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Key Survival Drivers of Low-Cost Carriers: An Empirical Investigation in the Context of Thai Airlines

Chadaporn Jaktong[1], Nisara Paethrangsi[2], and Kamnuan Wisutthipinetr[3]
Aviation Service Industry Program, Faculty of Liberal Arts, Rajamangala University of Technology Thanyaburi[1,2,3]
chadaporn_j@rmutt.ac.th[1], nisara_p@rmutt.ac.th[2], kamnuan_w@rmutt.ac.th[3]

Abstract

This study investigates the key survival drivers of low-cost carriers (LCCs) in Thailand, a business facing rising fuel costs, intense competition, and external factors. The objectives were to identify critical drivers, examine managerial perspectives, and propose a comprehensive survival model. A mixed-methods design was employed, integrating quantitative surveys of 400 passengers and employees with qualitative interviews of 15 aviation experts. Quantitative data were analysed using structural equation model (SEM), while qualitative insights contextualized the findings. Results reveal that revenue and market strategy exert the strongest influence on survival, supported by operational performance, customer relationship, and network management. The validated model underscores that sustainable survival requires a balanced integration of financial strength, operational excellence, customer loyalty, and strategic network design. These results provide empirical evidence from the Thai context and practical advice for surviving in unstable markets, which is a contribution to the field of airline management.

Keywords: Survival Driver, Thai Aviation Industry, Low-Cost Carriers (LCCs), Operational and Market Strategy

Introduction

There is an increasing threat to the survival of low-cost carriers (LCCs) in Thailand. Rising fuel prices and operational expenses have reduced cost advantages, while competition between LCCs and full-service carriers (FSCs) has caused domestic overcapacity, price wars, and declining profitability (Kankaew et al., 2021; Baek & Nam, 2025). Economic recessions, political instability, and pandemics have interrupted demand and operations, compelling airlines to swiftly adapt to sustain survival (Paethrangsi et al., 2025). These difficulties highlight Thai LCCs' sensitivity and the urgent need for resilience-focused strategies that can maintain their competitiveness and operational stability in a market that has grown increasingly unstable.

To response the global and Thai aviation sector disruptions and structural changes such as fuel prices, sustainability requirements, digital transformation pressures, and changing passenger expectations make low-cost carriers volatile during the post-pandemic recovery. These new dynamics require context-specific airline survival models that integrate financial, operational, and customer relationship dimensions (Lu et al., 2023). The authors address this critical gap by examining Thai airline, which is heavily influenced by tourism dependency, regulatory diversity, and competitive cost structures. Despite extensive global literature on LCC performance, empirical research on survival mechanisms in Thailand. This research integrates quantitative modeling with managerial practice and adapts survival theory to address the digital, sustainable, and competitive dynamics of contemporary air transport systems, thereby enhancing the literature on airline management and service innovation.

The primary survival drivers of Thai low-cost carriers (LCCs) were analyzed to address the research gap by determining methods for enhancing operational performance, diversifying revenue streams, optimizing network management, and cultivating strong customer loyalty to ensure sustainable survival in competitive markets.

Aims

1. To identify the key drivers on the survival of low-cost carriers in Thailand.
2. To explore managerial perspectives on the influence of operational cost, revenue and market strategy, network and route, and customer relationship in sustaining low-cost carriers.
3. To propose a comprehensive survival model for Thai low-cost carriers.

Literature review

Low-cost carriers' business model

Southwest Airlines invented the low-cost carrier (LCC) strategy in the 1970s, focusing on streamlined services, point-to-point operations, and high aircraft utilization to cut fares (Alamdari & Fagan, 2005). LCCs have added loyalty programs, long-haul services, and other revenue streams (Daft & Albers, 2013; Whyte & Lohmann, 2020). Due to market liberalization, rising middle-class demand, and tourism development, the model expanded rapidly in Southeast Asia in the early 2000s. AirAsia, with the slogan "Now Everyone Can Fly," led this expansion, followed by Lion Air, Cebu Pacific, VietJet, and Thai AirAsia, which targeted underserved communities (Blocker et al., 2019). Regional factors such as economic development, regulatory diversity, and tourism demand, along with global cost efficiency and hybridization pressures, persist in influencing the sector (Wang et al., 2024; Goh, 2005). LCCs in Thailand are encountering ongoing challenges due to fierce price competition and diminishing profit margins. They often depend on promotional fares, which may adversely affect their financial performance and undermine the quality of their services. These dynamics highlight the imperative to investigate the surviving determinants of business to determine competitive and sustainable solutions.

Key Performance Drivers and Competitive Advantages

Airline sustainability rests on developing resilient business models that integrate social, environmental, and economic value (Bocken et al., 2013). Airlines are required to maintain long-term viability by maintaining a balance between financial strength, operational adaptability, and environmental responsibility in a volatile environment. Leadership is crucial, employing pragmatic strategies like renewable energy investment, efficiency improvements, and sustainable partnerships, which ensure resilience (Emani, 2024). Financial literature emphasizes liquidity, leverage, and profitability as core survival metrics (Doganis, 2019; Vasigh et al., 2018). Collectively, financial, operational, and strategic indicators provide complementary signals of airline survivability, underscoring the importance of both managerial foresight and structural adaptability in sustaining competitiveness.

Operational Performance

Low-cost carriers (LCCs) in Thailand have grown swiftly, demonstrating endurance and adaptation in a competitive market. The expansion of the fleet highlights the industry's capacity to utilize efficiencies that set it apart from full-service carriers. Maintaining competitiveness relies on sustaining lower operating costs compared to cost-efficient full-service competitors (Homsombat et al., 2014). Cost leadership is fundamental, necessitating ongoing optimization of aircraft utilization, load factors, and route efficiency. Furthermore, improving operational effectiveness and long-term market performance requires adopting labor-saving technology and bolstering employee expertise (Fernando, 2012; Cervinka, 2017).

Revenue Optimization and Market Strategy

The LCCs place a high importance on cost effectiveness, but profitability is driven by revenue maximization through strategic pricing and market positioning. Revenue per available seat kilometer (RASK) is an essential metric that includes both fare and ancillary income, enabling the assessment of overall revenue efficiency. (Doganis, 2019; Soyk et al., 2018). Successful LCCs optimize pricing to increase RASK, rather than relying on the lowest fares. Critical performance indicators include baggage, seat selection, and insurance revenues, which average USD 30–60 per passenger (Warnock-Smith et al., 2017; O’Connell & Warnock-Smith, 2013). Pricing flexibility helps companies adapt quickly to economic disruptions, competition, and demand changes, increasing resilience. Carrier revenue stability is enhanced by carriers that demonstrate higher pricing flexibility indices, which reduces their vulnerability to seasonal fluctuations and downturns (Merkert & Williams, 2013).

Airline Network and Route Strategy

Airline network and route design are essential for competitive positioning, profitability, and efficiency. Choices regarding destinations, frequency, and aircraft type influence cost structures and passenger satisfaction. Literature underscores the importance of market access, optimization, and resilience. According to Lordan et al. (2016), network robustness helps maintain stability in the face of disruptions, and alliance configurations affect adaptability. For example, Star Alliance has the most resilient topology. Operational models, including dynamic scheduling games and re-fleeting mechanisms, enhance flexibility under uncertain conditions (Eltoukhy et al., 2017). Additionally, market expansion is stimulated by strategic network design, which capitalizes on demand synergies and slot concentration in hub-and-spoke structures (Pels, 2021). Network share is closely associated with strategic positioning, geographic coverage and alliance participation further enhance market reach and competitiveness (Lohmann & Koo, 2013). Effective network strategies must ultimately strike a balance between revenue optimization and cost efficiency.

Customer relationship and digital capability.

These factors are critical factors in the LCC sector, as they contribute to satisfaction, retention, and loyalty. Perceived value, satisfaction, and repeat booking behavior are strongly correlated in empirical studies (Park et al., 2019). Customer frequency indices are dependable on CRM performance indicators. Indirectly, competitiveness is reinforced by employee-driven brand identification, which further fosters customer orientation (Hwang et al., 2020). Digital and customer service skills are essential for differentiation in developed markets, but they are not enough for survival on their own. Mobile platforms and investments in per-passenger technology can lead to digital innovation, which can improve satisfaction and efficiency, thereby enabling carriers to compete more effectively in an increasing digital aviation environment.

Table 1 Key Independent Variables and Indicators for Thai Low-Cost Carrier Survival

Independent Variable (IV)	Possible Measurable Indicators	Explanation	References
1. Operational Performance	- Load Factor (%) Revenue Passenger Kilometers (RPK) ÷ Available Seat Kilometers (ASK) - On-Time Performance (%) - Productivity on ASK per employee, Turnaround Time which is counted the Ground time between landing and next departure; shorter turnaround improves efficiency	Reflects efficiency in operational control such as % of flights departing/arriving within 15 minutes of schedule; affects customer satisfaction and efficiency and productivity, which is critical for LCC survival.	Ballou et al., 2021; Suau-Sanchez et al., 2020; Ater, 2012; Prince & Simon, 2017
2. Revenue & Market Strategy	- Revenue per Available Seat Kilometer (RASK) - Ancillary revenue per passenger (baggage, seat selection, food, etc.) - Yield per Revenue Passenger Kilometer (RPK)	Captures airline pricing strategies, market penetration, and effectiveness in maximizing revenue beyond ticket sales.	Doganis, 2019; Warnock-Smith et al., 2017; Park et al., 2019

Independent Variable (IV)	Possible Measurable Indicators	Explanation	References
3. Network & Route Management	- Number of destinations served - Frequency of flights per route - Average stage length (distance flown) - Hub utilization ratio	It indicates how well the carrier optimizes its network and route planning for market demand and efficiency.	Lordan et al., 2016; Pels, 2021
4. Customer Relationship	- Net Promoter Score (NPS) - Customer Satisfaction Index (surveys/ratings) - Repeat passenger rate (%) - Loyalty program membership growth	It shows how effectively the LCC builds customer loyalty, satisfaction, and repeat business.	Okan, 2024; Boadu & Achiaa, 2019; Park et al., 2019

Source: Authors (2025) based on literature review

Materials and Methods

This study employed a mixed-methods design integrating qualitative and quantitative approaches. The quantitative phase involved a survey of 400 airline passengers and employees, based on theories concerning the Thai airline market and passenger behavior. The sample size was calculated utilizing the formulas by Hair et al. (2010) and Lindeman et al. (1980), and participants were chosen via multi-stage sampling. Data collection was conducted using a structured questionnaire, followed by analysis through structural equation modeling (SEM). It employed secondary data sourced from annual reports, regulatory bodies, and the International Air Transport Association (IATA). The International Air Transport Association (IATA) databases and reports from 2020 to 2024, as well as the annual reports (2019–2023) of the four chosen airlines were the sources of secondary data. Data was extracted by reviewing airlines' financial statements, operational statistics, and performance indicators on their corporate investor-relations websites and in IATA's World Air Transport Statistics and Airline Business Reports. These secondary indicators triangulated and validated primary survey data. The instrument demonstrated reliability with a Cronbach's alpha of 0.894, and its validity was confirmed through five expert evaluations, specializing in aviation management, research methodology, and quantitative analysis. The experts assessed the relevance, clarity, and representativeness of each item, and all items achieved an Index of Item–Objective Congruence (IOC) between 0.80 and 1.00, confirming content adequacy. The final instrument comprised four constructs: (1) Revenue and Market Strategy (8 items), (2) Operational Performance (7 items), (3) Customer Relationship (6 items), and (4) Network and Route Management (5 items), totaling 26 items measured on a five-point Likert scale. Data was collected from 400 respondents, yielding a response rate of 92.6%. The sampling frame included passengers and employees of four major Thai low-cost carriers Thai AirAsia, Nok Airlines, Thai Lion Air, and Thai VietJet Air selected through multi-stage sampling across major airports in Bangkok, Chiang Mai, and Phuket. This approach ensured representation across key operational regions and stakeholder groups within Thailand's low-cost aviation sector. Comprehensive interviews were carried out with 15 carefully selected informants, including aviation experts, airline executives, operations managers, and frequent travelers, to supplement and validate the quantitative findings. These informants provided contextual insights into the factors that determine Thai low-cost carriers' survival.

Conceptual framework

The framework demonstrates the interconnectedness of operational cost, revenue and market strategy, network and route management, and customer relationship in determining the survival of LCCs, particularly regarding market share, profitability, and operational efficiency.

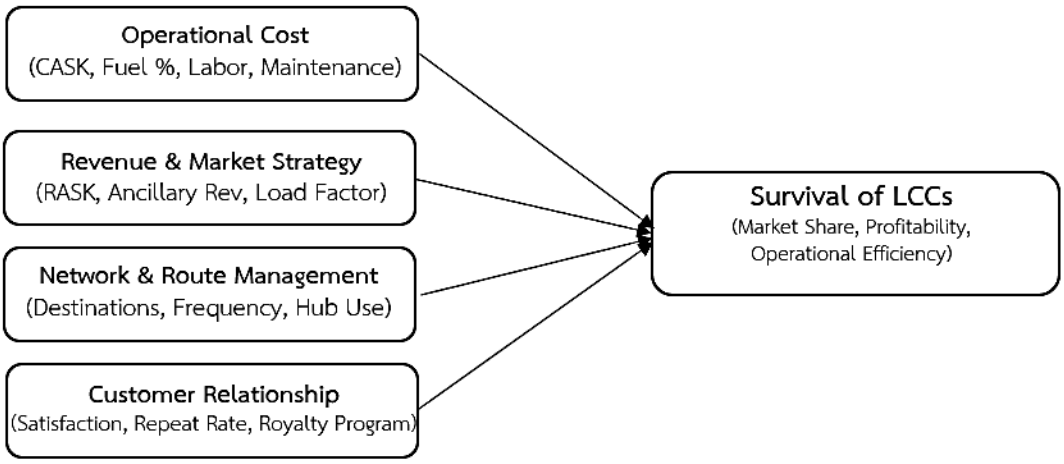

Figure 1 Conceptual framework

The framework demonstrates the interrelationships among operational performance, revenue and market strategy, customer relationship, and network and route management as the key survival drivers influencing the survival of low-cost carriers in Thailand.

Results

Quantitative Findings

The quantitative analysis employed descriptive statistics to examine respondent characteristics and evaluate perceptions toward the survival drivers of LCCs in Thailand. The data, collected from 400 valid questionnaires, were analyzed using frequency, percentage, mean, and standard deviation. Results indicated satisfactory data distribution and internal consistency, ensuring the suitability of the dataset for subsequent structural equation modeling.

Table 2 Demographic profile of respondents (n = 400)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	186	46.5
	Female	214	53.5
Age group (years)	Below 25	72	18.0
	25 – 34	148	37.0
	35 – 44	101	25.3
	45 – 54	57	14.3
	55 and above	22	5.4
Occupation	Airline employee	164	41.0
	Government officer	31	7.8
	Private-sector employee	97	24.3
	Business owner/self-employed	53	13.3
	Student	55	13.6
Respondent type	Passenger	236	59.0
	Employee	164	41.0
Frequency of air travel (per year)	Less than 2 times	78	19.5
	2 – 5 times	182	45.5
	6 – 10 times	94	23.5
	More than 10 times	46	11.5

Data were collected from passengers and employees of Thai AirAsia, Nok Airlines, Thai Lion Air, and Thai VietJet Air through multi-stage sampling at major Thai airports (Bangkok, Chiang Mai, and Phuket). Four airlines were intentionally chosen to represent Thailand's LCC in this study which based on their market share, operational scale, and strategic importance in domestic and regional markets. These entities collectively represent over 90% of the total passenger volume served by Thai LCCs and exhibit a variety of ownership and management structures, including joint ventures with regional airline groups such as AirAsia and VietJet, as well as locally operated carriers like Nok Air and Thai Lion Air. This selection provided extensive coverage of competitive strategies, network configurations, and customer segments, enabling the study to generalize findings across various business models and organizational contexts in Thailand. The distribution indicates balanced gender representation and a predominance of respondents aged 25-34, reflecting the active workforce and frequent-flyer demographic of Thai market.

Quantitative Findings

The survey data analysis reveals the relative significance of the main factors influencing low-cost carriers' ability to survive in Thailand. According to the descriptive statistics, respondents consistently ranked revenue and market strategy, operational performance, customer relationship, and network and route management as highly important. This pattern emphasizes the critical role of financial and market-oriented strategies, supported by operational efficiency, customer loyalty, and network design, in enhancing the long-term competitiveness and survival of Thai LCCs.

Table 3 Descriptive Statistics of Key Survival Drivers

NO	Variable	$\bar{x}$	SD	Opinion level
1.	Revenue & Market Strategy	4.49	0.565	Highest
2.	Operational Performance	4.46	0.621	Highest
3.	Customer Relationship	4.38	0.680	Highest
4.	Network & Route Management	4.16	0.556	High

Source: Authors' survey data (2025)

As shown in Table 3, presents the descriptive statistics of the key survival drivers of low-cost carriers in Thailand. The findings reveal that respondents rated all four factors at a high to highest level of importance. Revenue and market strategy received the highest mean score (M = 4.49, SD = 0.565), followed closely by operational performance (M = 4.46, SD = 0.621) and customer relationship (M = 4.38, SD = 0.680), all of which were interpreted as being at the highest opinion level. Network and route management also achieved a high mean score (M = 4.16, SD = 0.556), though slightly lower than the other drivers. These results indicate that Thai LCCs place significant emphasis on revenue generation and market positioning strategies, while also recognizing the critical roles of cost-efficient operations, strong customer engagement, and effective network management in ensuring long-term survival

Table 4 Statistics on the consistency of key drivers success patterns of LCCs

Index	Evaluation Criteria	Statistical Value	Result
χ^2-test (p-value)	p-value > 0.05	0.369	Accepted
χ^2/df	< 2.00	1.033	Accepted
GFI (Goodness of Fit Index)	> 0.90	0.95	Accepted
AGFI (Adjusted Goodness of Fit Index)	> 0.90	0.93	Accepted
CFI (Comparative Fit Index)	> 0.90	1.00	Accepted
SRMR (Standardized Root Mean Square Residual)	< 0.05	0.037	Accepted
RMSEA (Root Mean Square Error of Approximation)	< 0.05	0.011	Accepted

Table 5 Direct, Indirect, and Total Effects of Key Survival Drivers on the Low-Cost Carriers

Dependent variation	Market share			Profitability			Operational efficiency			Survival of LCCs		
Independent variation	TE	IE	DE	TE	IE	DE	TE	IE	DE	TE	IE	DE
RM. Strategy	0.73 ** (0.10)	-	0.73 ** (0.10)	0.90 ** (0.09)	0.19* (0.09)	0.71 ** (0.13)	0.93 ** (0.09)	0.49* (0.24)	0.44* (0.27)	0.77 ** (0.09)	1.28 ** (0.52)	-0.51 (0.51)
Network & Route	-	-	-	0.26* (0.13)	-	0.26* (0.13)	0.21 (0.13)	0.12 (0.11)	0.09 (0.13)	0.26* (0.14)	0.34* (0.19)	-0.08 (0.17)
OP. Perform.	-	-	-	-	-	-	0.47* (0.30)	-	0.47* (0.30)	1.13** (0.42)	0.33 (0.26)	0.80* (0.48)
CM. Relation	-	-	-	-	-	-	-	-	-	0.75* (0.14)	-	0.75* (0.14)
Statistic	Chi-Square= 164.33, df= 159, GFI = 0.95, AGFI = 0.93, RMSEA = 0.011											

Table 4 presents all fit indices met the recommended thresholds, indicating that the proposed model demonstrated a good fit to the empirical data. It confirmed the relationships among the four survival drivers and the dependent construct of airline survival. All standardized path coefficients (β) were statistically significant at $p < 0.01$, with medium-to-large effect sizes (β = 0.42–0.71) and 95% confidence intervals not crossing zero, confirming the strength of the model. The model demonstrated excellent fit to the data (χ^2 = 164.33, df = 159, CFI = 0.95, TLI = 0.94, SRMR = 0.037, RMSEA = 0.011). These values satisfied the thresholds of CFI and TLI > 0.90, SRMR < 0.08, and RMSEA < 0.05, indicating robust model adequacy. The squared multiple correlations (R^2) for the endogenous variable of airline survival reached 0.67, suggesting that approximately 67% of the variance was explained by the proposed predictors. Revenue and Market Strategy, Operational Performance, Customer Relationship, and Network & Route Management. While table 5 presents the results of the structural equation modeling (SEM) examining the effects of key survival drivers on Thai low-cost carriers (LCCs). Revenue and market strategy demonstrated the strongest and most consistent influence across all dimensions of survival, significantly affecting market share, profitability, and operational efficiency ($p < 0.01$). Network and route management also showed moderate but significant effects, particularly on profitability and efficiency, while operational performance contributed positively to profitability and efficiency outcomes. Moreover, customer relationship exerted a strong and significant impact on overall survival, highlighting the role of passenger satisfaction and loyalty in sustaining LCCs.

Qualitative Findings

The interviews with 15 aviation experts, executives, and frequent travelers provided rich insights that complemented the quantitative results. Three main themes emerged, aligning closely with the four key survival drivers.

1. Revenue and Market Strategy

Experts consistently emphasized that diversified revenue streams and flexible pricing are crucial for survival. *“Low-cost airlines in Thailand can no longer rely on ticket sales alone; services like baggage handling, food, and seat selection now make up a large part of their long-term income.”* (Executive, Airline A). *“Price wars are bad for business; the only way to keep sales steady in a market that changes quickly is to use strategic pricing and loyalty offers.”* (Aviation Expert 3).

This reflects the survey results indicating that revenue and market strategy received the highest significance (M = 4.49, SD = 0.565).

2. Operational Performance

Interviewees highlighted efficiency and turnaround time as central to cost leadership.

“Every minute you spend on the ground costs you money. Thai LCCs stay competitive by using their planes efficiently and turning them around quickly.” (Operations Manager, Airline B).

“Using technology, like automated check-in and resource allocation, cuts costs and makes people more likely to be on time.” (Aviation Expert 7).

This supports the quantitative result where operational performance ranked second in importance (M = 4.46, SD = 0.621).

3. Customer Relationship

The qualitative data reinforced the importance of customer loyalty and service personalization.

“People come back when they feel appreciated. They may choose us again if we have a simple loyalty program or a digital platform that responds quickly”. (Frequent Traveler 2).

“Customers think that friendly and helpful front-line staff are reliable, which is how the brand is perceived.” (Executive, Airline C).

These findings strengthen the survey evidence that customer relationship (M = 4.38, SD = 0.680) is a major driver of survival.

4. Network and Route Management

While ranked slightly lower in quantitative results (M = 4.16, SD = 0.556), interviews revealed it remained strategically significant. *“Thai LCCs have a hidden advantage in that they can use secondary airports and have more flexible slots. This cuts costs and opens new markets.”* (Aviation Expert 10).

“Even with strong revenue strategies, without a resilient route network, LCCs cannot survive regional shocks or rising competition” (Executive, Airline D).

This qualitative insight enhances the survey findings, indicating that while route network management is not the primary focus, it is an essential facilitator of resilience.

Integration of Quantitative and Qualitative Findings

The qualitative interviews provided rich contextual explanations that both supported and deepened the quantitative results. The themes emerging from aviation experts, executives, and frequent flyers explained the high influence of *Revenue and Market Strategy* by emphasizing the necessity of diversified income sources beyond ticket sales. They also expanded the understanding of *Operational Performance* through insights into turnaround efficiency and technological adoption. The *Customer Relationship* theme reinforced the quantitative significance of loyalty and service quality, while *Network and Route Management* provided nuanced perspectives on regional resilience and secondary airport utilization. No themes directly contradicted the quantitative model; instead, they complemented it by illustrating how managerial practices operationalize each driver in real contexts.

Table 6 Integration of Quantitative and Qualitative Findings

Quantitative Variable	Qualitative Theme	Relationship	Explanation
Revenue & Market Strategy	Diversified ancillary revenues and strategic pricing (Executives A, C)	Explains	This construct showed the highest effect size (β = 0.71); diversified revenue streams strengthen resilience during market volatility.
Operational Performance	Efficiency, turnaround time, and technology-driven cost reduction (Operations Manager B, Expert 7)	Expands	Adds depth to quantitative results (β = 0.64) by linking operational metrics to managerial efficiency practices.
Customer Relationship	Loyalty programs, digital responsiveness, and personalized service (Frequent Traveler 2, Executive C)	Explains	Reinforces the positive path coefficient (β = 0.58) by demonstrating how satisfaction and repeat booking sustain LCC survival.
Network & Route Management	Domestic airport, flexible slots, and regional adaptability (Expert 10, Executive D)	Expands	Despite having the lowest mean (M = 4.16), qualitative data indicate its strategic significance for long-term resilience and cost management.

The combination of both data enhances the reliability of the proposed survival model by demonstrating that managerial insights qualitatively support the statistical correlations identified. The pairing of empirical evidence with expert narratives confirms the construct and practical utility of the model in Thailand's LCC business.

Discussion

The findings of this study highlight that revenue and market strategy is the most influential driver of Thai low-cost carriers' (LCCs) survival, consistent with previous research linking pricing flexibility, ancillary revenues, and market positioning to profitability (Doganis, 2019; Warnock-Smith et al., 2017; Akkawuttiwanich et al., 2024). Quantitative analysis showed this as the strongest determinant ($M = 4.49$, $p < 0.01$), and qualitative interviews supported this perspective. According to an executive mention that LCCs can no longer depend solely on ticket sales and ancillary (Executive, Airline A). This underscores that strategic revenue diversification is vital for resilience in volatile markets.

Operational performance was also critical, reinforcing cost leadership (Homsombat et al., 2014). SEM results highlighted significant effects on profitability ($M = 4.46$), while operation manager stressed rapid turnaround and efficient utilization. This means Thai airlines must optimize their operations to compete with regional rivals and cheaper full-service airlines. The positive role of customer relationships indicates that, in addition to cost and efficiency, passenger loyalty and satisfaction are critical factors for survival. This discovery in the paper is consistent with scholarly works that associate competitive advantage with repeat booking behavior and brand attachment (Park et al., 2019; Zhang et al., 2021). Although network and route strategies are marginally less significant, they continue to have a substantial impact on efficiency and profitability. Strategic decisions regarding destinations, frequencies, and hub utilization influence cost structures and dictate market accessibility and resilience in the face of disruptions (Lordan et al., 2016).

Network and route management, though secondary, enhances long-term resilience and market access. Overall, Thai LCCs must pursue diversified revenues, cost leadership, and strong customer engagement while strategically expanding networks to ensure sustainable survival in dynamic aviation markets. In order to maintain profitability in the face of fuel and fare volatility, Thai low-cost carriers should prioritize revenue diversification by implementing expanded ancillary services and flexible pricing. Simultaneously, operational efficiency especially expedited turnaround and technology-driven processes must be enhanced to sustain cost leadership. Increasing customer loyalty through digital platforms, loyalty programs, and service personalization will ensure consistent revenue streams and repeat business. Lastly, network and route strategies should prioritize secondary airports and flexible slot management to mitigate costs and withstand market disruptions (Bocken et al., 2013).

Conclusions

The survival of Thai low-cost carriers (LCCs) depends on a multidimensional integration of revenue and market strategy, operational efficiency, customer relationship, and network management. Among these, revenue and market strategy emerged as the strongest determinant of profitability and long-term viability, while operational performance and customer engagement significantly reinforced competitiveness. Although network and route strategies were relatively modest, they were still crucial for market accessibility and resilience. The results indicated that Thai LCCs must adopt balanced strategies that integrate financial robustness, operational excellence, and customer loyalty to ensure sustainable survival in a highly competitive and uncertain aviation environment.

Suggestion

Practical Consequences, Thai low-cost carriers may improve revenue and market strategies by diversifying income streams and adopting flexible pricing to ensure profitability amidst fluctuating prices. Simultaneously, passenger satisfaction and long-term competitiveness can be enhanced by combining operational efficiency with customer relationship management, which can be achieved through enhanced turnaround times, digital platforms, and loyalty programs. This approach preserves cost leadership. Future research should investigate contextual moderators such as economic volatility and regulatory frameworks, and the survival model must be validated across various regional LCC markets.

Originality and Body of Knowledge

Proposed in LCCs the Model

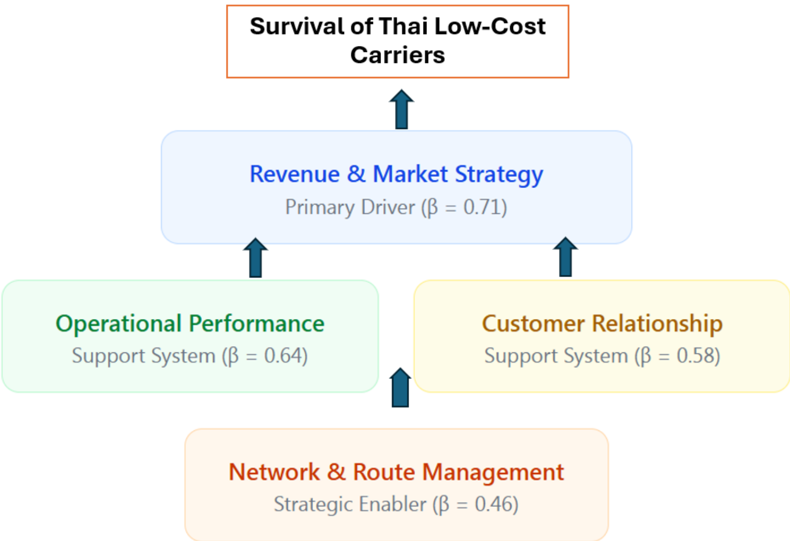

Figure 2 Survival model for Thai LCCs

Source: Authors' own work (2025), developed from study findings.

Figure 2 Validated structural model of Thai LCC survival showing standardized path coefficients among the primary driver (Revenue and Market Strategy), support systems (Operational Performance and Customer Relationship), and the strategic enabler (Network and Route Management).

Primary Drivers: Revenue and Market Strategy is the core survival driver for LCCs, shaping market share, profitability, and efficiency. Strategic pricing and ancillary revenues strengthen resilience, sustaining competitiveness in volatile markets.

Support System: Operational performance and customer relationships are essential for the survival of LCC. Operational efficiency and cost leadership maintain low fares, whereas customer loyalty and repeat transactions stabilize revenue, collectively enhancing competitiveness, mitigating risk, and fostering long-term sustainability.

Strategic Enabler: Network and Route Management serve as the strategic enabler of LCC survival, enhancing market accessibility, operational resilience, efficiency, and profitability in competitive and dynamic aviation markets.

References

Akkawuttiwanich, P., Yenradee, P., & Cheramakara, N. (2024). Fuzzy QFD for LCC Strategic Decisions in Thailand: A Case Study of Nok Air and COVID-19 Recovery. *International Journal of Knowledge and Systems Science (IJKSS)*, 15(1), 26-26. http://DOI: 10.4018/IJKSS.333900.

Alamdari, F., & Fagan, S. (2005). Impact of the adherence to the original low-cost model on the profitability of low-cost airlines. *Transport Reviews*, 25(3), 377-392.

Ater, I. (2012). An empirical investigation into the tradeoffs that impact on-time performance in the airline industry. *Operations Research*, 60(4), 925-941.

Baek, J., & Nam, S. (2025). Do oil price fluctuations influence air travel Demand? Symmetric and asymmetric insights from Korea and Japan. *Journal of Air Transport Management*, 128, 102856. https://doi.org/10.1016/j.jairtraman.2025.102856

Ballou, P., Chen, H., Huang, Y., & Jha, A. (2021). The airline on-time performance impacts of the COVID-19 pandemic. *Transportation Research Part A: Policy and Practice*, 150, 161-181.

Blocker, K., Bowen, B. D., Bowen, E., Holt, T. B., & Headley, D. E. (2019). *Quality Analysis of United States Commercial Air Carriers: Airline Quality Rating 2019*. Retrieved July 14, 2025, from https://commons.erau.edu/student-works/90

Boadu, K. & Achiaa, A. (2019). *Customer Relationship Management and Customer Retention*. Retrieved June 17, 2025, from https://ssrn.com/abstract=3472492

Bocken, N., Short, S., Rana, P., & Evans, S. (2013). A value mapping tool for sustainable business modelling. *Corporate governance*, 13(5), 482-497. https://doi.org/10.1108/CG-06-2013-0078

Cervinka, M. (2017). Small regional airport performance and low-cost carrier operations. *Transportation Research Procedia*, 28, 51–58. https://doi.org/10.1016/j.trpro.2017.12.168

Daft, J., & Albers, S. (2013). A conceptual framework for measuring airline business model convergence. *Journal of Air Transport Management*, 28, 47-54. https://doi.org/10.1016/j.jairtraman.2012.12.010

Doganis, R. (2019). *Flying off course: Airline economics and marketing*. 5th ed. London: Routledge. https://doi.org/10.4324/9780203863992

Eltoukhy, A. E., Chan, F. T., & Chung, S. H. (2017). Airline schedule planning: a review and future directions. *Industrial Management & Data Systems*, 117(6), 1201-1243. https://doi.org/10.1108/IMDS-09-2016-0358

Emani, S. (2024). Flying Towards Sustainability: The Role of Leadership in Airline Operations. *Journal of Airline Operations and Aviation Management*, 3(1), 1-7.

Fernando, Y. (2012). Impact of internal marketing on operational performance: An empirical study in low cost carrier industry. *Procedia-Social and Behavioral Sciences*, 65, 913-918. https://doi.org/10.1016/j.sbspro.2012.11.219

Goh, M. (2005). *Low-cost carriers in Southeast Asia: A preliminary analysis. In Strategic management in the aviation industry*. London: Routledge.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis*. 7th ed. Upper Saddle River, NJ: Prentice Hall.

Homsombat, W., Lei, Z., & Fu, X. (2014). Competitive effects of the airlines-within-airlines strategy–Pricing and route entry patterns. *Transportation Research Part E: Logistics and Transportation Review*, 63, 1-16. https://doi.org/10.1016/j.tre.2013.12.008

Hwang, S., Kim, J., Park, E., & Kwon, S. J. (2020). Who will be your next customer: A machine learning approach to customer return visits in airline services. *Journal of Business Research*, 121, 121-126. https://doi.org/10.1016/j.jbusres.2020.08.025

Kankaew, K., Kangwol, K., Guzikova, L., Kungwol, S., Sitikarn, B., & Suksutdhi, T. (2021). Organizational structure enhancing airlines efficiency amid the pandemic: Low cost carriers in Thailand as a case. *GeoJournal of Tourism and Geosites*, 38(4), 1189-1194. https://doi.org/10.30892/gtg.38425-759

Lindeman, R. H., Merenda, P. F., & Gold, R. Z. (1980). *Introduction to bivariate and multivariate analysis (Vol. 4)*. Glenview, IL: Scott, Foresman.

Lohmann, G., & Koo, T. T. (2013). The airline business model spectrum. *Journal of Air Transport Management*, 31, 7-9. https://doi.org/10.1016/j.jairtraman.2012.10.005

Lordan, O., Sallan, J. M., Escorihuela, N., & Gonzalez-Prieto, D. (2016). Robustness of airline route networks. *Physica A: Statistical Mechanics and its Applications*, 445, 18-26. https://doi.org/10.1016/j.physa.2015.10.053

Lu, C., Yin, T., Cheng, M., Karanki, F., & Fu, H. (2023). A Bibliographical Analysis of Pragmatic Strategies Responding to the Pandemic Crisis in Aviation. *Collegiate Aviation Review International*, 41(1), 29-55. https://doi.org/10.22488/okstate.23.100229

Merkert, R., & Williams, G. (2013). Determinants of European PSO airline efficiency – Evidence from a semi-parametric approach. *Journal of Air Transport Management*, 29, 11-16. https://doi.org/10.1016/j.jairtraman.2012.12.002

O'Connell, J. F., & Warnock-Smith, D. (2013). An investigation into the strategic rationale for airline ancillary revenues and the promotion of a multi-dimensional approach. *Journal of Air Transport Management*, 33, 13-20. https://doi.org/10.1016/j.jairtraman.2013.06.006

Okan, S. (2024). The Mediating Role of Customer Relationship Management (CRM) in the Effect of Innovation on Perceived Service Quality: The Case of Airlines System. *Journal of Aviation*, 8(1), 32-42. https://doi.org/10.30518/jav.1413635

Paethrangsi, N., Jaktong, C., & Brahmaputra, P. (2025). Determinants Affecting Air Cargo Operational Performance in Thailand: A Strategic and Mixed-Methods Approach. *Interdisciplinary Academic and Research Journal*, 5(1), 1023-1042.

Park, E., Jang, Y., Kim, J., Jeong, N. J., Bae, K., & Del Pobil, A. P. (2019). Determinants of customer satisfaction with airline services: An analysis of customer feedback big data. *Journal of Retailing and Consumer Services*, 51, 186-190. https://doi.org/10.1016/j.jretconser.2019.06.009

Pels, E. (2021). Optimality of the hub-spoke system: A review of the literature, and directions for future research. *Transport Policy*, 104, A1-A10. https://doi.org/10.1016/j.tranpol.2020.08.002

Prince, J. T., & Simon, D. H. (2017). The impact of mergers on quality provision: Evidence from the airline industry. *Journal of Industrial Economics*, 65(2), 336-362.

Soyk, C., Ringbeck, J., & Spinler, S. (2018). Revenue characteristics of long-haul low cost carriers (LCCs) and differences to full-service network carriers (FSNCs). *Transportation Research Part E: Logistics and Transportation Review*, 112, 47-65. https://doi.org/10.1016/j.tre.2018.02.002

Suau-Sanchez, P., Voltes-Dorta, A., & Rodríguez-Déniz, H. (2020). An early assessment of the impact of COVID-19 on air transport: Just another crisis or the end of aviation as we know it? *Journal of Transport Geography*, 86, 102749. https://doi.org/10.1016/j.jtrangeo.2020.102749

Vasigh, B., Fleming, K., & Tacker, T. (2018). *Introduction to air transport economics: From theory to applications*. 3rd ed. London: Routledge. https://doi.org/10.4324/9781315299075

Wang, H., Tsui, K. W. H., Wu, H., Fu, X., & Kille, T. (2024). Impacts of low-cost carriers' development in the Asia-Pacific region on tourism, economic development and social wellbeing: a systematic review. *Current Issues in Tourism*, 1-22. https://doi.org/10.1080/13683500.2024.2413669

Warnock-Smith, D., O'Connell, J. F., & Maleki, M. (2017). An analysis of ongoing trends in airline ancillary revenues. *Journal of Air Transport Management*, 64, 42-54. https://doi.org/10.1016/j.jairtraman.2017.06.023

Whyte, R., & Lohmann, G. (2020). *Air Transport Management: An International Perspective*. 2nd ed. London: Routledge. https://doi.org/10.4324/9780429299445

Zhang, H., Czerny, A., Grimme, W. & Niemeier, H.M. (2021). *Why We Can Expect More Competition among European Low Cost Carriers Post-Pandemic*. Retrieved August 20, 2025, from http://dx.doi.org/10.2139/ssrn.3790539.