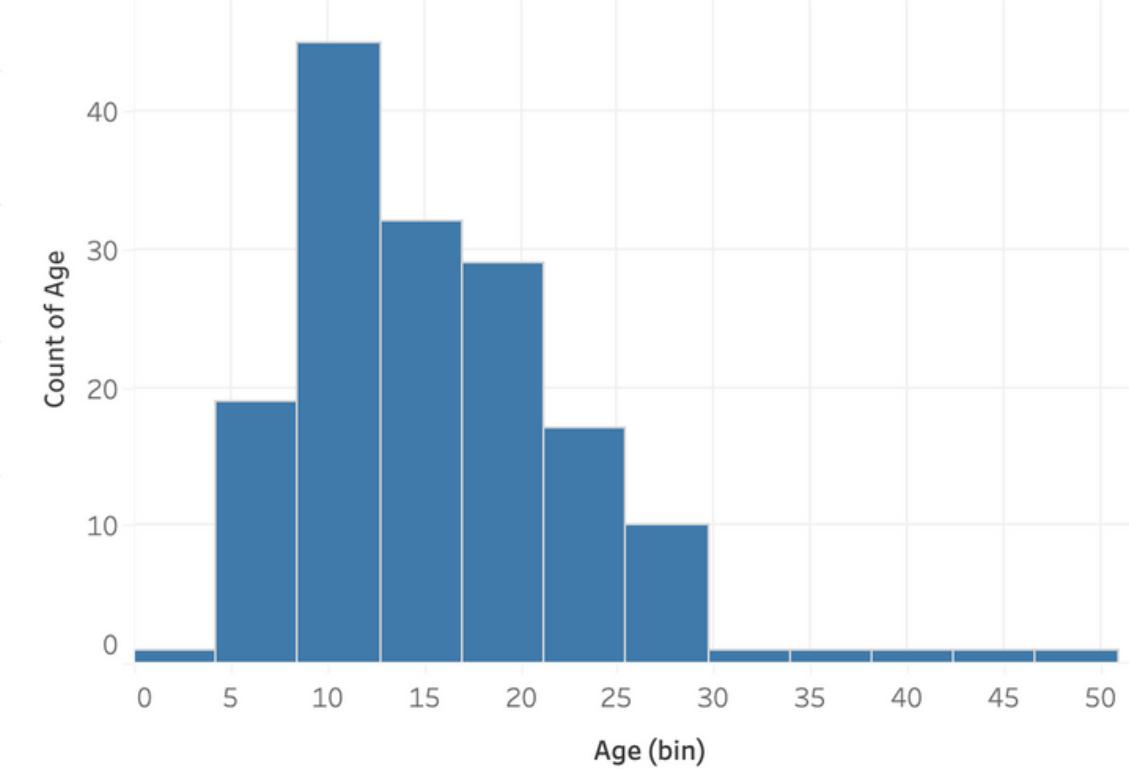
DATA VISUALIZATION

A Tableau dashboard was developed to work with a dataset containing specifications for cruise ships across major cruise lines. The data includes details such as ship age, size, passenger capacity, crew numbers, and passenger density, helping to uncover key trends and operational insights in the cruise industry.

Passenger Density by Cruise Line



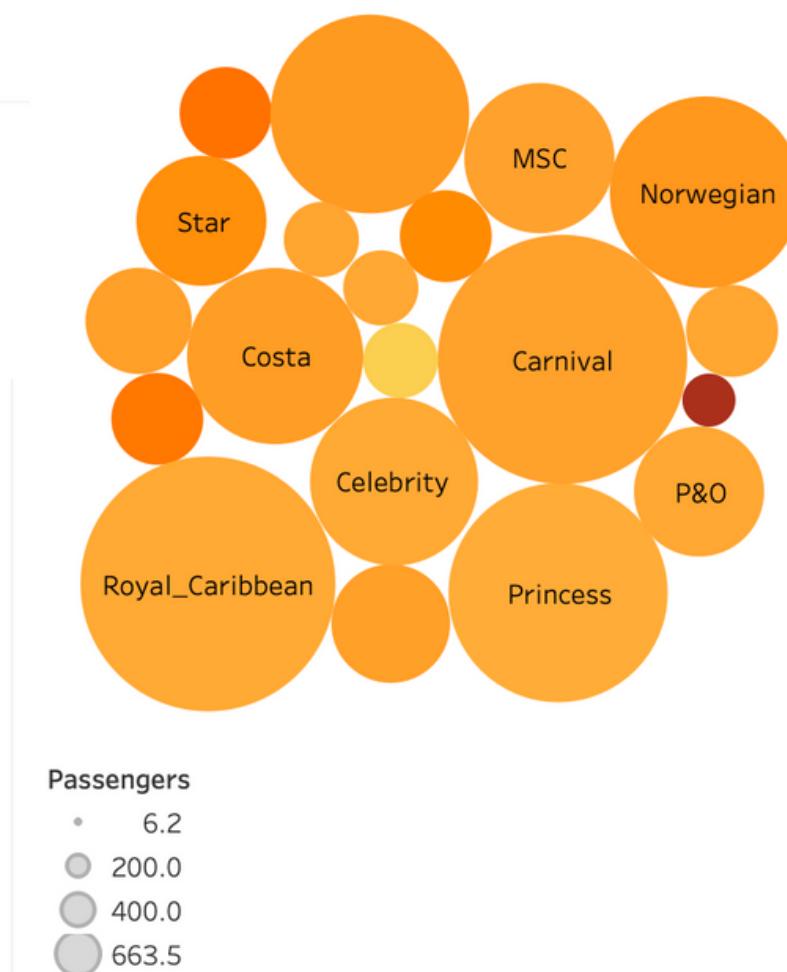
Distribution of Ship Ages



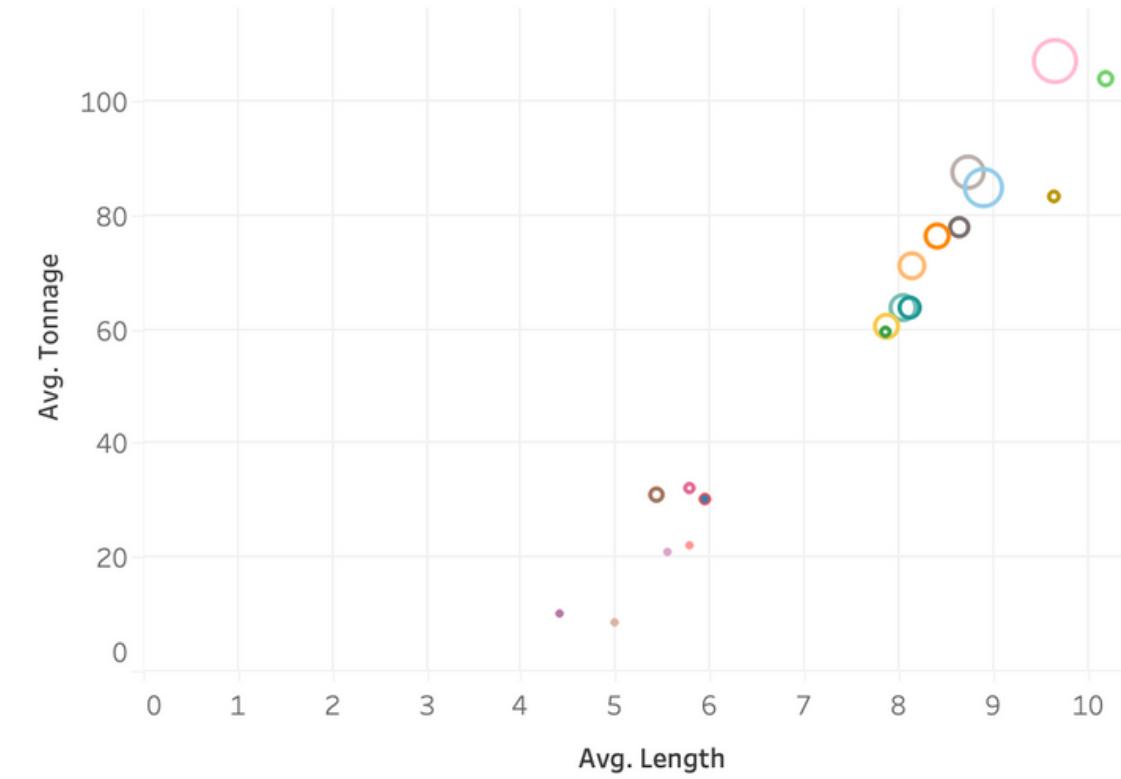
Cruise line



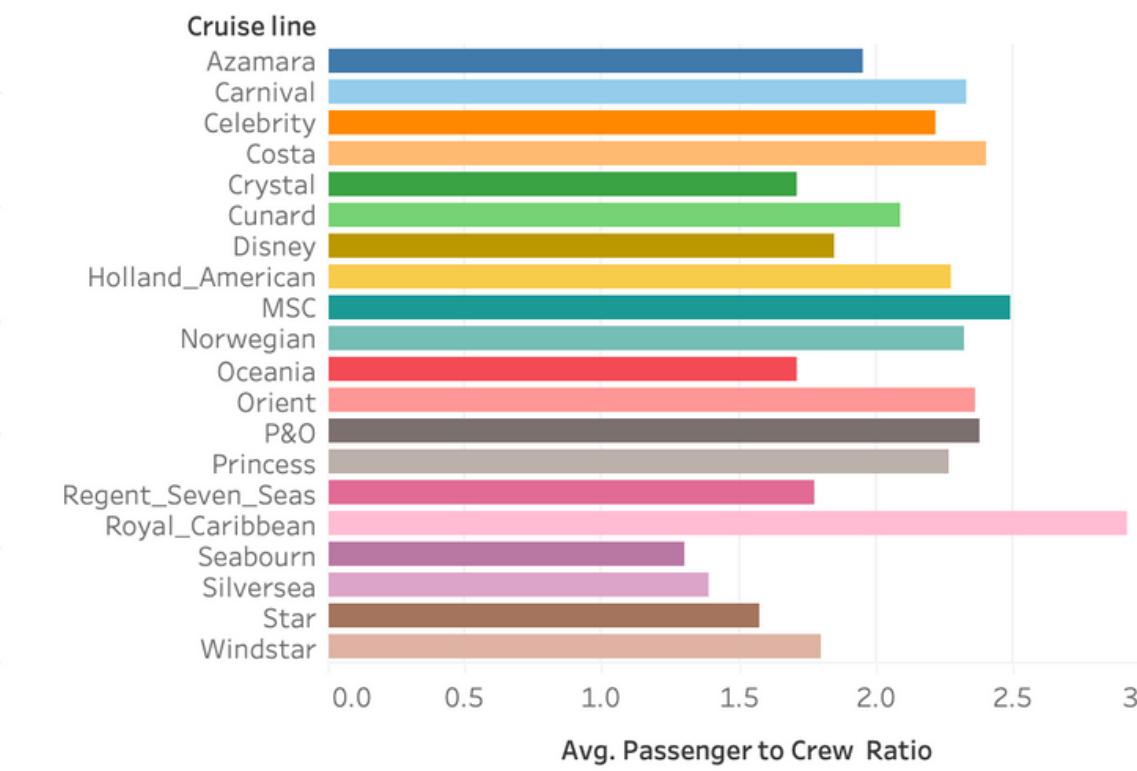
Cruise Line by Average Ship Age and Ship Quantity



Ship Size and Average Passengers by Cruise Line



Passenger-to-Crew Ratio by Cruise Line



SUMMARY STATS

Caribbean Ports Dataset

The dataset analyzed contains detailed information about Caribbean cruise ports, including metrics such as the average annual number of visitors, passenger spending at different types of ports (Major, Boutique, Private, Eco/Nature), customer satisfaction scores, and local attractions ratings. It covers ports across various regions like the Southern, Eastern, and Western Caribbean, as well as the Bahamas. The data helps to identify trends in visitor traffic, spending behavior, passenger satisfaction, and the attractiveness of local destinations, offering valuable insights into the cruise tourism landscape.



SUMMARY STATS



Ports in the **Southern Caribbean** attract the highest average number of annual visitors (**over 812,000**), followed by the Eastern Caribbean. In contrast, the Bahamas and Western regions receive significantly fewer visitors on average.

Passengers tend to **spend the most at Major ports (123.65 USD on average)**, followed closely by Boutique and Eco/Nature ports. **Private ports show the lowest average shore spending at about 93.09 USD per passenger.**

Customer satisfaction is highest at Boutique ports across all regions, especially in the Bahamas with an average score of 9.21. **Major ports generally receive lower satisfaction scores compared to Boutique and Private ports.**

SUMMARY STATS



Honduras stands out with the highest average customer satisfaction score (9.96), followed by Mexico, the British Virgin Islands, Grenada, and the Bahamas, all with scores above 9.5. These ports appear to offer the most positive experiences for cruise passengers.

Progreso in Mexico and Port Antonio in Jamaica stand out with the highest local attractions scores (9.0), followed closely by Half Moon Cay, St. Lucia, and Bimini with scores of 8.0. This suggests these ports offer a broader range of attractions compared to other Caribbean destinations.

British Virgin Islands and Grenada report the highest average customer satisfaction scores, each achieving 9.56, despite not having the highest visitor volumes. In contrast, larger markets such as the Dominican Republic and Venezuela attract significant numbers of visitors but show noticeably lower satisfaction levels.

FORECASTING EARNINGS PER SHARE

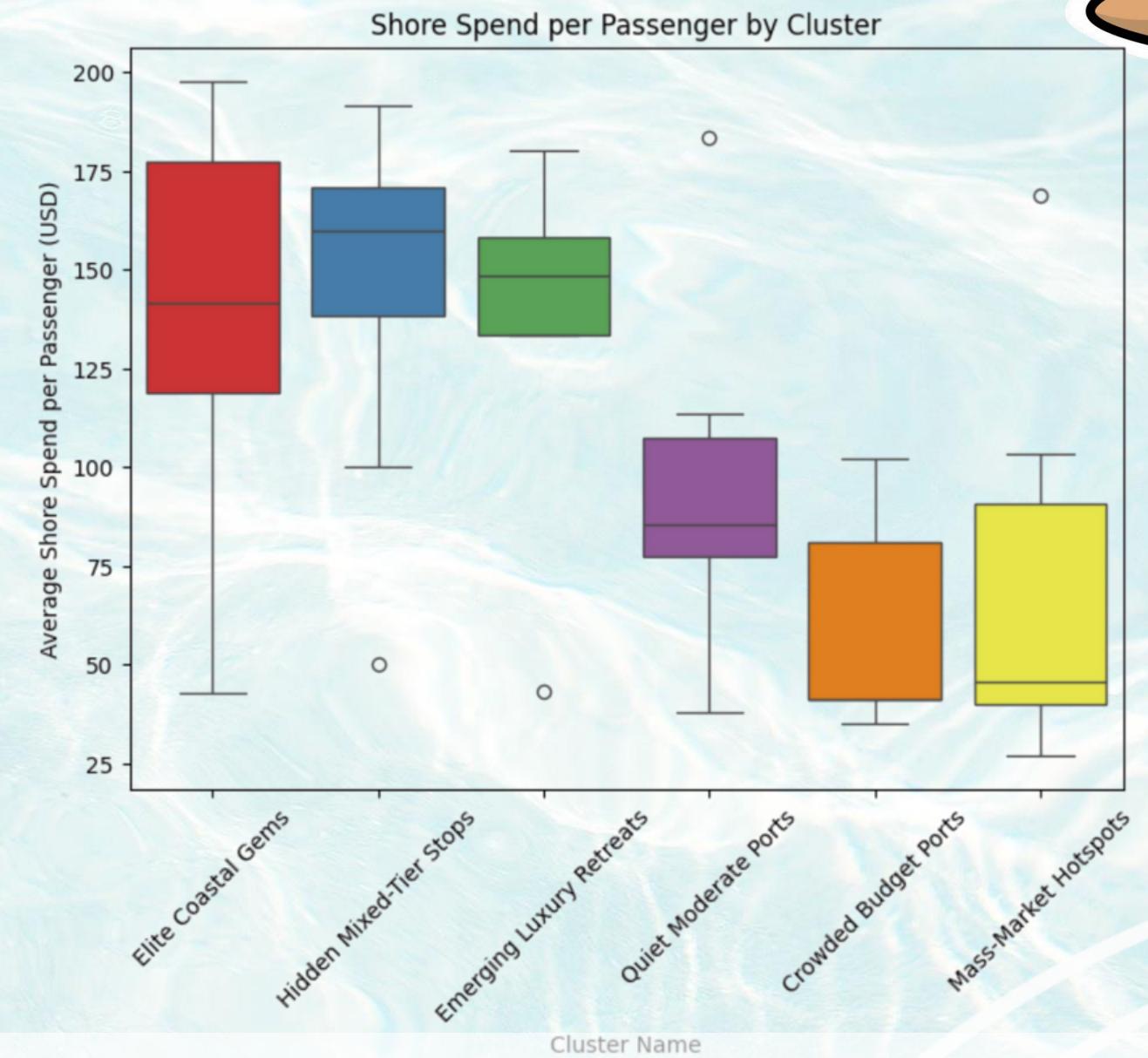
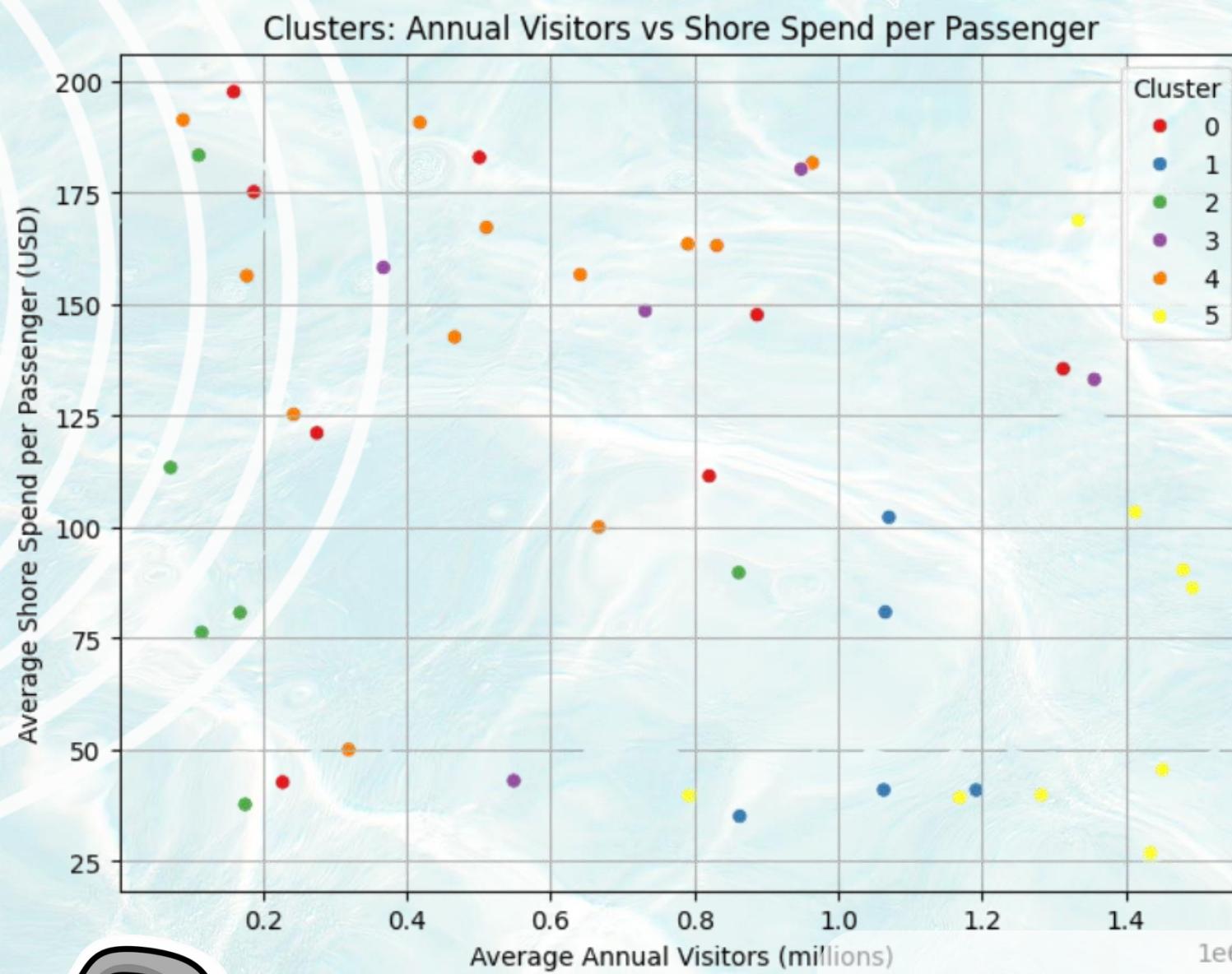


We developed linear regression models using diluted EPS data from 2018 to 2024 for Norwegian Cruise Line (NCLH) and Carnival Corporation (CCL) to forecast 2025 earnings. Initially, **the models projected a 2025 EPS of 9.37 for NCLH and -3.77 for CCL.**

After excluding the pandemic-affected years 2020 and 2021, we refined our models to better reflect normal conditions. **The adjusted forecasts showed an EPS of 8.53 for NCLH and -6.65 for CCL**, providing more realistic projections based on stable operations.



SEGMENTATION & TARGETING

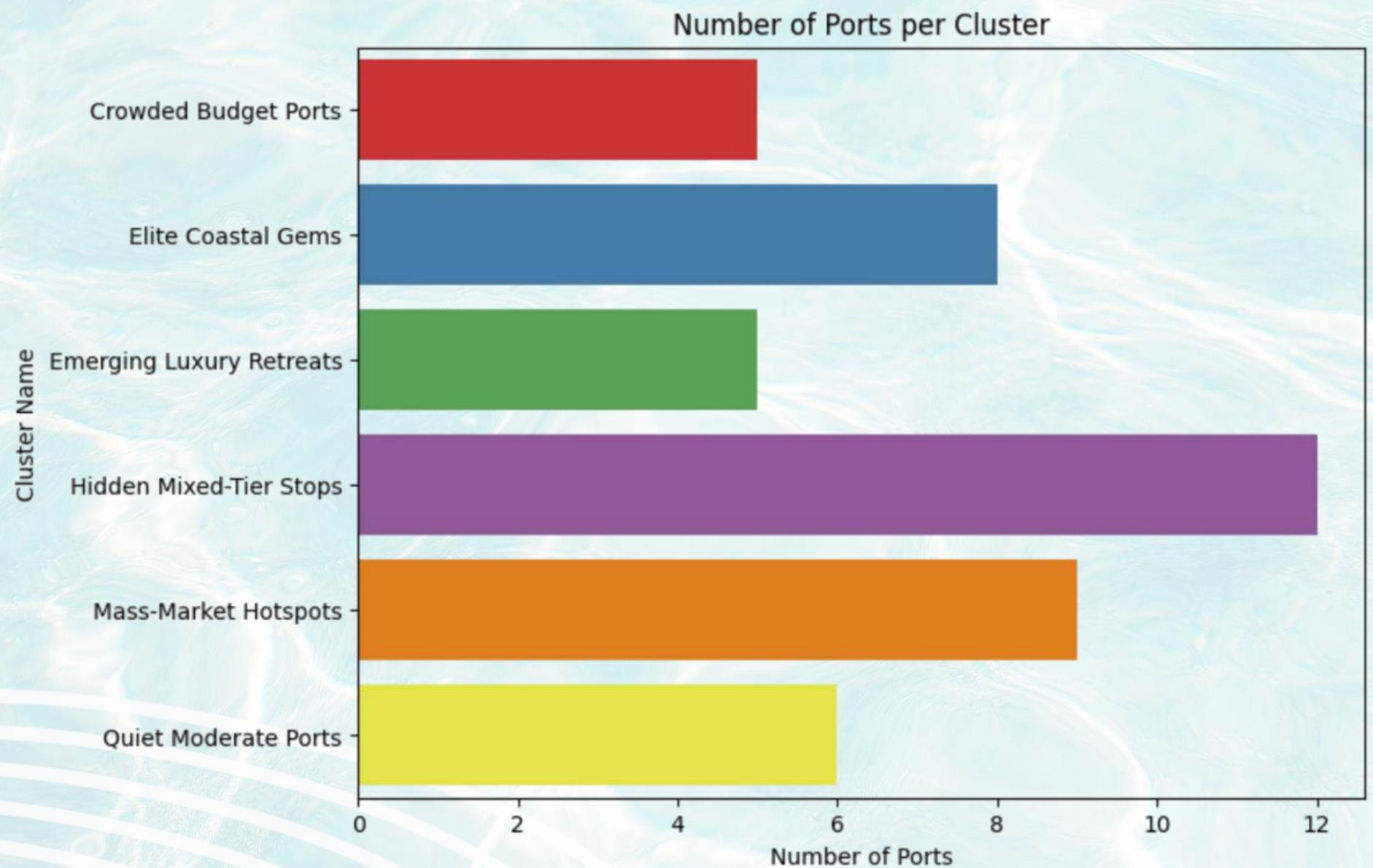


- Elite Coastal Gems, Hidden Mixed Tier Stops & Emerging Luxury Retreats - High Spenders with limited visits
- Quiet Moderate Ports, Crowded Ports & Mass Market Hotspots-> Low Spenders with high volume visits





STRATEGIC RECOMMENDATION



Elite Coastal Gems— Pillars of the Voyage

- low foot traffic, high passenger spend, and strong alignment with a luxury narrative.

Hidden Mixed-Tier Stops — Can be a Signature destination of Lobster Land Voyage

- They're mysterious, customizable, and positioned perfectly for surprise-and-delight.

Emerging Luxury Retreats - Steady, Scalable, and Smart

- offer high spend potential with moderate traffic — a great balance of Return on Investment and customer





CONJOINT ANALYSIS

	Coefficient
entertainment_DJ_Dance	-0.697778
entertainment_East Coast Folk	0.444300
entertainment_Jazz Blues	0.355375
dining_Coastal Tapas & Tasting Stations	0.292936
dining_Formal Multi-Course Plated	-0.768749
dining_Maine Lobster Nova Scotia Seafood Buffet	1.497222
cabin_Modern Minimalist	-0.449679
cabin_Nautical Chic	0.312436
cabin_Romantic Escape	0.032533
amenities_Top Deck Hot Tubs	0.902993
amenities_Winter Wellness Spa	0.077683
cocktail_credits_2	0.425807
cocktail_credits_3	-0.533080



Entertainment: East Coast Folk
 Dining: Maine Lobster Nova Scotia Seafood Buffet
 Cabin: Nautical Chic
 Amenities: Top Deck Hot Tubs
 Cocktail Credits: \$85.5 > \$75

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amenities_Winter Wellness Spa	0.077683
cocktail_credits_2	0.425807
cocktail_credits_3	-0.533080



points in rating

↓0.444

cost

↓\$13

Best Combo

Entertainment: Acoustic
Showcase

Dining: Maine Lobster Nova
Scotia Seafood Buffet

Cabin: Nautical Chic

Amenities: Top Deck Hot Tubs

Cocktail Credits: 2 credits

\$72.5 < \$75

INSIGHTS FROM THE CONJOINT ANALYSIS

Highlight What Customers Love

Lobster Buffet is highly preferred

→ Emphasize it in product design and promotions



Improve or Phase Out Low-Rated Options

Items like Formal Multi-Course Dinner

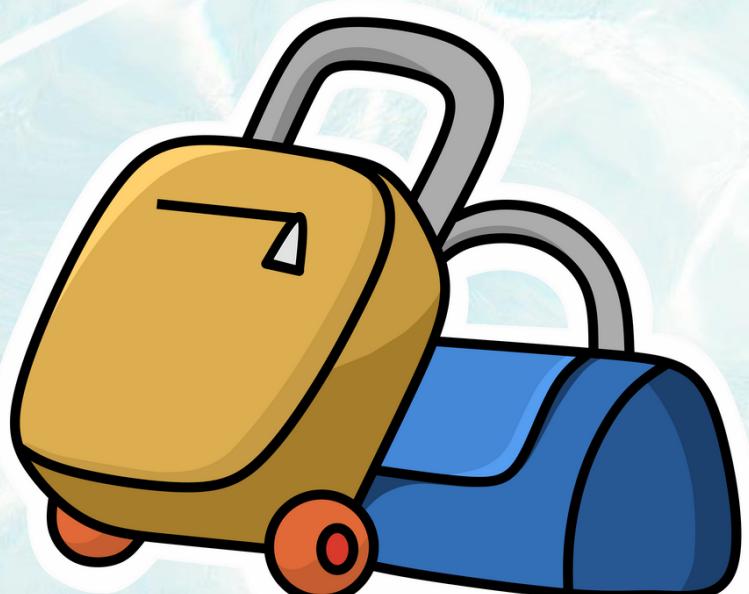
→ Consider improving or removing

Enable Flexible Customization

Adjust based on traveler groups (e.g., families, couples)

Tailor to cruise themes (e.g., holiday, romantic)

→ Goal: Improve overall satisfaction

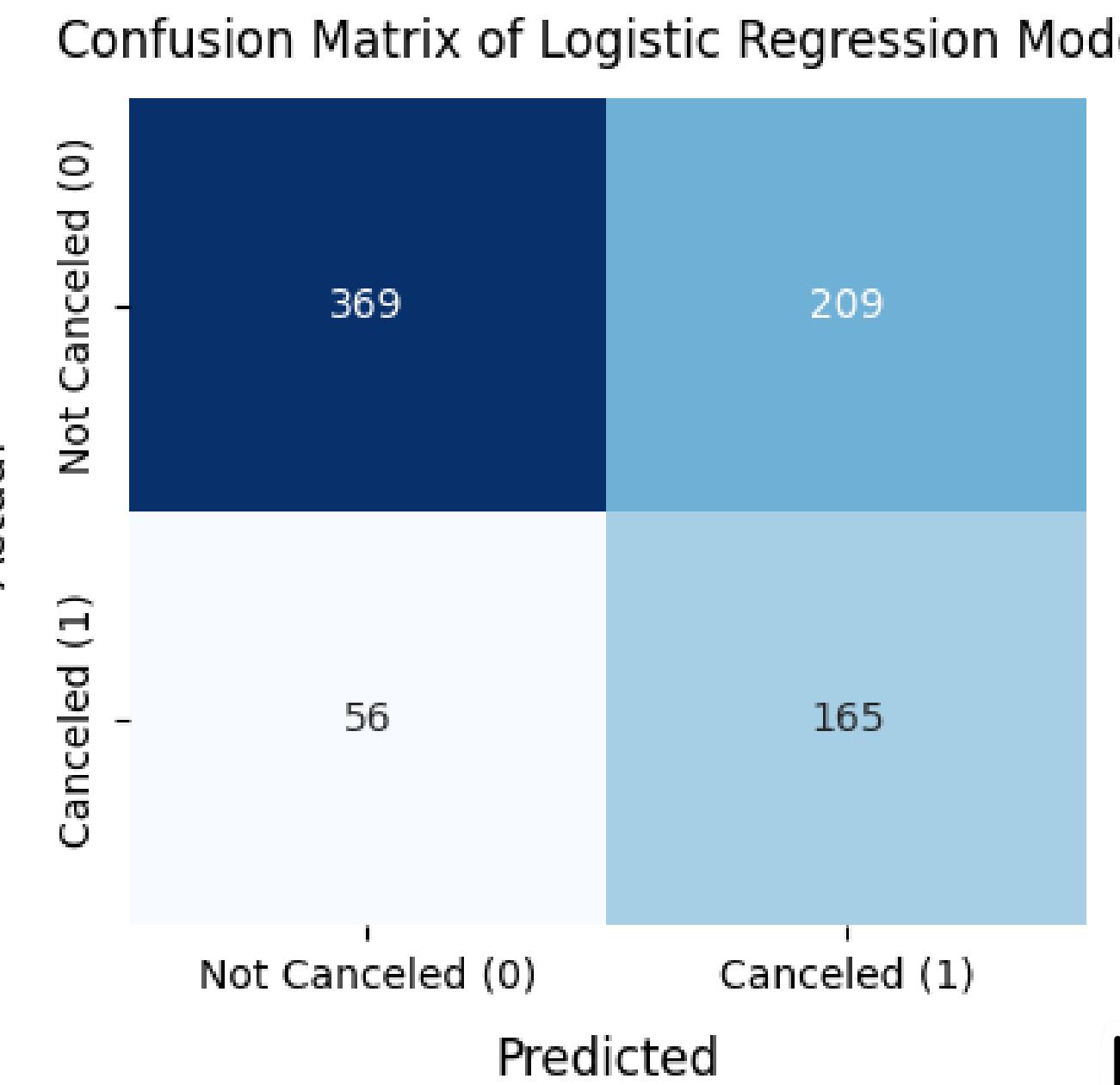




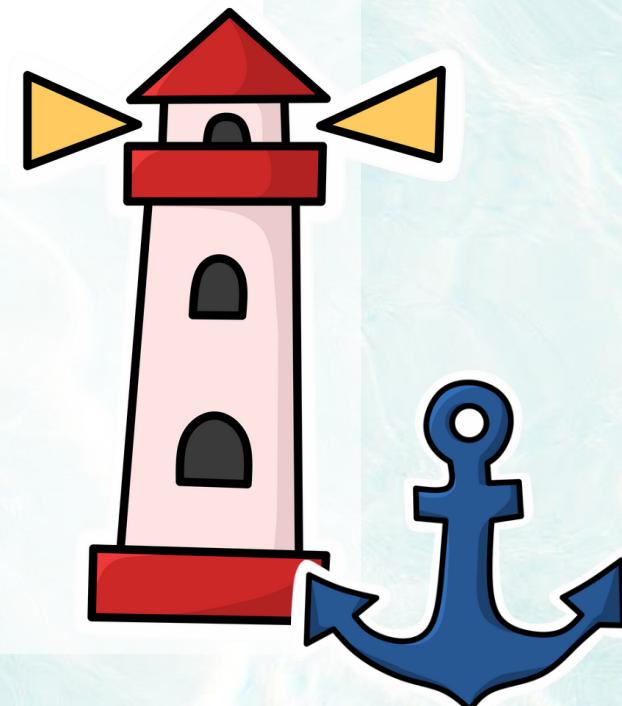
UNDERSTANDING CRUISE CANCELLATIONS

To identify key factors that influence cruise booking cancellations and provide actionable marketing insights, we built a logistic regression model for classification.

WHAT DRIVES CANCELLATIONS?



Accuracy Rate: 67%.
Sensitivity Rate: 75%
Balanced Accuracy: 60%

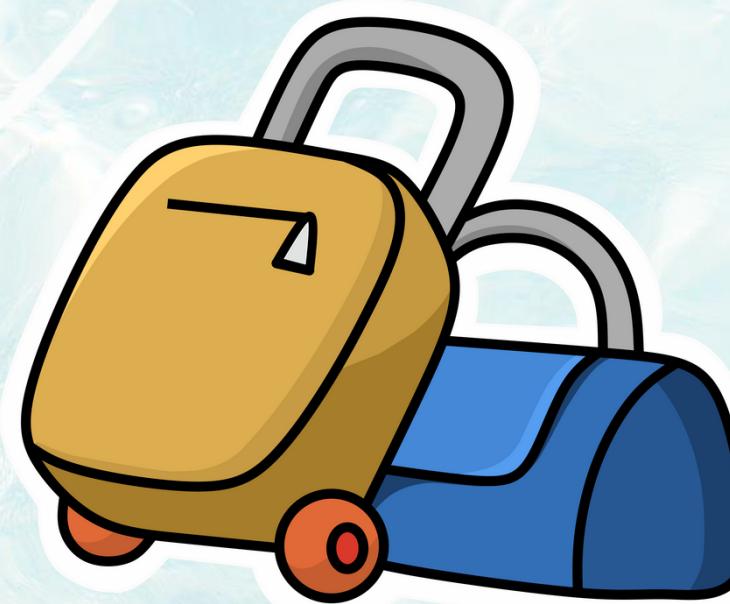


- booking late
- making partial payments
- having lower loyalty status
- booking interior cabins
- having lower income levels

WHAT CAN MARKETING DO?

Proactive Outreach:

- Reach out early
- Offer discounts or reminders for partial payers



Loyalty Program Enhancements:

- Upgrade incentives for Silver members
- Outreach to non-members highlighting benefits

Targeted Promotions:

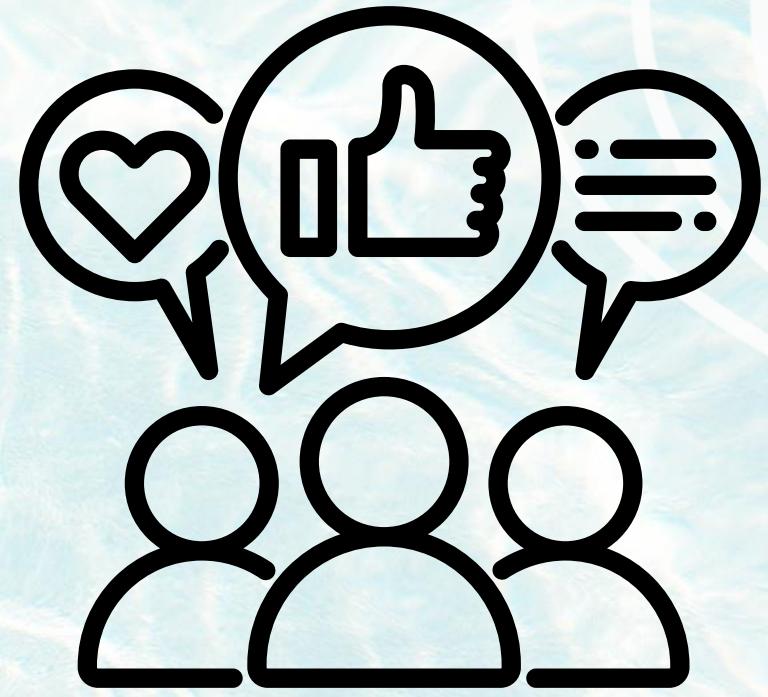
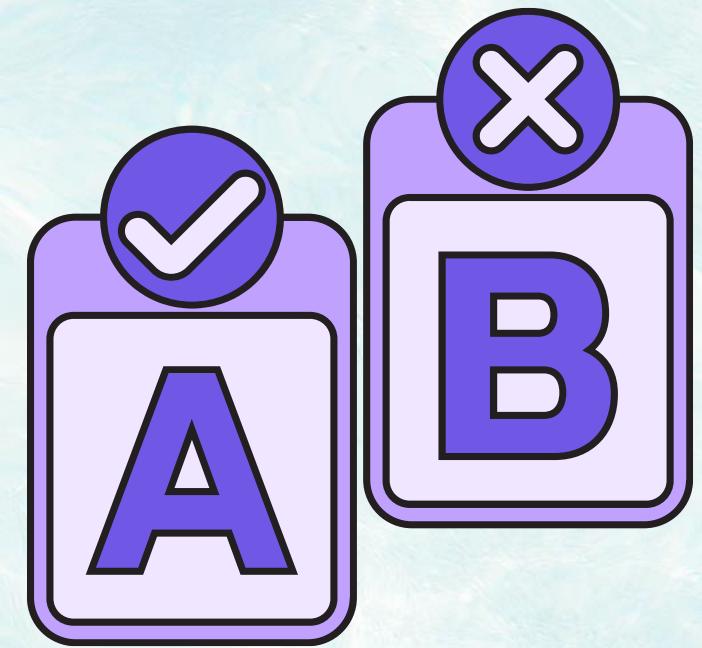
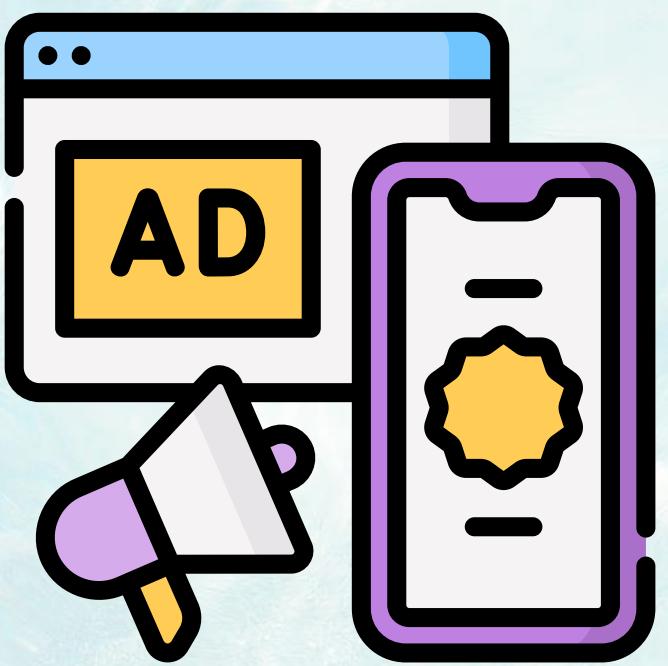
- Perks for Interior cabin bookers (e.g. upgrades, discounts)
- Reinforce premium experience for Balcony/Oceanview customers

Segmented Messaging by Income:

- Flexible payment plans for price-sensitive groups
- Premium packages for higher-income customers



LOBSTER LAND CRUISE CAMPAIGN A/B TEST



A/B TEST & KEY INSIGHTS



Night Glow: Excellent at converting clicks into info session bookings (12.7%)



City Visit: Struggled across all metrics, with the lowest CTR (8.6%) and ratings (6.2/10)

Tropical Beach: 16.5% CTR, the highest rating (8.1/10), and strong conversion rates (9.7% info session bookings)



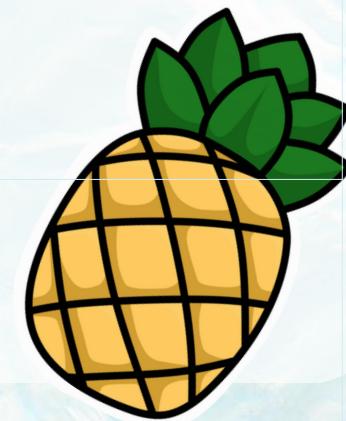


$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{N_1} + \frac{s_2^2}{N_2}}}$$

STATISTICAL TEST RESULTS

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Test	Statistic	p-value	Interpretation
Chi-Square Test for CTR	37.9955	2.83×10^{-8}	Statistically significant difference in CTR; photo affects user engagement.
Chi-Square Test for Info Session Bookings	12.9596	4.72×10^{-3}	Statistically significant difference in bookings; photo influences conversions.
Chi-Square Test for Email Share Rates	7.6910	5.29×10^{-2}	No significant difference in email shares; differences likely due to random chance.
Chi-Square Test for Photo Save Rates	3.7766	2.87×10^{-1}	No significant difference in photo saves; differences likely due to random chance.
ANOVA for Time on Page	2.025	0.109	No significant difference in time spent on page across photos.
ANOVA for Follow-up Clicks	0.506	0.678	No significant difference in follow-up clicks across photos.

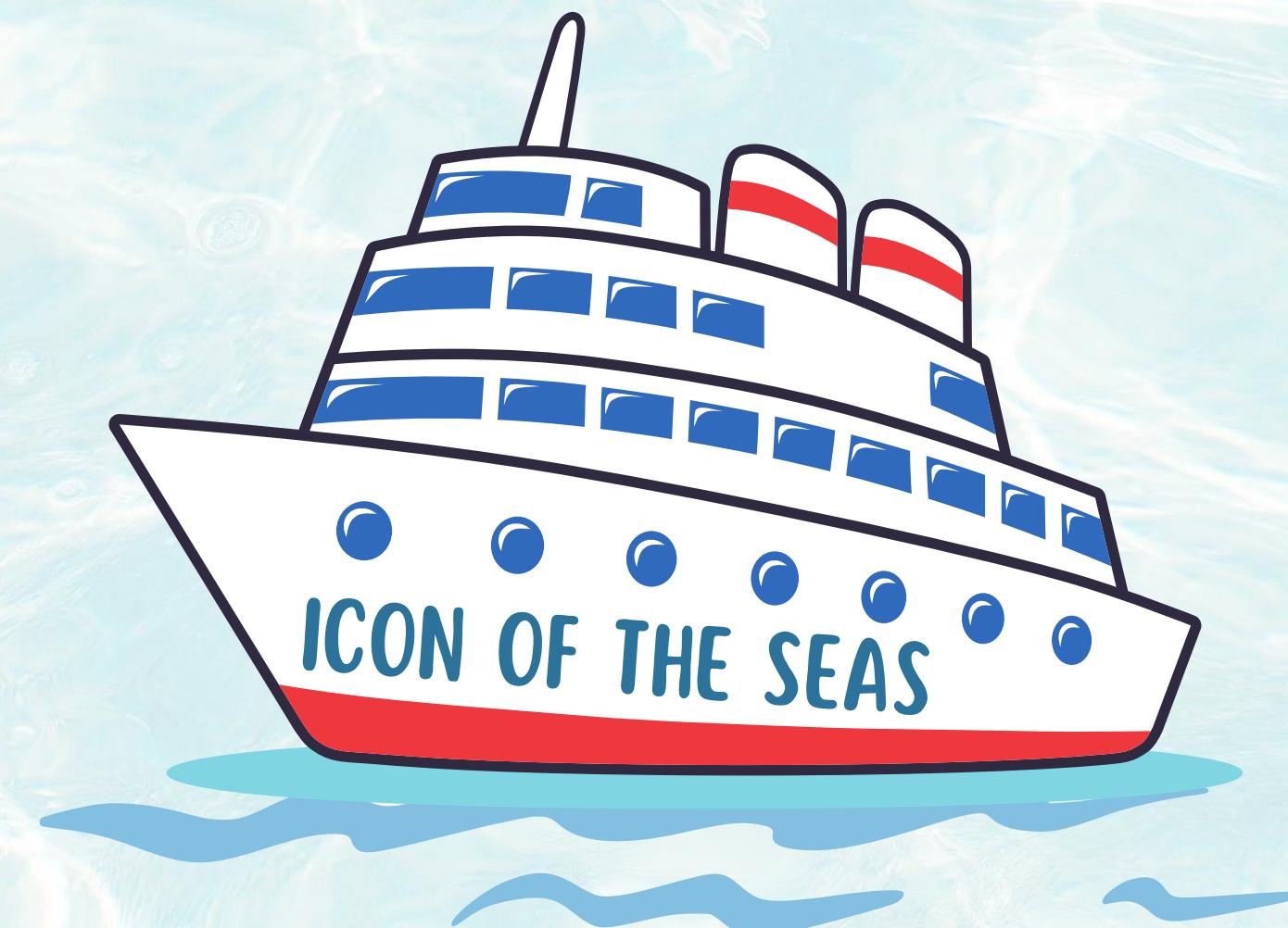




- It combines high CTR, strong user ratings, and good conversion rates.
- Other photos had strengths but failed to convert engagement into measurable actions.

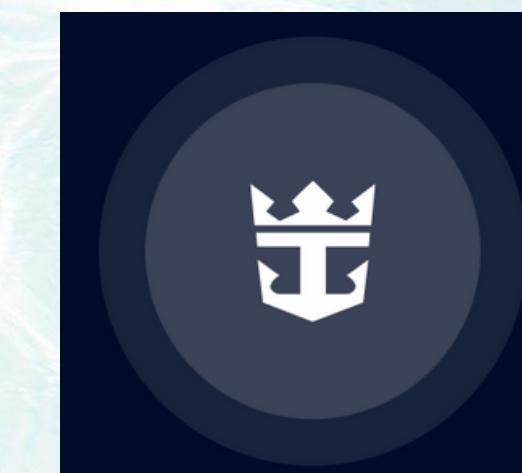
FINAL RECOMMENDATION





CASE STUDY

ICON OF THE SEAS - THE LARGEST CRUISE LINER IN THE WORLD.



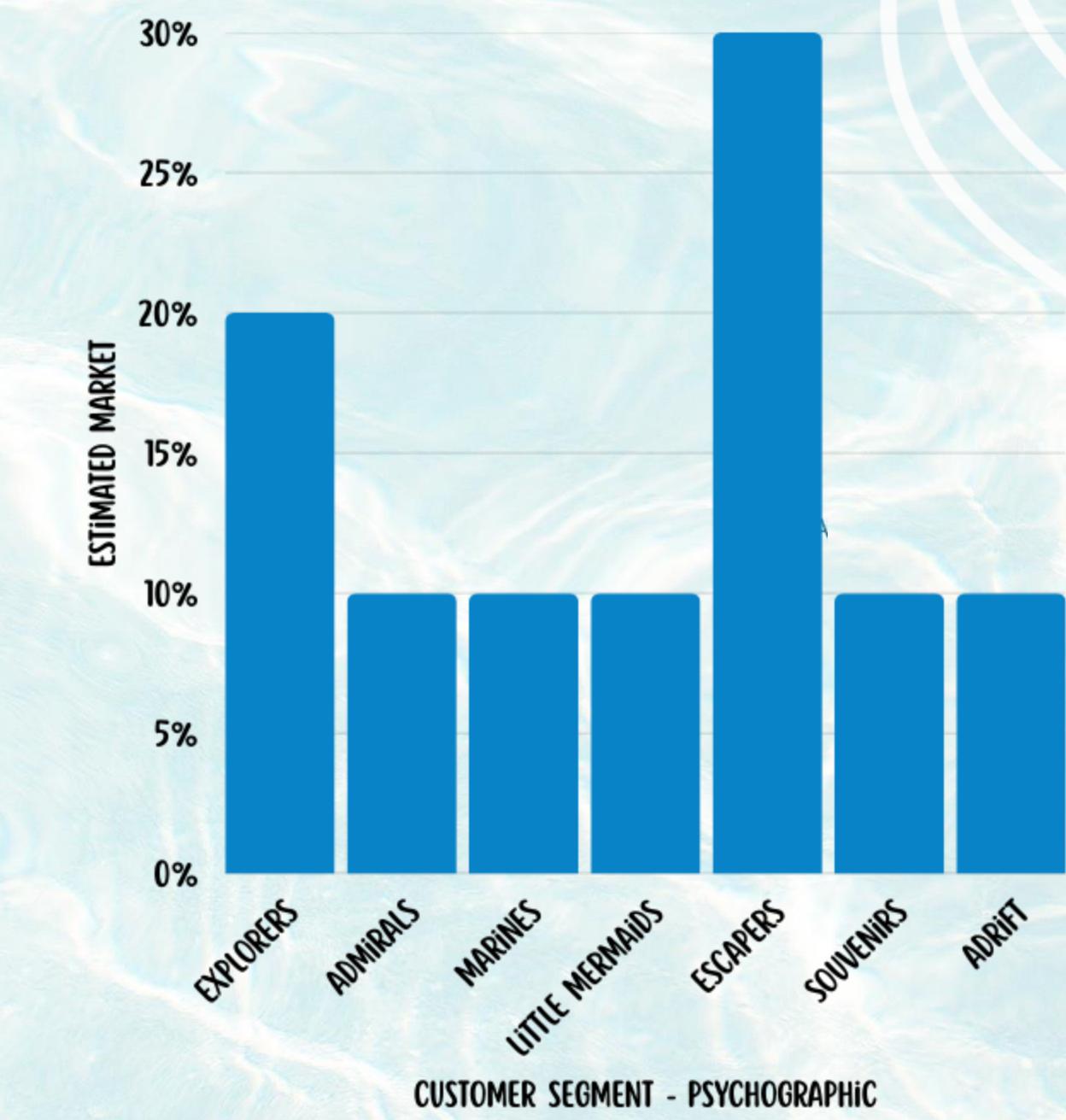
Royal
Caribbean



North
Atlan
C
Ocean

Bermuda

Google My Maps





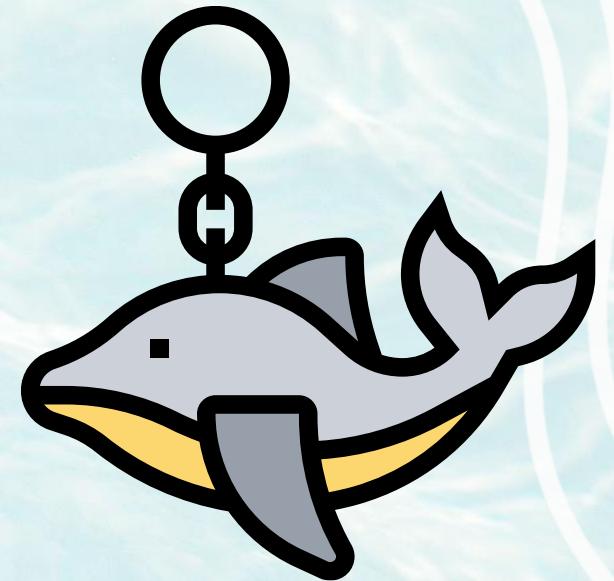
EXPLORERS

Affluent, frequent travelers, cultural learning, social connections, align with Lobster Land's Atlantic ports.



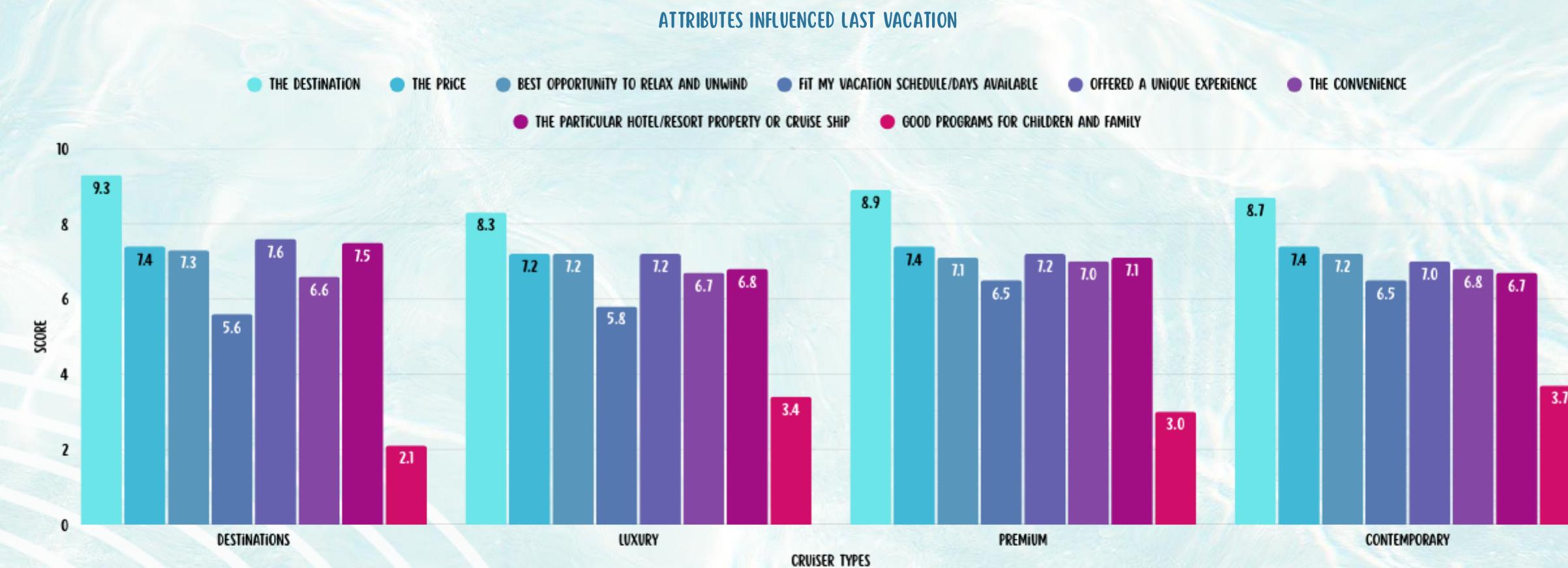
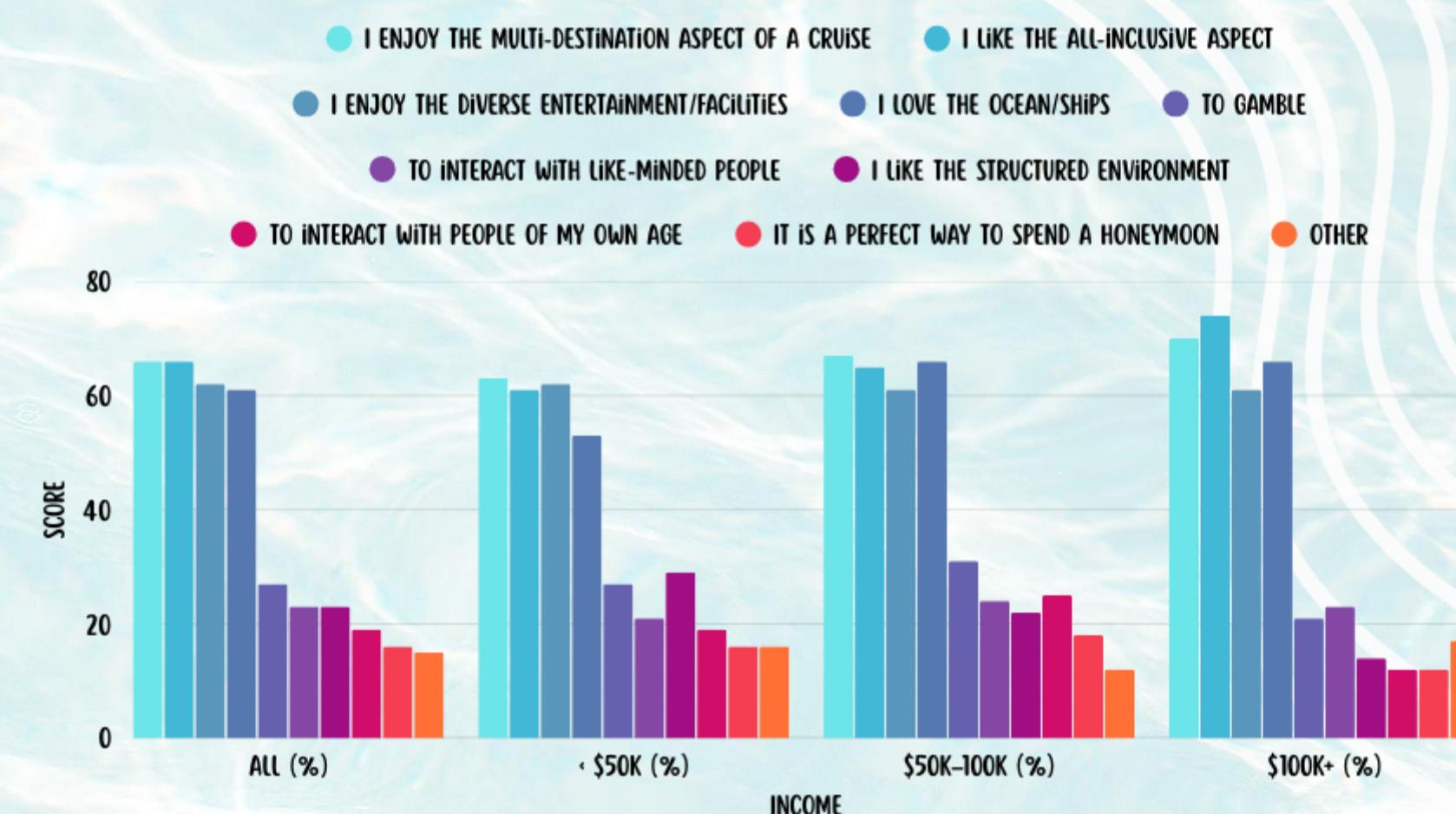
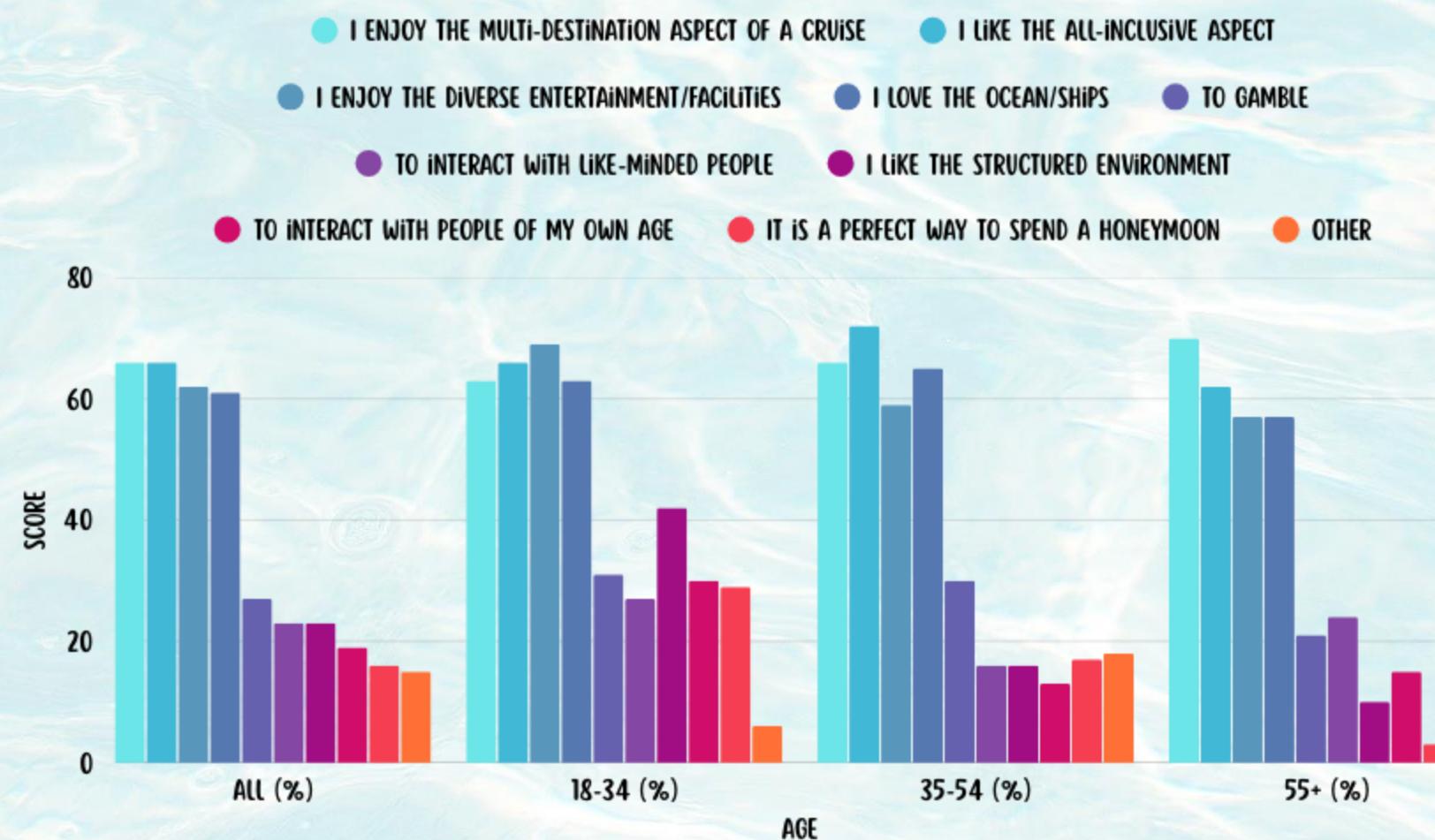
LITTLE MERMAIDS

Upper-middle-class families, quality bonding, family-focused leisure, value good children's activities.



SOUVENIRS

Underserved, price-sensitive, drawn to deals, focus on the moment, attracted by value-driven offerings.





EXPLORERS- MARITIME CULTURE LAB

Workshops on lobster fishing, folklore storytelling, crafting mini traps, inspired by Icon's Central Park.



LITTLE MERMAIDS- LOBSTER FEST FAMILY DECK

Lobster-themed obstacle course, splash zone, picnic with games, modeled after Icon's entertainment zone.



SOUVENIRS - COASTAL VALUE DINING PASS

All-inclusive dining, daily lobster meals, budget-friendly, inspired by Icon's affordable pool offerings.



(For Explorers)

- Blends cultural learning with social engagement
- Evokes Atlantic maritime folklore storytelling
- Reinforces Lobster Land's authentic heritage

Challenge & Trade-off

- Balancing space & budget across segments.
- Flexible multi-use spaces (e.g., Maritime Culture Lab → dining area)
- Optional paid shore excursions to maintain affordability



CONCLUSION

