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Study on the Financial Performance of the Cruise Industry Based on Entropy TOPSIS Method

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ABSTRACT

In recent years, the global cruise industry, having grown substantially and contributed notably to the world economy, has seen its operations and profitability directly impacted by the emergence of the COVID-19 pandemic. To this end, the present study was conducted to analyse the financial performance of the global cruise industry and to understand the development trend of the cruise tourism industry. Focusing on the three major cruise companies dominating nearly 80% of the global cruise industry market share from 2017-2023, the entropy TOPSIS method was hereby adopted to evaluate and compare their financial performance across four key dimensions, including solvency, operating ability, profitability and development ability. By determining the relative weights of these financial indicators, the paper systematically ranked the performance of each cruise company in these critical areas. The study found that the COVID-19 pandemic led to a substantial decline in the financial performance of the cruise industry. Among the companies analysed, Carnival Group (CCL) demonstrated relatively strong overall performance. In contrast, Royal Caribbean (RCL) and Norwegian Group (NCLH) exhibited distinct strengths and weaknesses across various financial aspects. In addition, grounded in the outcomes, recommendations were proposed for cruise business operators in terms of fleet optimisation, shareholder welfare, and cost hedging strategies. These suggestions aimed to strengthen the resilience and risk tolerance of the cruise industry and to achieve the sustainable development of the cruise industry.

KEYWORDS

Cruise industry; Financial performance; Sustainable development

1. INTRODUCTION

Cruise tourism contributes to local prosperity and progress by generating abundant economic output and employment opportunities for all countries [1]. Despite the severe impact of the COVID-19 pandemic on the cruise industry in 2020, it is widely recognised that there remains significant potential for passenger demand, and the industry is actively working towards a comprehensive recovery. The global cruise industry is forecast to total $66.2 billion in 2024 (up 13.8% from 2023), with an annual capacity of 30.1 million passengers (up 4.2% from 2023).

In the tourism industry, financial strategy is seen as a criterion for assessing the viability of a business. For cruise lines, in-depth analyses of financial statements hold considerable significance, making it possible to examine their financial health and identify core indicators that affect the performance. The analysis results will be instrumental for management to devise strategies and address adverse company conditions. Equipped with these determinants of corporate viability, investors can make more informed decisions regarding their investment timing, whether to buy or sell their company

shares. However, studies on empirical analysis of financial performance in the cruise ship sector have been rarely reported.

Focusing on the financial performance of the world's three leading cruise companies, attempts were hereby made to fill the research gap in this area by providing a series of innovative findings as well as managerial implications and recommendations. This may to be the first attempt to quantify the weights of indicators for assessing the financial performance of cruise companies using the entropy TOPSIS method. Since these three cruise companies are representative, occupying about 80% of the global cruise market in terms of revenues and passengers, their financial statements for 2017-2023 were taken as the data samples. Meaningful financial indicators were divided into four dimensions, including operating capacity, development capacity, profitability. and solvency. Furthermore, using the entropy TOPSIS method, the weights of the indicators and sub-annually rankings were calculated to summarise their strengths, weaknesses, and overall situation in different capabilities. Moreover, reasons for the differences in the financial performance of the three major cruise companies were analysed by taking into account the quarterly market conditions, annual reports, and financial analysis reports of the three companies, and relevant suggestions were ultimately put forward for the operators and investors of the cruise companies in terms of optimisation of the fleet, shareholders' welfare, and cost hedging.

2. LITERATURE REVIEW

The cruise industry is characterized by its high capital requirements and pronounced revenue fluctuations. It is a highly integrated sector that encompasses leisure, transport, logistics and maritime businesses. In-depth research on the cruise industry has only emerged in recent years, with relatively little theoretical development and empirical research, especially in the area of financial management. Meanwhile, the correct assessment of a company's financial performance is crucial for investors, creditors and company operators alike [2].

From the financial crisis in 2008 to Covid-19 in 2019, these unexpected events have exerted a significant impact on the shipping industry as a whole, including the cruise industry. Therefore, some scholars have analysed the financial performance of the shipping industry during these particular periods of time [3-6]. However, the financial performance of cruise companies has been rarely explored. Diakomihalis and Papadopoulou [7] analysed the key financial ratios of Celestyal Cruises between 2007 and 2014, and revealed the dynamics of the Greek cruise market and attempting to analyse the impact of the economic crisis through these ratios. Syriopoulos et al. [8] assessed the profitability robustness of the three major cruise lines by combining financial ratio analyses and empirical research methods based on established metrics of major cruise market players. Lin et al. [1] conducted an in-depth study of the financial performance of the COVID-19 pandemic on the development of the global cruise tourism industry from the operational data, trends in cruise passenger numbers, market share, operational capacity, and profitability. This analysis highlighted the severe impact of the COVID-19 pandemic on the global cruise tourism industry. Chrysafis et al. [9] establishes a benchmark for the financial performance of a cruise line company by using non-asymptotic fuzzy estimation to consider the impact of the crisis and provide assistance in risk aversion.

3. DATA AND METHODOLOGY

3.1. Data and Sample Selection

As cruise firms have been scrutinized by financial market, this study examined a sample of three cruise enterprises specifically listed on the New York Stock Exchange. In the travel industry, the cruise market stands out for its relative lack of fragmentation, with three major firms controlling 78% of passenger traffic and 75.3% of revenues. These companies are publicly traded on the New York

and London stock exchanges, offering valuable data on their market behavior, performance, and valuation [10]. As such, these leading cruise lines are deemed representative and instructive for uniform assessment criteria.

The data collected in this paper were secondary and were derived from the financial statements (income distribution statements, balance sheets, and cash flow statements) of the three cruise companies considered for the years 2017-2023. These data were related to the financial indicators listed below.

Table 1. The calculation formulas of financial analysis.

Dimension	Indicators	Variables	Calculation formula	Property
Solvency	Total debt ratio	x1	Total liabilities / Total assets	Moderate
	Current ratio	x2	Current assets / Current liabilities	Moderate
	Cash ratio	x3	Cash / Current liabilities	Moderate
	Time interest earned ratio(TIE)	x4	EBIT / Interest	Positive
Operating capacity	Total assets turnover	x5	Sales / Total assets	Positive
	Receivables turnover	x6	Sales / Average collection period	Positive
	Inventory turnover	x7	Cost of goods sold / Inventory days' sales in inventory	Positive
	Current assets turnover	x8	Net income from main business / Average total current assets	Positive
Profitability	Rate on equity (ROE)	x9	Net income / Total equity	Positive
	Return on assets (ROA)	x10	Net income / Total assets	Positive
	Rate earned on investment (ROI)	x11	Annual profits / Total investment	Positive
	Earnings per share (EPS)	x12	Net income / Shares outstanding	Positive
Developing capacity	Total assets growth rate	x13	Total assets growth this year / Total assets at the beginning of the year	Positive
	Revenue growth rate	x14	Sales revenue growth this year / Total assets revenue last year	Positive
	Gross profit growth rate	x15	Gross profit growth this year / Gross profit last year	Positive
	Net cash flow growth rate	x16	(Current period net cash flow - prior period net cash flow) / prior period net cash flow	Positive

3.2. Methodology

The Entropy weight TOPSIS method is a hybrid multi-criteria decision-making technique that leverages the strengths of information entropy and multi-attribute decision-making. It effectively ascertains the indicator weights and identifies the optimal solution within the decision-making framework.

In this study, let the initial evaluation matrix of each financial indicator be: $X = \begin{bmatrix} X_{11} & \cdots & X_{1n} \\ \vdots & \ddots & \vdots \\ X_{m1} & \cdots & X_{mn} \end{bmatrix}$.

The data were processed to obtain the standard matrix using the extreme value method X'.

In order to eliminate the effect of the scale of each indicator, the data were standardised using the extreme value method:

$$X'_{ij} = \frac{X_{ij} - \min(X_j)}{\max(X_j) - \min(X_j)} \quad (1)$$

Positive indicators:

$$X'_{ij} = -\left|X_{ij} - K\right| \quad (2)$$

Moderate indicators:

$$X'_{ij} = \begin{cases} 1 - \frac{a_1 - X_{ij}}{a_1 - b_1}, & X_{ij} < a_1 \\ 1, & a_1 \leq X_{ij} \leq a_2 \\ 1 - \frac{X_{ij} - a_2}{b_2 - a_2}, & X_{ij} > a_2 \end{cases} \quad (3)$$

Negative indicators:

$$X'_{ij} = \frac{\max(X_j) - X_{ij}}{\max(X_j) - \min(X_j)} \quad (4)$$

Where, Xij is the original value of the j indicator of the i sample, max (Xj) is the maximum value of the j indicator, min (Xj) is the minimum value of the j indicator, X'ij is the standardised value, K is the reference standard of the suitability indicator - the value of the suitability coefficient, [a1, a2] is the optimal range of the suitability indicator, b1 is the intolerable lower limit, and b2 is the intolerable upper limit. Four moderateness indicators are involved in the index system, i.e., current ratio (1-1.5), cash ratio (the value of moderateness coefficient ranges from 0.4 to 1.4), and debt to assets ratio (the optimal range spans from 40% to 60%).

The cruise industry is characterized by its substantial capital intensity, with significant investments directed towards the acquisition and upkeep of vessels. As a result, current ratio ratios in this industry, which measure short-term liquidity, tend to be lower compared to asset-light sectors such as services or technology.

The evaluation indicators are non-negative (i.e., the data are uniformly shifted by 0.0001 units) to obtain the normalisation matrix Yij.

Herein, the share was calculated:

$$P_{ij} = \frac{Y'_{ij}}{\sum Y'_{ij}} \quad (5)$$

The information entropy was calculated:

$$e_j = -k \sum_i P_{ij} \ln(P_{ij}) \quad (6)$$

Where, $k = \frac{1}{\ln(m)}$, $k > 0$, $e_j \geq 0$, m is the number of samples.

The value of the information utility was calculated:

$$d_j = 1 - e_j \quad (7)$$

Decision matrix was normalised via Eq. (8):

$$\omega_j = \frac{d_j}{\sum_j d_j} \tag{8}$$

Weighted normalized decision matrix was formed:

$$V = X'_{ij} \times W = \left[v_{ij}\right]_{m \times n} \tag{9}$$

Where, the weight vector W consists of indicator weights ω_j.

Positive ideal solution (PIS) and negative ideal solution (NIS) were determined:

$$V^+ = \left\{\max(v_{ij}) \middle| i = 1,2,\dots,m\right\} = \{V_1^+, V_2^+, \dots, V_m^+\} \tag{10}$$

$$V^- = \left\{\min(v_{ij}) \middle| i = 1,2,\dots,m\right\} = \{V_1^-, V_2^-, \dots, V_m^-\} \tag{11}$$

The distance of each alternative from PIS and NIS were calculated:

$$D_i^+ = \sqrt{\sum_{j=1}^{n}(V^+ - V_i)^2} \tag{12}$$

$$D_i^- = \sqrt{\sum_{j=1}^{n}(V^- - V_i)^2} \tag{13}$$

The closeness coefficient of each alternative was calculated:

$$T_i = \frac{D_i^-}{D_i^+ + D_i^-} \times 100 \tag{14}$$

4. RESULTS AND DISCUSSION

From the perspective of comprehensive performance (Table 2), the entropy weights of the four dimensions are solvency, operating ability, profitability and development ability in descending order, and the weight distribution is relatively concentrated. Among them, solvency has the highest entropy weight at 47.79%, signifying its critical impact on the overall financial performance of cruise companies. The weight assigned to the operational capability index is the second highest. The entropy weights for profitability and development ability are relatively similar and comparatively lower, with each assessment index holding varying degrees of importance in the overall evaluation. Therefore, solvency contributes the most significantly to the financial performance assessment results of cruise enterprises. In terms of the weight coefficients of individual indicators, among the indicators, the interest coverage multiple and current ratio occupy the largest weights at 18.81% and 13.23%, respectively.

Table 2. Results of entropy method

Dimension	Indicators	Information entropy	Information utility	Weighing factors	Total weights
Solvency	Total debt ratio	0.938	0.062	4.52%	47.79%
	Current ratio	0.8184	0.1816	13.23%	
	Cash ratio	0.8457	0.1543	11.23%	
	Time interest earned ratio (TIE)	0.7417	0.2583	18.81%	
Operating capacity	Total assets turnover	0.9123	0.0877	6.39%	24.74%
	Receivables turnover	0.8817	0.1183	8.61%	
	Inventory turnover	0.9494	0.0506	3.68%	
	Current assets turnover	0.9168	0.0832	6.06%	
Profitability	Rate on equity (ROE)	0.9756	0.0244	1.78%	13.81%
	Return on assets (ROA)	0.9328	0.0672	4.89%	
	Rate earned on investment (ROI)	0.9398	0.0602	4.39%	
	Earnings per share (EPS)	0.9623	0.0377	2.75%	
Developing capacity	Total assets growth rate	0.9327	0.0673	4.90%	13.68%
	Revenue growth rate	0.9616	0.0384	2.80%	
	Gross profit growth rate	0.9361	0.0639	4.65%	
	Net cash flow growth rate	0.9818	0.0182	1.33%	

Table 3 reveals that throughout the seven-year span, CCL consistently led the rankings each year, demonstrating robust overall performance. Remarkably, even during the pandemic outbreak, CCL's performance remained superior to that of the other two cruise lines during periods when there was no outbreak. The rankings between RCL and NCLH saw significant fluctuations before and after the epidemic, with ups and downs. Therefore, the following section further analysed the rankings for each of the four dimensions (Figure 1) and their entropy-weighted secondary indicators.

Table 3. Results of TOPSIS method

Year	The cruise company	Positive ideal solution distance	Negative ideal solution distance	Relative closeness	Ranking of overall capacity
2017	RCL	0.227	0.136	0.375	14
	CCL	0.184	0.201	0.521	3
	NCLH	0.22	0.141	0.391	11
2018	RCL	0.223	0.139	0.384	12
	CCL	0.165	0.227	0.579	1
	NCLH	0.221	0.153	0.409	7
2019	RCL	0.229	0.134	0.369	15
	CCL	0.173	0.215	0.554	2
	NCLH	0.217	0.144	0.399	10
2020	RCL	0.235	0.174	0.425	6
	CCL	0.23	0.186	0.446	4
	NCLH	0.257	0.092	0.264	20
2021	RCL	0.25	0.124	0.332	16
	CCL	0.238	0.177	0.427	5
	NCLH	0.244	0.166	0.404	9
2022	RCL	0.244	0.104	0.299	19
	CCL	0.224	0.153	0.406	8
	NCLH	0.255	0.087	0.255	21
2023	RCL	0.248	0.118	0.323	17
	CCL	0.221	0.134	0.378	13
	NCLH	0.249	0.115	0.315	18

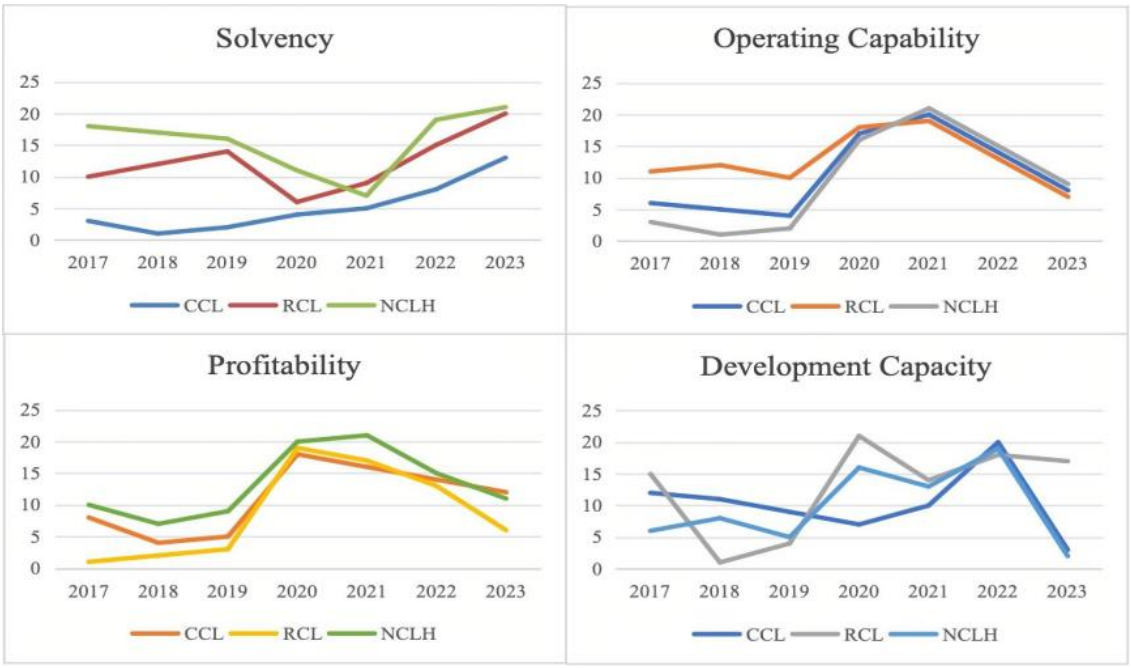


Figure 1. Ranks of the three cruise companies on four dimensions

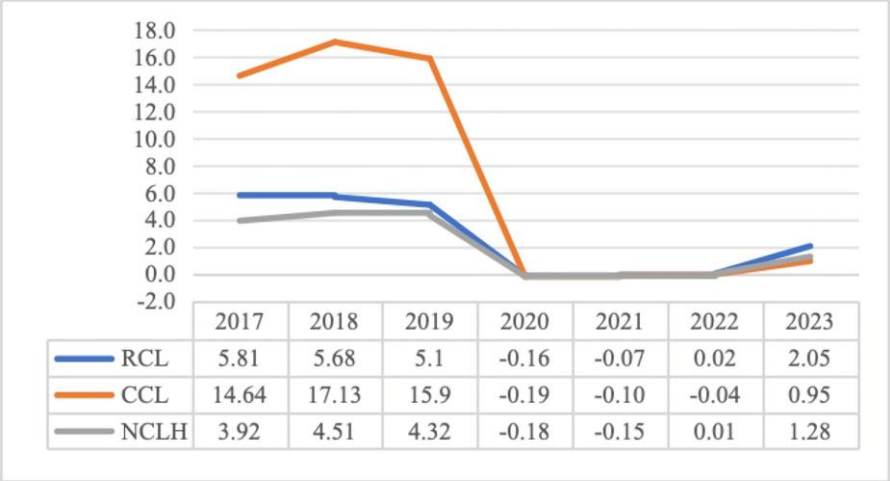
4.1. Solvency

In terms of solvency, the three major cruise lines have been stable in their rankings from year to year. Over the past seven years, CCL has emerged as the most impressive performer, consistently securing the top spot in the rankings. In contrast, NCLH has exhibited a weaker position in terms of solvency.

The solvency advantage has been a pivotal factor contributing to CCL's sustained superior performance. Given the weighting comparison and the industry-specific traits of cruise companies, the key assessment indicators for solvency are primarily the interest coverage multiple, current ratio and quick ratio.

The interest coverage multiple presents the ability of the enterprise to repay the debt interest. A cruise line with a higher interest coverage multiple performs better in coping with the pressure of interest payments and maintain continuity of operations during periods of economic instability.

According to figure 2, the TIE ratios of CCL was significantly higher than RCL and NCLH in previous years, averaging 225% higher. However, in 2020 the TIE ratios of all the companies dropped significantly, suggesting that the operating profits of these companies were not sufficient enough to cover their interest costs. This necessitated new sources of financing to avoid a financial crisis. Following the epidemic, all three companies' TIE have recovered, but they are still well below their pre-epidemic levels.

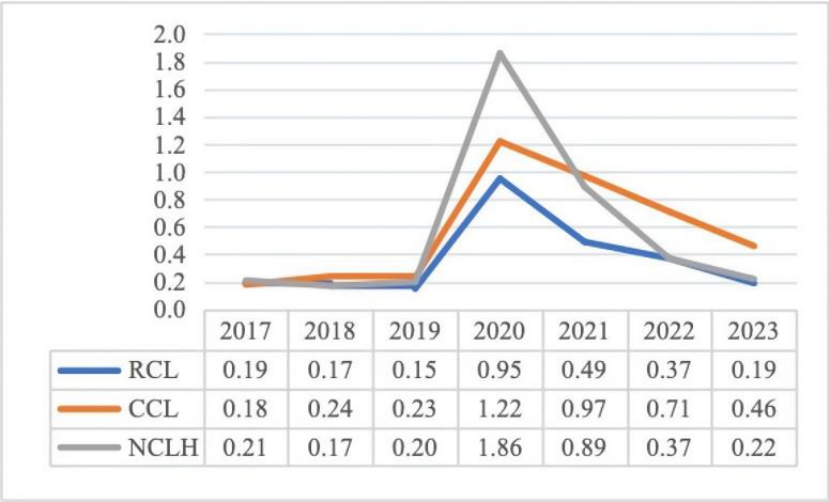


	2017	2018	2019	2020	2021	2022	2023
RCL	5.81	5.68	5.1	-0.16	-0.07	0.02	2.05
CCL	14.64	17.13	15.9	-0.19	-0.10	-0.04	0.95
NCLH	3.92	4.51	4.32	-0.18	-0.15	0.01	1.28

Figure 2. TIE of top three cruise companies in the world, 2017~2023

The current ratio includes all current assets, such as inventory and accounts receivable. Its moderateness is important for cruise companies to ensure that they remain financially sound and creditworthy in the face of seasonal demand fluctuations and external environmental risks. However, an excessively high growth rate can impose a strain on the future operations of a cruise line, indicating that the company is attempting to secure substantial working capital through significant debt accumulation.

All three cruise companies experienced a significant increase in their current ratios in 2020, most likely because they increased their holdings of cash and cash equivalents or borrowed debt to deal with the uncertainty of the epidemic. CCL demonstrated a relatively stable overall magnitude of change, aligning closely with the moderate range for both solvency metrics. This implied that CCL possessed substantial cash reserves, enabling it to cover current liabilities even during temporary revenue shortfalls. It also suggested that CCL was well-positioned to secure bank loans and other financing sources. Consequently, CCL had a more robust capacity to manage regular working capital requirements and sudden financial challenges, allowing it to navigate crises more effectively.



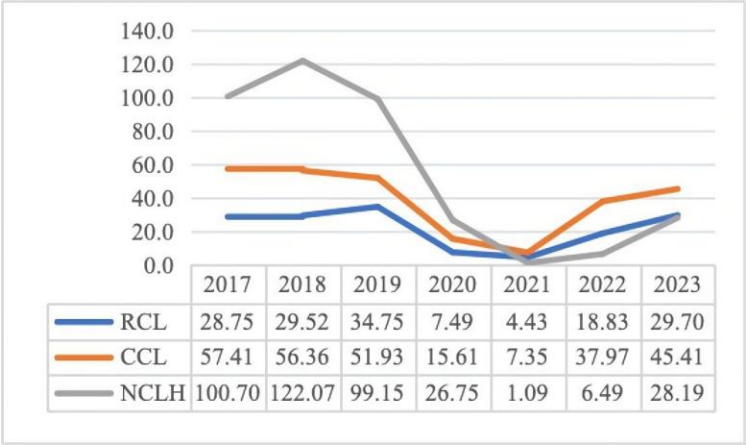
	2017	2018	2019	2020	2021	2022	2023
RCL	0.19	0.17	0.15	0.95	0.49	0.37	0.19
CCL	0.18	0.24	0.23	1.22	0.97	0.71	0.46
NCLH	0.21	0.17	0.20	1.86	0.89	0.37	0.22

Figure 3. The current ratio of top three cruise companies in the world, 2017~2023

4.2. Operational Capacity

In terms of operational capacity, the difference between the three major cruise companies before and after the epidemic was more pronounced. CCL was more stable and remained in the middle of the pack. Prior to the epidemic, NCLH was leading significantly. However, during the recovery phase post-pandemic, RCL surged ahead, exhibiting the most robust operational rebound capabilities. According to the weighting comparison above and the industry characteristics of cruise enterprises, accounts receivable turnover ratio was hereby selected as a representative index.

The accounts receivable turnover ratio of a cruise enterprise refers to the speed and efficiency of an enterprise in collecting accounts receivable within a certain period of time (usually one year). Prior to the epidemic, NCLH had the highest accounts receivable turnover ratio, indicating strong operational capability and credit control. However, due to the plunge in revenue and cash flow constraints caused by the epidemic, it also suffered the largest decline, reflecting its weak ability to cope with risks. Meanwhile, RCL and CCL showed similar movements, with CCL's overall accounts receivable turnover ratio being higher and less volatile before and after the epidemic, demonstrating its operational stability. This also reflected its effective strategies in operations management and customer payments, enabling it to collect its receivables more quickly and improve its cash flow after the epidemic.



	2017	2018	2019	2020	2021	2022	2023
RCL	28.75	29.52	34.75	7.49	4.43	18.83	29.70
CCL	57.41	56.36	51.93	15.61	7.35	37.97	45.41
NCLH	100.70	122.07	99.15	26.75	1.09	6.49	28.19

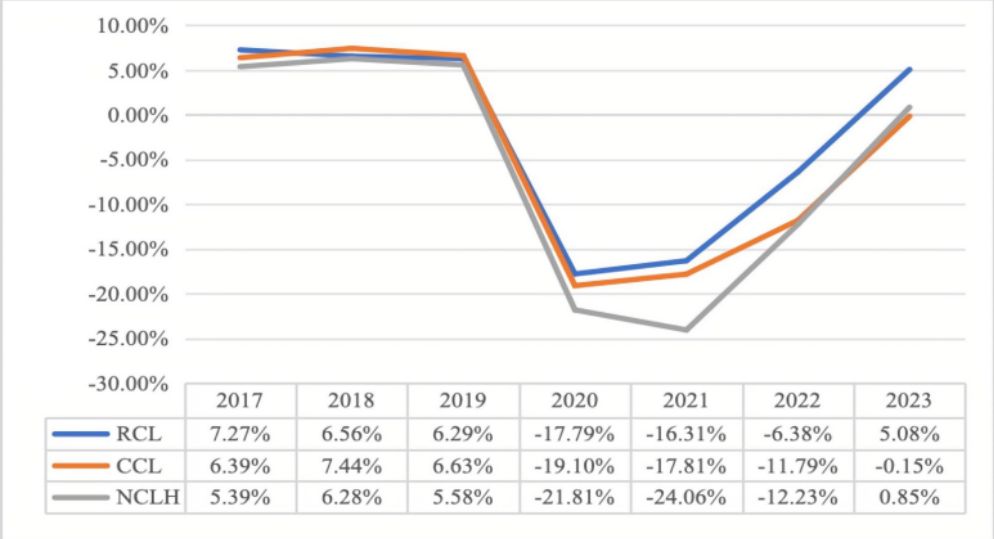
Figure 4. The receivables turnover of top three cruise companies in the world, 2017~2023

4.3. Profitability and Development Capacity

In terms of profitability, CCL as a whole remained relatively stable and favourable, with particularly strong performance during the epidemic. RCL excelled as the top performer prior to the epidemic, yet experienced a decline in performance as the period progressed. Norwegian Group had the weakest profile overall. Following the weighting comparisons and subsequent rigorous screening, ROA was hereby selected as a representative assessment metric.

ROA measures the efficiency with which a company's assets are used to generate net profit. It serves as an indicator of management's effectiveness in utilising both fixed and current assets to create value for the company.

Affected by the epidemic, all three cruise companies did not generate enough profit to cover the cost of their assets, and all of them experienced a significant drop in ROA. Among them, RCL recovered better than CCL and NCLH. In 2023, RCL saw its net profit shift from a negative to a positive figure, indicating that its primary operations started to generate positive cash flow. Therefore, RCL's ROA has demonstrated strong resilience during the epidemic, suggesting solid operating performance, effective utilisation of shareholder and debt holder capital, and support for strong growth momentum and value creation.



	2017	2018	2019	2020	2021	2022	2023
RCL	7.27%	6.56%	6.29%	-17.79%	-16.31%	-6.38%	5.08%
CCL	6.39%	7.44%	6.63%	-19.10%	-17.81%	-11.79%	-0.15%
NCLH	5.39%	6.28%	5.58%	-21.81%	-24.06%	-12.23%	0.85%

Figure 5. ROA of top three cruise companies in the world, 2017~2023

5. SUGGESTIONS AND CONCLUSION

5.1. Suggestions

For operators of cruise companies, examining the financial performance and understanding the drivers behind their strengths and weaknesses can aid in devising investment and management strategies. This involves adopting appropriate corporate tactics to enhance performance.

5.1.1. Fleet Optimisation Strategy

When profitability is poor, cruise ship operators can rationally allocate ships, evaluate the operational efficiency of ships, and sell less efficient ships to improve the unit cost, thus improving the efficiency of the overall fleet. In addition, when the profitability improves, considerations should be made to invest in larger and more efficient vessels to accelerate the return to profitability and increase the return on investment, so as to realise additional structural gains.

For example, in response to COVID-19, Carnival Corporation offloaded 19 less efficient vessels, cutting planned capacity growth from 2019 to 2025 to 2.5% from 4.5%. Post-resumption, 15% of Carnival's fleet consists of newer, more efficient ships.

5.1.2. Shareholder Benefits

Shareholder benefit measures, such as sailing credits and onboard credits, have played a positive role in driving sales growth and increasing average unit prices and revenues for cruise companies. Sailing credits enable shareholders to enjoy substantial price reductions. Additionally, the flexibility of vouchers allows shareholders to choose the appropriate denomination tailored to their personal travel budget, further increasing the attractiveness and accessibility of travel. Credits are extensively used in a variety of spending areas onboard, enriching the shareholder's experience onboard the cruise ship. As a cumulative reward mechanism, onboard credits incentivize shareholders to select Carnival Cruise Lines for future voyages and enhance their trips by redeeming points. This strategy fosters repeat spending and cultivates long-term customer loyalty, while bolstering the brand image and enhancing market competitiveness.

For example, as shown in Figure X, Carnival Cruise Lines extends a suite of exclusive perks to its shareholders. They can obtain substantial benefits via voyage credit vouchers, valued from $50 to $250 depending on the length of the voyage.

Table 4. Shareholder Benefits Schedule in CCL

	North America Brands	Continental Europe Brands	United Kingdom Brands	Australia Brands
Onboard credit per stateroom on sailings of 14 days or longer	US $250	€200	£150	A$250
Onboard credit per stateroom on sailings of 7 to 13 days	US $100	€ 75	£60	A$100
Onboard credit per stateroom on sailings of 6 days or less	US $ 50	€ 40	£30	A$ 50
Onboard credit per stateroom on sailings of 14 days or longer	US $250	€200	£150	A$250

5.1.3. Fuel Cost Hedging

In response to external risks and shocks, cruise lines often employ hedging strategies as a risk management tool. Companies can manage market volatility more effectively through proactive hedging. Such strategies are crucial, particularly for managing fuel expenses and dealing with idle capacity.

Fuel costs are a significant component of cruise ship operating costs. By locking in fuel prices in advance, cruise lines can avoid cost increases caused by rising oil prices and protect their profits from market fluctuations. In addition, cruise lines are exposed to the risk of idle capacity due to demand fluctuations. Purchasing idle capacity insurance provides financial protection in the face of these uncertainties. This insurance can help maintain operational and financial stability by providing a revenue supplement in the event of a drop in demand.

For example, in the first quarter of 2022, Norwegian Cruise Line's corporate price per tonne of fuel (excluding hedges) climbed to $724 from $590 in 2021, revealing that the company adopted a clear strategy for managing fuel costs. Meanwhile, Norwegian Cruise Line spent $136 million on fuel during the reporting period, accounting for 18.4% of its total operating expenses. To mitigate the impact of volatile fuel prices, the company employed derivative agreements to hedge about 41% of its projected fuel purchases for 2022.

5.2. Conclusion

Current research on the cruise industry's financial performance remains sparse. Therefore, this paper examined the financial performance of the three major cruise companies from 2017 to 2023 using the entropy weight Topsis method. It calculated the weights for four key capabilities and their specific indicators, ranked the companies' overall and individual capabilities, analysed their strengths and weaknesses, and offered corresponding management recommendations.

The study indicates CCL's superior overall performance, notably its strong risk resilience and solvency during the epidemic, which are key to its leading position. As a result of the epidemic, all three major cruise companies experienced significant declines in their financial metrics in 2020, but recovered in 2023. RCL demonstrated the strongest ability to resume operations after the epidemic; in terms of profitability, CCL and RCL both performed better in terms of profitability; and NCLH presented a weaker overall ability.

Based on this conclusion, this paper put forward management suggestions for cruise operators from three aspects of fleet optimisation, shareholder welfare, and cost hedging. In order to face the uncertainties in the external environment, operators should optimise the allocation of resources, rationally allocate ships, evaluate the operational efficiency of ships, sell the less efficient ships, and purchase larger ships when the operation recovers. In addition, operators should pay attention to the influence of shareholders, and make use of voyage vouchers and on-board credits to enhance shareholder satisfaction and attract their investment. Efforts should also be made to use hedging strategies for enterprise risk management in terms of fuel costs and idle capacity. By employing these strategies, cruise companies can navigate the crisis, sustain stable financial performance amid uncertain external conditions, and set the stage for profitable growth as operations resume.

CONFLICTS OF INTEREST

The author declares no conflicts of interest.

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