BMIJ
ISSN: 2148-2586

bmij (2025) 13 (3):1483-1503
doi: https://doi.org/10.15295/bmij.v13i3.2598

Research Article

Integrating strategic theory with MCDM: A BWM–CoCoSo approach to competitive strategy selection in the Turkish domestic airline industry

Stratejik teorinin ÇKKV ile entegrasyonu: Türkiye iç hat havayolu endüstrisinde rekabet stratejisi seçimine yönelik bir BWM–CoCoSo yaklaşımı

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Abstract

This study proposes a decision model that integrates strategic theory with Multi-Criteria Decision Making (MCDM) to select the most appropriate competitive strategy in Turkey's domestic airline market. Criteria derived from Porter's Five Forces were weighted using the Best–Worst Method (BWM) based on judgments from eight experts, and strategic alternatives (cost leadership, differentiation, focus) were ranked via the Combined Compromise Solution (CoCoSo). The findings indicate that "rivalry among existing competitors" and "buyers' bargaining power" are the most influential industry forces, and that the cost-leadership strategy delivers the highest overall performance. The study's original contribution is to operationalise Porter's framework with BWM–CoCoSo, transforming strategy selection into a transparent, replicable, and manager-friendly process. Adapting the model to the Turkish context also yields concrete recommendations that align with local market dynamics. From a managerial perspective, the results offer strategic guidance for systematically enhancing cost efficiency (e.g., process improvements and resource-use optimisation).

Keywords: Airline Industry, Porter's Five Forces, BWM, CoCoSo

JEL Codes: L10, L93, M10

Öz

Bu çalışma, Türkiye iç hat havayolu pazarında en uygun rekabet stratejisinin seçimi için strateji kuramını Çok Kriterli Karar Verme (ÇKKV) ile bütünleştiren bir karar modeli önermektedir. Porter'ın Beş Güç çerçevesinden türetilen kriterler, sekiz uzmanın yargılarıyla Best–Worst Method (BWM) kullanılarak ağırlıklandırılmış; stratejik alternatifler (maliyet liderliği, farklılaşma, odaklanma) Combined Compromise Solution (CoCoSo) ile sıralanmıştır. Bulgular, "mevcut rakipler arası rekabet" ve "alıcıların pazarlık gücü"nün en etkili sektör güçleri olduğunu; maliyet liderliği stratejisinin ise en yüksek toplam performansı sağladığını göstermektedir. Çalışmanın özgün katkısı, Porter'ın Beş Güç yaklaşımını BWM–CoCoSo ile operasyonelleştirerek strateji seçimini şeffaf, tekrarlanabilir ve karar vericilerce kolay uygulanabilir bir sürece dönüştürmesidir. Ayrıca, yöntemin Türkiye bağlamına uyarlanması, yerel piyasa dinamikleriyle uyumlu somut öneriler geliştirilmesine imkân vermektedir. Yönetsel açıdan, bulgular maliyet etkinliğinin sistematik olarak artırılması (ör. süreç verimliliği ve kaynak kullanımında optimizasyon) yönünde stratejik rehberlik sunmaktadır.

Anahtar Kelimeler: Havayolu Sektörü, Porter'ın Beş Güç Modeli, BWM, CoCoSo

JEL Kodları: L10, L93, M10

Submitted: 11/06/2025

Revised: 25/08/2025

Accepted: 22/09/2025

Online Published: 25/09/2025

Citation: Durak, M.Ş., Integrating strategic theory with MCDM: A BWM–CoCoSo approach to competitive strategy selection in the Turkish domestic airline industry, bmij (2025) 13 (3):1483-1503, doi: https://doi.org/10.15295/bmij.v13i3.2598

Introduction

The global air transport sector has undergone continuous transformation in recent years due to factors such as liberalisation policies, technological innovations and increasing competitive pressure (Doganis, 2005; Sun, Zheng, Wandelt & Zhang, 2024). In particular, deregulation policies and 'open skies' agreements have played an essential role in this change process (Wandelt et al., 2024). Similar to this structural transformation in the world, the Turkish aviation sector has also undergone significant changes. Initiated in 2003, the domestic market liberalisation move is a turning point in Turkish domestic aviation (Gerede, 2010; Yaşar & Gerede, 2018). The monopoly structure, which was primarily dominated by the state-owned Turkish Airlines (THY) until this date, has evolved into a competitive environment due to the liberalisation that allowed private enterprises to enter the market (Gerede & Orhan, 2015). In fact, although the partial liberalisation attempt in 1983 had only a limited impact, the domestic market entered a period of rapid growth in the post-2003 period (Yaşar & Gerede, 2018). According to the Directorate General of Civil Aviation's data, the number of domestic passengers in Turkey, which was approximately 9.15 million in 2003, exceeded the 95 million mark by the end of 2024. Similarly, domestic aircraft traffic increased from 156,000 to 902,000 per year (SHGM, 2024). In line with these developments, the Turkish domestic airline sector is striving to enhance service quality, reduce costs, and maintain its market share amid intense competitive conditions. In this context, both global and national transformations necessitate airline companies to review their competitive strategies and position themselves in accordance with market dynamics.

In this competitive environment, theoretical frameworks from the strategic management literature serve as essential tools for understanding the strategic positioning of airline businesses (Riwo-Abudho, Njanja, & Ochieng, 2013; Saeed, 2016). In this context, the Five Forces model developed by Michael E. Porter is one of the most widely used classical approaches in industry analysis (Porter, 1997, 2008). The model systematically examines five key competitive forces that shape the profitability and attractiveness of an industry: the intensity of rivalry among existing competitors, the threat of new entrants, the threat of substitute products or services, the bargaining power of suppliers, and the bargaining power of customers (Baird, Nuhu, & Jiao, 2024; Dias, Espadinha-Cruz, & Matos, 2023; Wu, Tseng, & Chiu, 2012). These forces are particularly pronounced in the airline industry, where the effectiveness of strategic responses plays a critical role in achieving and sustaining competitive success (Sengur, Aldemir, & Akınet, 2022).

In addition, Porter's framework of generic competitive strategies classifies how firms can achieve competitive advantage into three primary approaches: cost leadership, differentiation, and focus (Porter, 2008). The applicability of these strategies to the airline industry is well established in the literature. For instance, low-cost carriers (LCCs) seek to attract a broad customer base by offering lower fares, often at the expense of service variety, whereas full-service carriers (FSCs) pursue differentiation by providing higher-priced, value-added services (Ali & Anwar, 2021; Aldemir, Sengur, & Ulukan, 2021).

In the Turkish domestic aviation market, the ability of airlines to achieve sustainable competitive advantage—within the framework of strategic positioning—relies on the development of strategies that are responsive to evolving market dynamics. However, the existing literature offers limited quantitative models for the systematic evaluation of such strategic decisions concerning airline companies operating in the Turkish domestic market. In particular, the scarcity of studies that integrate Porter's competitive strategy models with Multi-Criteria Decision-Making (MCDM) techniques underscores the original contribution of this study.

This study develops and tests an integrated, theory-driven decision model that (a) derives decision criteria from Porter's Five Forces, (b) elicits their relative salience for the Turkish domestic market, and (c) ranks Porter's generic strategies accordingly. Consistent with this purpose and the identified research problem, our inquiry is guided by the following research questions:

- **RQ1.** Which competitive forces—and associated decision criteria—are most salient in the Turkish domestic market when structured through Porter's Five Forces?

- **RQ2.** What are the relative weights of these criteria based on expert judgements obtained via the Best–Worst Method (BWM)?

- **RQ3.** Given these weights, which generic strategy (Cost Leadership, Differentiation, Focus) emerges as the most appropriate for airlines operating in the Turkish domestic market when evaluated with the Combined Compromise Solution (CoCoSo) method?

The research design combines Porter's industry-based view with decision theory to enable transparent and reproducible strategy selection. First, the Five Forces provide a theoretically grounded construct for selecting criteria, aligning measurement with the causal structure of the industry. Second, BWM is chosen to estimate criterion importance because it reduces pairwise comparisons relative to AHP, improves internal consistency, and is well-suited to expert-based judgements where cognitive load and transitivity matter (hence stronger measurement validity). Third, CoCoSo is employed to rank strategic alternatives because it integrates additive and multiplicative aggregation schemes to obtain a compromise solution that is less sensitive to scale effects and provides robust rankings across heterogeneous criteria—aligning with the multidimensional nature of competitive positioning. Together, this Porter-MCDM design strengthens construct validity (through theory-based criteria), internal validity (through consistent expert weighting), and decision robustness (through compromise-based aggregation).

The study contributes by: (i) proposing an integrated decision model that operationalises Porter's frameworks for Turkish domestic airline context; (ii) bridging strategic management theory with modern MCDM to yield a practical decision-support tool; and (iii) demonstrating methodological originality via the joint use of BWM (for weighting) and CoCoSo (for ranking) to deliver an empirically grounded recommendation on the most suitable generic strategy.

In the subsequent sections, the theoretical background and relevant literature on competitive strategy and Multi-Criteria Decision-Making (MCDM) approaches will be reviewed in detail. Next, the research design, including the selection of evaluation criteria and the decision-making methods, will be thoroughly explained. This will be followed by the presentation and discussion of empirical findings in light of the strategic dynamics of the Turkish domestic air transport market. Finally, the study will conclude with a summary of the main conclusions, theoretical and managerial implications, and suggestions for future research.

Literature review

Evolution of the Turkish air transport sector

The partial liberalisation attempt in 1983 failed, indicating the sector was not yet ready for such a shift. Effective liberalisation began in 2003. With private carriers entering, the state-dominated market was dismantled, and domestic air transport became more competitive, rapidly growing as a result. Before liberalisation, Turkish Airlines (THY) largely controlled domestic services, which limited flight options (Aksoy & Dursun, 2018; Gerede, 2010; İnan, 2019; Orhan & Gerede, 2013).

Following the liberalisation process, the domestic air transport sector in Turkey has shown extraordinary growth in terms of both passenger transport volume and operational infrastructure capacity. The number of domestic air passengers, which was approximately 9 million in 2003, increased to 50 million by 2010 and exceeded 95 million by 2024, representing a more than tenfold rise. During the same period, annually domestic air traffic has increased from 156 thousand to 902 thousand (SHGM, 2010, 2024). This growth was not limited to major metropolitan areas; with investments in regional airports, Anatolian cities were also integrated into the air transport network. Thus, air transportation in Turkey has become a mode of transport used not only by high-income groups but also by the broad masses.

However, this growth process also brought specific challenges along with the intensification of competition within the sector. Price competition among airline companies raised concerns about operational sustainability, and some private carriers were forced to exit the market (Sakız & Ünkaya, 2018). The heightened competition led airlines to adopt different business models. Pegasus Airlines implemented the low-cost carrier (LCC) model, developing a structure based on cost advantage and efficiency (Eroğlu, 2015). Turkish Airlines, on the other hand, began targeting more price-sensitive segments through its sub-brand AJet (formerly AnadoluJet), thereby adopting a multi-brand strategy (Barutçu & Çolakoğlu, 2024). SunExpress, operating as a joint venture between Turkish Airlines and Lufthansa, emerged as a significant player in the domestic market with its hybrid model (Adiloğlu-Yalçınkaya & Besler, 2021).

The five forces model and competitive strategies in the airline industry

In the strategic management literature, one of the most effective approaches developed to analyse the processes by which firms achieve sustainable competitive advantage is the Five Forces Model, first proposed by Michael Porter (1997). This model analyses the nature of sectoral competition in terms of five fundamental forces and provides a systematic framework for determining which competitive strategies firms can use to gain an advantage. The model is based on the assumption that industry

structure is the primary factor determining competitive intensity and therefore profitability (Porter, 1997, 2008).

Porter's Five Forces Model outlines five key factors that shape competition within an industry: the threat of new entrants, rivalry among existing competitors, the threat of substitute products or services, the bargaining power of suppliers, and the bargaining power of buyers. These forces not only define the competitive landscape but also play a role in determining a firm's strategic positioning (Ali & Anwar, 2021; Baird et al., 2024; Pangarkar & Prabhudesai, 2024). Drawing on this framework, Porter (1997, 2008) proposed that firms can achieve sustainable competitive advantage and superior profitability by pursuing one of three generic strategies: cost leadership, differentiation, or focus.

• **A cost leadership strategy** enables airlines to gain a price advantage and increase their market share by keeping their operational costs lower than those of their competitors in the industry (Banker, Mashruwala, & Tripathy, 2014). Airlines adopting this strategy seek to maximise operational efficiency through rigorous cost control at all stages of the value chain, high asset utilisation rates (exceptionally high daily aircraft hours and seat occupancy rates), economies of scale (e.g. standardised fleets, centralised purchasing, high frequency on busy routes) and process innovation (e.g. direct sales channels, quick turnarounds) (Alamdari & Fagan, 2005; Doganis, 2005; Martín & Román, 2008).

• **A differentiation strategy** refers to equipping products or services offered by businesses with features that distinguish them from those of competitors, in a way that makes them perceived by customers as unique and superior throughout the industry. The basic rationale of this strategy is to create customer loyalty through the perceived value it generates, thereby reducing price sensitivity and enabling the successful implementation of prices above the industry average (Gakuya & Njue, 2018; Jerab & Mabrouk, 2023). This strategic approach allows airlines to gain a competitive advantage through premium service quality, an extensive flight network, an innovative in-cabin experience, advanced loyalty programs, and personalised customer service (Ignacio, Soriano, Villanueva, & Mandigma, 2023).

• **Focus strategy** aims to meet the needs of a niche more effectively than broad competitors by targeting a narrow segment (specific buyer group, product/service line or geographical area) rather than the entire market. This competitive edge within the segment is sought either through cost advantage (focused cost leadership) or through uniqueness (focused differentiation) Laosirihongthong, Tan, & Kannan, 2010). In the airline industry, this strategy is typically implemented by regional carriers serving specific areas or by companies targeting specialised customer or service niches (e.g., business-class-only flights or dedicated air cargo services).

Strategy selection with multi-criteria decision making (MCDM) methods

In recent years, intensifying competition and dynamic market conditions have made determining appropriate competitive strategies increasingly complex. A systematic and multidimensional analysis is necessary to account for the various internal and external factors that influence strategic choices. Within this scope, the Five Forces Model developed by Michael Porter (1980) remains one of the most widely used theoretical frameworks in strategic management for analysing industry structure and competitive dynamics. However, while Porter's framework provides conceptual clarity, it often requires complementary quantitative tools to transform abstract forces into actionable criteria. Multi-Criteria Decision-Making (MCDM) methods have therefore gained prominence, as they allow researchers and practitioners to structure criteria, elicit expert judgments, and rank strategic alternatives in a transparent and reproducible manner (Aydın & Özbek, 2023; Shi, Agbaku, & Zhang, 2021).

The integration of Porter's Five Forces with MCDM techniques has been widely applied across industries to bridge theoretical and practical gaps in strategy selection. Methods such as AHP, BWM, TOPSIS, and CoCoSo are commonly used to quantify the relative importance of industry forces and to compare the performance of cost leadership, differentiation, and focus strategies. For example, Wu et al. (2012) combined the Five Forces framework with the Analytic Network Process (ANP) in the Philippines' service sector, demonstrating that multi-criteria approaches facilitate a more comprehensive and quantitative evaluation of competitive pressures. Similarly, Lee (2012) and Lee & Lee (2012) employed ANP and Fuzzy ANP to analyse biotechnology firms' strategic entry into China, highlighting that differences in evaluation criteria may lead to divergent optimal strategies such as innovation or differentiation.

Beyond the manufacturing and technology industries, these approaches have been extended to the agri-food and service sectors. Widyastuti (2017), for instance, applied Porter's generic model in combination with AHP to assess competitiveness strategies in the organic vegetable market. The findings underscored the effectiveness of differentiation—particularly in delivery-focused strategies—in

addressing substitute threats and customer price sensitivity. Such applications demonstrate the adaptability of Porter–MCDM hybrids in structuring both supply- and demand-side uncertainties across sectors.

The aviation sector represents one of the most dynamic and competitive environments for applying these integrated approaches. Following liberalisation and, more recently, post-pandemic restructuring, airlines have faced intensified rivalry, shifting demand patterns, and cost pressures. Accordingly, recent research has applied advanced MCDM pipelines (e.g., MEREC–CoCoSo/Borda, BSC-based CoCoSo) to evaluate airlines' operational and strategic performance, demonstrating the robustness of objective weighting and compromise-ranking families for high-dimensional decision contexts (Ertuğrul & Özdarak, 2025; Sun et al., 2024).

A notable example is the study by Tanrıverdi & Lezki (2021), which assessed the impact of Istanbul Airport's opening on the competitive strategies of Turkish air cargo carriers. Using Porter's Five Forces in combination with Fuzzy AHP and Fuzzy TOPSIS, they compared three generic strategies across 19 sub-criteria. Their findings revealed that a cost-oriented strategy was the most viable option, while the threat of new entrants emerged as the most critical competitive force. Similarly, Aydın & Özbek (2023) applied AHP, WASPAS, and EDAS to a construction machinery firm, concluding that a focus strategy offered the best alignment with Five Forces–derived criteria. These cases illustrate that MCDM not only operationalises theoretical models but also provides context-specific insights for decision makers.

Despite growing attention, only a limited number of studies explicitly integrate the Five Forces model with MCDM to evaluate competitive strategies in the air transportation industry. While research exists for cargo carriers and international comparisons, there remains a scarcity of studies focusing specifically on the Turkish domestic market. This study addresses a significant research gap by systematically applying Porter's Five Forces in combination with the Best–Worst Method (BWM) and the Combined Compromise Solution (CoCoSo). Methodologically, this integration enhances the transparency and robustness of strategy evaluation. Practically, it offers actionable guidance for airline managers navigating Turkey's highly competitive and price-sensitive domestic market.

Methodology

This study employs an integrated Multi-Criteria Decision-Making (MCDM) approach to determine the most suitable competitive strategy for airline companies operating in the Turkish domestic air transport market. The methodology is designed to combine strategic management theory—specifically Porter's Five Forces and generic competitive strategies—with advanced decision-making techniques to ensure both analytical rigour and practical relevance.

The combination of Best–Worst Method (BWM) and Combined Compromise Solution (CoCoSo) was purposefully selected after considering alternative MCDM techniques. Traditional methods, such as the Analytic Hierarchy Process (AHP) and Analytic Network Process (ANP), are widely used but require a high number of pairwise comparisons, which often lead to inconsistencies and cognitive fatigue among experts. In contrast, BWM significantly reduces the number of comparisons, improves internal consistency, and has been shown to yield more reliable weight estimations in expert-driven contexts (Rezaei, 2015; Tavana, Mina, & Santos-Arteaga, 2023). This methodological efficiency is particularly advantageous when analysing complex strategic environments such as aviation, where decision-makers must evaluate a wide set of interrelated industry forces.

For ranking strategic alternatives, CoCoSo was chosen over commonly used methods such as TOPSIS or VIKOR because it integrates additive and multiplicative aggregation strategies to provide a compromise solution that is less sensitive to scale effects. Comparative studies have demonstrated that CoCoSo produces more stable and robust rankings across heterogeneous criteria sets (Yazdani, Zarate, Zavadskas, & Turskis, 2019; Torkayesh, Ecer, Pamucar, & Karamaşa, 2021). This feature aligns well with the multidimensional nature of competitive strategies, where financial, operational, and market-related criteria must be jointly assessed.

The validity of the study was ensured by deriving evaluation criteria directly from a theoretically established framework (Porter's Five Forces), thereby aligning measurement with causal structures in strategic management literature. Expert selection was guided by their professional and academic experience, increasing the content validity of judgments.

Reliability was addressed through the methodological properties of the BWM technique. BWM includes a consistency index, which was calculated for all expert comparisons to verify the internal reliability of weighting results. Only consistent responses were included in the final analysis, reducing subjective bias. Moreover, triangulating the results of BWM weighting with the compromise-ranking mechanism

of CoCoSo provided methodological robustness, as the joint application of two distinct MCDM methods minimises the risk of model-specific distortions.

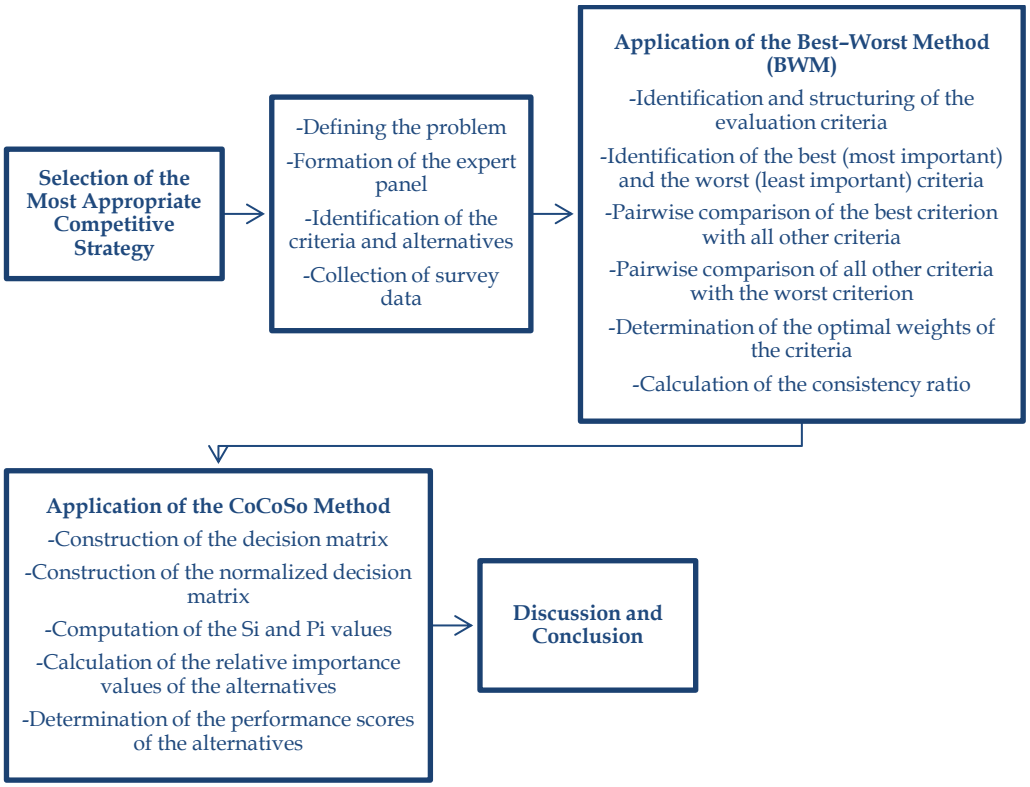

Figure 1: Research Methodology: An Integrated BWM–CoCoSo Approach for Strategy Selection

The methodology is implemented in five steps, as illustrated in Figure 1. The figure was created to visualise the applied methodological steps. The process began with defining the problem and collecting expert opinions. It then proceeded with calculating the importance weights of the evaluation criteria determined within the scope of Porter's Five Forces Model using the BWM method. Afterwards, the CoCoSo method is used to evaluate and rank strategic alternatives. In the final stage, the results obtained are interpreted in line with strategic priorities.

BWM (Best-Worst Method)

The Best-Worst Method (BWM), developed by Rezaei (2015), is a multi-criteria decision-making method used to determine the importance weights of decision criteria through pairwise comparisons. It is preferred over traditional methods because it requires fewer comparisons and increases consistency. Within the scope of BWM, decision-makers are asked to select the best (most important) and the worst (least significant) criteria among the identified criteria. Then, two separate sets of pairwise comparisons are created. The most crucial criterion is compared with all other criteria, and all requirements are compared with the least essential criterion (Tavana et al., 2023).

Due to its methodological advantages (such as requiring fewer comparisons from experts, ease of implementation, and the ability to measure consistency) BWM is widely used in various strategic decision-making contexts including air transport management (Boz, Çizmecioğlu, & Çalık, 2023; Gürsoy, Karaman, & Akınet, 2022), supply chain management (Karakış, 2022; Öztürk, Torğul, & Paksoy, 2022), financial performance evaluation (Dalbudak Zorkirişçi & Rençber, 2023), institutional development analysis (Şimşek Yağlı & Zengin Taşdemir, 2023), sustainable energy management (Bilgiç, Torğul, & Paksoy, 2021), and transportation issues (Görçün & Küçükönder, 2022). The process includes the following steps (Alsharkawy, Hamdy, & Marzouk, 2025; Petru, Breaz, Racz, Crenganiş, Gîrjob, & Draşovean, 2024; Rezaei, 2015; Roshanravan, Kreuzer, & Buckingham, 2025):

Step 1: Formation of the criteria set

In the first stage, a set of criteria $c1$, $c2$, … cn consisting of n criteria is established.

Step 2: Determination of the best (most important) and worst (least significant) criteria

Decision-makers select the most important and the least essential criteria from the relevant list of criteria.

Step 3: Pairwise comparison of the best criterion with the others

Decision-makers conduct pairwise comparisons between the selected most crucial criterion and all other criteria. A 9-point Likert scale is used in this stage. The verbal expressions corresponding to this scale are presented in the table below.

Table 1: The Pairwise Comparison Scale Used in The BWM Technique

Score of Importance	Verbal Expression of Importance
1	Equally important
3	Moderately more important
5	Strongly more important
7	Very strongly more important
9	Extremely more important
2,4,6,8	Intermediate values

Step 4: Comparison of All Other Criteria with the Worst Criterion

At this stage, all remaining criteria are compared against the least important criterion. The verbal expressions used in this comparison are presented in Table 1.

Step 5: Determination of the optimal weights of the criteria

The optimal weights for the criteria are defined as the values that best fulfil the relationships wB/wj = aBj and wj/wW = ajW for each ratio w_B/w_j and w_j/w_W, respectively. To satisfy these conditions for all j, it is necessary to find a solution that minimises the maximum deviation in the absolute values of the following differences: $\left|\frac{w_B}{w_j} - a_{Bj}\right|$ and $\left|\frac{w_j}{w_W} - a_{jW}\right|$. Given the conditions that the weights are non-negative and their sum is equal to one, the following optimisation problem is formulated:

$$\min \max_j \left\{\left|\frac{w_B}{w_j} - a_{Bj}\right|, \left|\frac{w_j}{w_W} - a_{jW}\right|\right\} \quad (1)$$

subject to:

$$\sum_j w_j = 1$$

$w_j \geq 0$, for all j

This problem can be reformulated as:

min ξ

subject to:

$$\left|\frac{w_B}{w_j} - a_{Bj}\right| \leq \xi, \text{ for all } j$$

$$\left|\frac{w_j}{w_W} - a_{jW}\right| \leq \xi, \text{ for all } j$$

$$\sum_j w_j = 1$$

$w_j \geq 0$, for all j

By solving this optimisation problem, the optimal criteria weights (w^*_1, w^*_2,….., w^*_n) and the minimum deviation valueξ are obtained.

Step 6: Calculation of the consistency ratio

To assess the consistency of the comparisons and the reliability of the results, the consistency ratio is calculated. The lower this value, the higher the level of consistency in the comparisons. The corresponding consistency index values for BWM are provided in Table 2.

Table 2: Consistency Index Values for the BWM Method

a_{BW}	1	2	3	4	5	6	7	8	9
Consistency index (max ξ)	0.00	0.44	1.00	1.63	2.30	3.00	3.73	4.47	5.23

$$\text{Consistency Ratio} = \frac{\xi^*}{\text{Consistency Index}}$$

CoCoSo (Combined Compromise Solution)

The CoCoSo method developed by Yazdani et al. (2019) is a hybrid technique used to evaluate and rank alternatives by combining different utility values. It offers both high accuracy and easy application. The method aims to find the alternative closest to the ideal solution by considering all criteria together (Altıntaş, 2021; Torkayesh et al., 2021). The application consists of five main steps (Ghasemi, Behzadfar, Borhani, & Nouri, 2022; Nguyen & Chaysiri, 2025; Torkayesh et al., 2021; Yazdani et al., 2019):

Step 1: Construction of the decision matrix

First, the decision matrix is constructed as shown below:

$$X = \begin{bmatrix} X_{11} & X_{12} & \dots & X_{1n} \\ X_{21} & X_{22} & \dots & X_{2n} \\ \dots & \dots & \dots & \dots \\ X_{n1} & X_{n2} & \dots & X_{mn} \end{bmatrix} \qquad i = 1;\ 2, \dots, m;\ \ j = 1;\ 2, \dots, n \tag{3}$$

Step 2: Construction of the normalised decision matrix

For normalisation of the decision matrix, benefit-type criteria are normalised using Equation 4, while cost-type criteria are normalised using Equation 5:

$$r_{ij} = \frac{x_{ij} - \min\limits_i x_{ij}}{\max\limits_i x_{ij} - \min\limits_i x_{ij}}; \quad \text{for benefit criterion,} \tag{4}$$

$$r_{ij} = \frac{\max\limits_i x_{ij} - x_{ij}}{\max\limits_i x_{ij} - \min\limits_i x_{ij}}, \quad \text{for the cost criterion.} \tag{5}$$

Step 3: Calculation of S_i and P_i values

For each alternative, the S_i and P_i values are calculated using the following equations:

$$S_i = \sum_{j=1}^{n} \left(w_j r_{ij}\right) \tag{6}$$

$$P_i = \textstyle\sum_{j=1}^{n} \left(r_{ij}\right)^{w_j} \tag{7}$$

Step 4: Calculation of relative importance values of the alternatives

The relative importance scores of the other options are calculated using the following aggregation strategies based on the results obtained from Equations (8)–(10):

$$k_{ia} = \frac{P_i + S_i}{\sum_{i=1}^{m}(P_i + S_i)}, \tag{8}$$

$$k_{ib} = \frac{S_i}{\min\limits_i S_i} + \frac{P_i}{\min\limits_i P_i}, \tag{9}$$

$$k_{ic} = \frac{\lambda(S_i) + (1-\lambda)(P_i)}{\left(\lambda \max\limits_i S_i + (1-\lambda) \max\limits_i P_i\right)}; \quad 0 \le \lambda \le 1. \tag{10}$$

Step 5: Determination of performance scores of the alternatives

Considering the values obtained in the previous step, the relative importance score of each alternative is calculated using Equation 11:

$$k_i = (k_{ia} k_{ib} k_{ic})^{\frac{1}{3}} + \frac{1}{3}(k_{ia} + k_{ib} + k_{ic}). \tag{11}$$

Application and findings

This section presents the integrated application of the Best-Worst Method (BWM) and the Combined Compromise Solution (CoCoSo) method, as outlined in the methodology, to identify the most suitable competitive strategy for airline companies operating in or intending to enter the Turkish domestic air transport market. The implementation process involves defining the criteria and strategic alternatives, calculating the weights of each criterion, and evaluating and ranking the strategic options accordingly.

Identification of criteria and alternatives

The criteria for selecting strategies for existing and potential airline companies operating in the Turkish domestic air transport market were determined within the scope of Porter's Five Forces model (Porter, 1997, 2008). In this model, the five forces determined by Porter (Threat of New Entrants (A), Rivalry Among Existing Competitors (B), Bargaining Power of Buyers (C), Bargaining Power of Suppliers (D), and Threat of Substitute Products or Services (E)) constitute the main criteria of the study.

Table 3: Main and Sub-Criteria for Evaluating Competitive Strategies Based on Porter's Five Forces Model

Main Criteria	Code	Sub-Criteria	Description
A. Threat of New Entrants	A1	Economies of Scale	The advantage existing businesses have is in keeping unit costs low due to high production volume.
	A2	Capital Requirements	High capital investment is required to enter the sector (infrastructure, equipment, technology, etc.).
	A3	Regulatory Barriers	The restrictive effect of government policies, regulations, and legal norms on potential competitors.
	A4	Product/Service Differentiation	Unique features and customer-focused differentiation.
B. Rivalry Among Existing Competitors	B1	Industry Concentration	The number of active airline competitors in the market.
	B2	Industry Growth Rate	The growth rate of the sector in which existing airline businesses operate over time.
	B3	Fixed Costs	Costs that businesses must incur to sustain their operations and cannot easily change (e.g., warehouse, rent, and infrastructure expenses).
	B4	Exit Barriers	Structural, financial, or legal reasons that make it difficult for firms to leave the sector.
	B5	Information Complexity and Asymmetry	Difficulties in accessing market-related information and knowledge imbalances among competitors.
C. Bargaining Power of Buyers	C1	Buyer Volume	The number of buyers purchasing services or products in the market.
	C2	Access to Critical Information	The capacity of buyers to obtain important information regarding the operations and performance of the airline businesses from which they receive services.
	C3	Price Sensitivity of Buyers	The level of customer responsiveness to changes in pricing.
D. Bargaining Power of Suppliers	D1	Supplier Volume	The number and diversity of suppliers active in the sector.
	D2	Suppliers' Vertical Growth Potential	The likelihood that suppliers may expand into airline operations and become direct competitors.
	D3	Suppliers' Access to Critical Information	The capacity of suppliers to obtain important information regarding the operations and performance of the airline businesses to which they provide services.
	D4	Supplier Switching Costs	The magnitude of costs that airline businesses would incur when changing suppliers.
E. Threat of Substitute Products or Services	E1	Availability of Substitutes	The presence of alternative transportation modes (e.g., high-speed rail, intercity bus, private vehicle) that could meet similar passenger needs.
	E2	Relative Price-Performance of Substitutes	The degree to which substitute options are attractive in terms of cost and service quality compared to airline offerings.
	E3	Customer Dependence on Airline Services	Customers' attachment to the current firm's products or services, or brand loyalty.

These main criteria have been broken down into more specific and measurable sub-criteria, aligning with the structure of the Turkish domestic air transport market through a comprehensive literature review. For example, the main criterion 'Threat of New Entrants' includes sub-criteria such as 'Economies of Scale (A1)', 'Capital Requirements (A2)', 'Regulatory Barriers (A3)' and 'Product/Service Differentiation (A4)'. Similarly, the other four main forces are also divided into relevant sub-criteria. All main and sub-criteria are presented in detail in Table 3 with their codes and brief descriptions.

The alternatives to be evaluated for solving the strategic decision-making problem were determined based on the generic competitive strategies defined by Porter (1997) and considering the current strategic orientations in the airline industry. According to Porter, there are three basic generic strategies that businesses can follow to gain a competitive advantage within their sector and achieve above-average profitability in the long term: cost leadership, differentiation, and focus strategies. The main alternative competitive strategies evaluated in this context are as follows:

- S1: Cost leadership strategy
- S2: Differentiation strategy
- S3: Focus strategy

Determination of criteria weights- Application of the BWM method

At this stage of the study, the Best-Worst Method (BWM) was employed to quantify the relative importance of the evaluation criteria identified in the previous phase. This multi-step decision-making technique enables more consistent and reliable weighting of criteria by comparing the best and worst criteria against others in a structured format. To operationalise the technique, a questionnaire designed explicitly for BWM was developed and administered to a panel of eight domain experts. The panel comprised academic staff specialising in aviation and strategic management, as well as senior managers from the airline industry with direct knowledge of the Turkish domestic air transport market. Among the academics, two were Associate Professors and two were Assistant Professors (PhD), all of whom were actively engaged in research on air transport and strategic management. The practitioner group consisted of four managers occupying decision-making positions in airline companies, bringing a strong industry perspective. Importantly, all experts possessed more than ten years of professional experience in their respective domains, ensuring that both the academic and managerial insights were grounded in substantial expertise and practical relevance.

Table 4 presents the expert evaluations conducted within the scope of the BWM (Best-Worst Method) analysis. For illustration purposes, the table displays only the selections of the most important (Best) and least important (Worst) criteria made by eight experts for the main criteria. The detailed evaluations of the sub-criteria, including the corresponding pairwise comparisons, are provided in Appendix Table 1 to ensure readability and avoid excessive length in the main text.

Table 4: Expert Evaluations and Vectors

Expert	Main Criteria											
	Best	A	B	C	D	E	Worst	A	B	C	D	E
Expert1	B	3	1	8	5	7	C	5	8	1	3	2
Expert2	B	4	1	5	7	3	D	3	7	2	1	4
Expert3	E	9	2	3	4	1	A	1	4	3	2	9
Expert4	B	3	1	6	5	8	E	7	9	4	3	1
Expert5	C	3	2	1	7	4	D	5	6	8	1	3
Expert6	B	9	1	5	3	8	A	1	9	3	4	2
Expert7	A	1	5	9	6	4	C	8	4	1	3	5
Expert8	C	7	2	1	3	4	A	1	6	7	3	2

Table 5 summarises the results of the BWM (Best-Worst Method) analysis by presenting the calculated weights of both the main and sub-criteria, along with their corresponding global weights and final rankings. For each sub-criterion, local weights (relative to their respective main criterion) were multiplied by the main criterion weight to obtain global weights. These global weights served as the basis for ranking the relative importance of each sub-criterion across the entire decision structure. This systematic evaluation enables the identification of the most influential strategic factors affecting airline competitiveness in the domestic market.

Table 5: Main and Sub-Criteria Weights, Global Weights, and Rankings Based on BWM Analysis

Main Criteria	Weights	Sub-Criteria	Weights	Global Weights	Rank
A. Threat of New Entrants	0.1777	A1. Economies of Scale	0.2522	0.0448	9
		A2. Capital Requirements	0.2449	0.0435	10
		A3. Regulatory Barriers	0.3588	0.0638	7
		A4. Product/Service Differentiation	0.1441	0.0256	15
B. Rivalry Among Existing Competitors	0.3662	B1. Industry Concentration	0.3218	0.1178	2
		B2. Industry Growth Rate	0.1349	0.0494	8
		B3. Fixed Costs	0.2919	0.1069	3
		B4. Exit Barriers	0.1750	0.0641	6
		B5. Information Complexity and Asymmetry	0.0763	0.0280	14
C. Bargaining Power of Buyers	0.1803	C1. Buyer Volume	0.1995	0.0360	13
		C2. Access to Critical Information	0.1398	0.0252	16
		C3. Price Sensitivity of Buyers	0.6607	0.1192	1
D. Bargaining Power of Suppliers	0.1183	D1. Supplier Volume	0.3330	0.0394	12
		D2. Suppliers' Vertical Growth Potential	0.1199	0.0142	19
		D3. Suppliers' Access to Critical Information	0.1894	0.0224	17
		D4. Supplier Switching Costs	0.3577	0.0423	11
E. Threat of Substitute Products or Services	0.1574	E1. Availability of Substitutes	0.4833	0.0761	4
		E2. Relative Price-Performance of Substitutes	0.4146	0.0653	5
		E3. Customer Dependence on Airline Services	0.1022	0.0161	18

The findings show that among the main criteria, Rivalry Among Existing Competitors (0.3662) has the highest weight, followed by Bargaining Power of Buyers (0.1803) and Threat of New Entrants (0.1777). At the sub-criteria level, the highest global weight was obtained by Price Sensitivity of Buyers (C3) (0.1192), followed by Industry Concentration (B1) (0.1178) and Fixed Costs (B3) (0.1069). The lowest global weights were recorded for Suppliers' Vertical Growth Potential (D2) (0.0142), Customers' Dependence on Airline Services (E3) (0.0161), and Suppliers' Access to Critical Information (D3) (0.0224).

Ranking of competitive strategies – Application of the CoCoSo method

In this section, the evaluation and ranking of alternative competitive strategies is carried out using the CoCoSo method. Based on the criterion weights obtained from the BWM analysis, the CoCoSo method provides a holistic ranking of strategic alternatives by combining different aggregation strategies.

Table 6: The Normalised Initial Decision Matrix

Strategies	Differentiation strategy	Cost leadership strategy	Focus strategy
A1	0.5	1	0
A2	0	1	0.67
A3	0.33	1	0
A4	1	0	0.26
B1	0	1	0
B2	0	1	1
B3	0	1	0.38
B4	0	1	0.5
B5	0.8	0	1
C1	0	1	0
C2	0.6	0	1
C3	0.28	1	0
D1	0	1	0.2
D2	0	0.5	1
D3	1	0	0.5
D4	0.56	1	0
E1	0	1	0
E2	0	1	0.36
E3	1	0.08	0

Table 6 shows the initial normalised decision matrix used in the evaluation of different competitive strategies (differentiation, cost leadership and focus). Each value in the matrix represents the normalised performance score of the relevant strategy with respect to a specific criterion. The normalisation process was carried out using appropriate formulas for the Max-side (benefit) and Min-side (cost) criteria, ensuring comparability between them. This matrix serves as the primary data source for calculating weighted sums and integrated performance scores, which are the next steps in the CoCoSo method.

Table 7 presents the weighted performance scores of each competitive strategy, based on the determined sub-criteria and the Si values, which represent the sum of these scores. The weighting process was carried out using the criteria weights obtained by the BWM method. Each cell represents the product of the normalised value of the relevant strategy with respect to a particular criterion and the weight of that criterion. The Si value in the last column represents the total weighted performance of the strategy across all requirements. It serves as the basis for the first aggregation strategy in the CoCoSo method's evaluation process.

Table 7: Sum of the Weighted Comparability Matrix

Strategies	Differentiation strategy	Cost leadership strategy	Focus strategy
A1	0.02	0.04	0
A2	0	0.04	0.03
A3	0.02	0.06	0
A4	0.03	0	0.01
B1	0	0.12	0
B2	0	0.05	0.05
B3	0	0.11	0.04
B4	0	0.06	0.03
B5	0.02	0	0.03
C1	0	0.04	0
C2	0.02	0	0.03
C3	0.03	0.12	0
D1	0	0.04	0.01
D2	0	0.01	0.01
D3	0.02	0	0.01
D4	0.02	0.04	0
E1	0	0.08	0
E2	0	0.07	0.02
E3	0.02	0	0
S_i	0.07	0.43	0.13

Table 8 presents the exponentially weighted comparison values (Pi) calculated based on all sub-criteria for each competitive strategy. Pi values are calculated by taking the exponent of the normalised score of each strategy for the relevant sub-criterion by the weight of that criterion obtained by the BWM method, and summing for all requirements. Each cell in the table reflects the exponential performance contribution of the strategy in a particular sub-criterion. The Pi value in the last column represents the total exponential performance score, which constitutes the second evaluation metric of the CoCoSo method.

Table 8: Total Exponentially Weighted Comparability (*Pi*) Values

Strategies	Differentiation strategy	Cost leadership strategy	Focus strategy
A1	0.97	1	0
A2	0	1	0.98
A3	0.93	1	0
A4	1	0	0.97
B1	0	1	0
B2	0	1	1
B3	0	1	0.9
B4	0	1	0.96
B5	0.99	0	1
C1	0	1	0
C2	0.99	0	1
C3	0.86	1	0
D1	0	1	0.94
D2	0	0.99	1
D3	1	0	0.98
D4	0.98	1	0
E1	0	1	0
E2	0	1	0.94
E3	1	0.96	0
Pi	2.9	6	3.85

Table 9 presents the relative weight values (kia, kib, and kic) based on three different aggregation strategies, calculated for each competitive strategy within the scope of the CoCoSo method, and the final performance score (ki) obtained based on these values. The k_i value in the last column represents the final score obtained by combining the arithmetic mean and geometric mean of the three strategies, which determines the overall ranking of the strategy. The Rank column displays the performance levels of the strategies, ranked from highest to lowest.

Table 9: Relative Weights (k_{ia}, $k_{i\beta}$, k_ic) and Final Performance Scores (k_i)

Strategies	k_{ia}	$k_{i\beta}$	k_{ic}	k_i	Rank
Differentiation strategy	0.22	2.00	0.46	1.48	3
Cost leadership strategy	0.48	8.22	1.00	4.81	1
Focus strategy	0.30	3.15	0.62	2.19	2

According to the results obtained by the CoCoSo method, the Cost Leadership Strategy ranked first with a total score of 4.81, followed by the Focus Strategy with a score of 2.19, and the Differentiation Strategy with a score of 1.48. The performance of the Cost Leadership Strategy is reflected in its relatively higher values of $k_{i\beta}$ (8.22) and k_ic (1.00) compared to the other strategies. Focus Strategy's result was supported by its $k_{i\beta}$ value (3.15), while Differentiation Strategy showed lower scores across most criteria.

The results provide direct answers to the research questions posed in this study. Regarding RQ1, the most salient competitive forces were identified as Rivalry Among Existing Competitors, Bargaining Power of Buyers, and Threat of New Entrants, with Price Sensitivity of Buyers (C3), Industry Concentration (B1), and Fixed Costs (B3) emerging as the most influential sub-criteria. In response to RQ2, the BWM analysis quantified the relative importance of these criteria, confirming the dominance of customer price sensitivity and cost-related factors in shaping competitive dynamics. Finally, addressing RQ3, the CoCoSo method ranked the alternative strategies, revealing that Cost Leadership achieved the highest performance score, followed by Focus and Differentiation. These findings show that the proposed BWM–CoCoSo framework effectively operationalises Porter's Five Forces to identify the most appropriate competitive strategy in the Turkish domestic airline market."

Discussion

In this study, the findings of the integrated BWM-CoCoSo method reveal that the Cost Leadership Strategy emerges as the most suitable alternative under the current conditions of the Turkish domestic market. This strategy is critical given that Rivalry Among Existing Competitors and Bargaining Power of Buyers are identified as the most influential forces. This aligns with previous studies emphasising the highly competitive nature of the Turkish aviation sector, especially after the regulatory reforms introduced in 2003 (Gerede, 2010; Orhan & Gerede, 2013). Following liberalisation, the market opened to private players, competition intensified, and the need for efficiency and cost control among airline companies increased significantly (Doğan & Doğan, 2023; Gündüz & Arslantaş, 2023).

This study contributes to the literature by quantitatively demonstrating that a cost leadership strategy is more successful than a differentiation strategy in the Turkish domestic market. This situation is consistent with the theoretical expectation that cost leadership provides a decisive competitive advantage in markets with high price sensitivity (Parnell, Köseoglu, Long, & Yuanyuan, 2011; Surono, Suryanto, & Anggraini, 2020). Recent empirical work also indicates that the presence of LCCs lowers fares on average, reinforcing the competitive salience of price in liberalised, price-sensitive contexts. At the same time, industry syntheses note that aggregate demand has remained resilient even as yields rose post-pandemic, implying heterogeneous price elasticities across segments—precisely the kind of environment where low cost and efficient capacity utilisation can sustain advantage (Gualini, Martini, & Porta, 2024; Alderighi, Cento, Nijkamp, & Rietveld, 2012).

It is well established that low-cost carriers (LCCs) gain a competitive advantage by offering lower prices and comparable services relative to full-service airlines in many countries (Ma & Wang, 2024; Wang, Tsui, Wang, et al., 2025; Wang, Tsui, Wu, Fu, & Wang, 2025). In this context, the rapid growth of companies such as Pegasus Airlines, which have adopted a low-cost strategy in the Turkish domestic market, further supports the effectiveness of the cost leadership approach (Adiloğlu-Yalçınkaya & Besler, 2020; Eroğlu, 2015).

In comparison with previous studies in the literature, some recent studies in the field of aviation management support the results of our research. For example, Gürsoy et al. (2022) evaluated the strategic marketing performance of airline companies in the Asia-Pacific region using a multi-criteria method. They found that financial and operational criteria, such as net profitability, load factor, and passenger count, were the most prominent in competition. This result indicates that the optimal strategy identified in this study may align with the financial efficiency dimension (e.g., cost control or increasing capacity utilisation).

The dominance of the cost leadership strategy in this study also overlaps with the study of Tanrıverdi & Lezki (2021) in the Turkish air cargo sector. This study also concluded that cost-oriented strategies are essential in a liberalised but cost-sensitive market. Their study emphasises that Turkish carriers, operating in a price-sensitive environment and facing significant competition, tend to prioritise cost optimisation, operational efficiency and control of fixed expenses to maintain their competitiveness.

The finding that cost leadership is the most viable strategy in the Turkish domestic market aligns with results reported in other emerging markets. For instance, Surono et al. (2020) & Parnell et al. (2011) also emphasised that cost-oriented strategies dominate in price-sensitive contexts, while differentiation tends to be less sustainable. Similarly, studies by Tanrıverdi & Lezki (2021) on Turkish air cargo carriers & Gürsoy et al. (2022) on Asia-Pacific airlines highlighted operational efficiency and cost control as decisive factors. However, other research in mature markets has found differentiation strategies to be more effective (e.g., Ou, Chou, & Chang, 2009; Ignacio, Soriano, Villanueva, & Mandigma, 2023), suggesting that market maturity and consumer expectations have a strong influence on strategic choices.

In addition, the BWM analysis highlights the high relative importance of the sub-criteria "Price Sensitivity of Buyers" and "Industry Concentration", revealing that Turkish domestic airline passengers are susceptible to price fluctuations. The market is densely populated with a few dominant players. These dynamics make it challenging to implement pricing models tailored to differentiation strategies, thereby confirming the relative superiority of the cost leadership approach in current market conditions.

The results obtained have important practical implications for the Turkish domestic aviation sector. First of all, it is thought that determining the most appropriate competitive strategy can provide airline managers with a concrete guide on the strategic roadmap. For example, since the study findings show that a cost leadership strategy is superior, airline managers can increase their competitiveness by focusing more on cost-cutting measures (fuel efficiency, operational process optimisation, fleet

standardisation, etc.). Such a focus is an important step, especially for attracting domestic passenger demand with high price elasticity and achieving high occupancy rates (Gualini et al., 2024; Ibrahim Aji, Ramadhan, & Hidayatullah, 2021; Su et al., 2020).

Another important point regarding sectoral applications is that the study's method provides an analytical framework for decision-makers to use. The use of BWM and CoCoSo methods will enable airline managers to evaluate abstract strategy concepts through concrete criteria and numerical priorities. This may encourage decision-makers in the sector to shift from a traditional, experience- and intuition-based approach to determining strategy to a multi-criteria analysis-based approach. Especially in a dynamic and multidimensional industry such as aviation, it is crucial to address key goals, including financial performance, customer satisfaction, operational efficiency, safety, and sustainability, in a balanced manner. In the study, an applicable model is presented to determine the most appropriate strategy by prioritising among these goals. This model can be adapted not only for airlines in Turkey but also for the domestic market of other countries with similar competitive structures. Therefore, in terms of sectoral application, our findings serve as an evidence-based decision support tool for selecting a competitive strategy. Airline companies can strengthen their market positions by integrating these findings into their corporate strategic plans.

Conclusion

In conclusion, this study employed an integrated BWM–CoCoSo multi-criteria decision-making approach to evaluate competitive strategies in the Turkish domestic airline industry, yielding significant findings. Based on the evaluation results, the performance of the alternative strategies can be summarised as follows:

- Cost Leadership Strategy – highest overall performance (score: 4.81), ranked 1st.
- Focus Strategy – moderate performance (score: 2.19), ranked 2nd.
- Differentiation Strategy – lowest performance (score: 1.48), ranked 3rd.

This ranking highlights the relative strength of cost-oriented approaches in the current Turkish domestic airline market.

The study has shown that strategy concepts can be systematically evaluated by integrating Porter's competitive strategy framework with MCDM techniques. This integration bridges the gap between theory and practice, introducing a methodological innovation to the field of study. In addition, the study supports the relevance of classical strategy theory by empirically demonstrating the primary importance of cost leadership in creating a competitive advantage, even in developing market conditions.

In price-driven markets such as Turkey, airlines need to prioritise cost management as the central pillar of their strategies. Practices including higher asset utilisation, the development of direct sales channels, and achieving economies of scale are especially critical for maintaining competitiveness. For firms unable to achieve whole cost leadership, carefully designed focus strategies (such as specialisation in specific regions or customer segments) provide alternative routes to sustaining competitive advantage.

This research provides original contributions to the literature by filling a significant gap at both theoretical and applied levels. Firstly, being one of the first studies to propose a systematic and quantitative model for the optimal strategy of companies operating in the Turkish domestic airline sector constitutes the fundamental originality of the research. Although Porter's Five Forces Model is frequently used in qualitative analyses in the literature, the integration of this model with Multi-Criteria Decision Making (MCDM) methods and transformation into a strategic decision support system is quite limited. In this context, the study aims to eliminate the conceptual-empirical gap in the literature by operationalising strategic management theory with a numerical decision model. Secondly, the determination of criteria weights with the Best-Worst Method (BWM) and the ranking of strategic alternatives with the Combined Compromise Solution (CoCoSo) method provide a strong and innovative approach at the methodological level. The structure of BWM, which enhances decision-making consistency and the holistic evaluation capacity of CoCoSo, provides methodological clarity and robustness to strategy-making processes in complex and multivariate environments, such as the aviation sector. Thirdly, the study not only provides a theoretical framework but also yields meaningful results for application in the local context, focusing on the dynamics of the competitive environment in the Turkish airline industry. In this respect, the research offers concrete and practical strategic implications for both academics and airline managers, providing an analytical perspective on decision-making processes.

Despite its various contributions, this study has some limitations. Firstly, the study is limited to the domestic airline sector in Turkey; therefore, the generalizability of the findings to other geographical markets may be limited. Similar analyses conducted in different countries or international markets may reveal different strategy preferences depending on local conditions. Secondly, the study was performed under the assumption that the competitive environment is static. However, the airline sector has a dynamic structure that is extremely sensitive to external shocks. The study was conducted under fixed conditions and in a specific time period based on expert evaluations; therefore, the relative importance of decision criteria and the performance of strategic alternatives may change significantly over time. The third limitation is that it focuses only on external environmental factors based on Porter's Five Forces model. Internal organisational factors, such as resources, dynamic capabilities, and managerial competencies—which are central to the Resource-Based View (RBV)—were not included. This exclusion may limit the scope of the research questions, as the suitability of competitive strategies can also depend on a firm's specific internal strengths and weaknesses. Future research could integrate the Resource-Based View (RBV) or dynamic capabilities framework with the Porter-based external analysis to provide a more holistic evaluation of competitive strategies. This would allow for the inclusion of organisational resources, competencies, and internal processes in strategy selection, thereby bridging the gap between external industry forces and internal firm-specific advantages. Finally, the analysis is based only on BWM and CoCoSo methods, and no comparative analysis with alternative multi-criteria decision-making methods (e.g. TOPSIS, VIKOR, ANP) has been conducted. Additionally, studies employing scenario-based or time-dependent dynamic models can be undertaken to assess the robustness of the proposed strategies under various conditions. For example, it would be valuable to simulate the effects of major disruptions, such as economic recessions, regulatory changes, or global pandemics, on competitiveness, or to monitor the long-term performance of airlines adopting different strategies.

Peer-review:

Externally peer-reviewed

Conflict of interests:

The author has no conflict of interest to declare.

Grant Support:

The author declared that this study has received no financial support.

Ethics Committee Approval:

Ethics committee approval was received for this study from the Kırklareli University Ethics Committee on March 6, 2025, with document number E-35523585-199-162548.

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Appendix

Appendix 1: Expert Evaluations and Vectors

A. Sub-criteria of the Threat of New Entrants

	Best	A1	A2	A3	A4	Worst	A1	A2	A3	A4
Expert1	A1	1	3	4	6	A4	6	3	2	1
Expert2	A3	6	3	1	4	A1	1	3	6	2
Expert3	A1	1	3	4	7	A4	7	4	3	1
Expert4	A4	3	3	7	1	A3	4	5	1	7
Expert5	A2	3	1	2	6	A4	3	7	5	1
Expert6	A3	4	3	1	9	A4	4	7	9	1
Expert7	A3	4	5	1	9	A4	5	4	8	1
Expert8	A3	6	2	1	4	A1	1	5	6	2

B. Sub-criteria of the Rivalry Among Existing Competitors

	Best	B1	B2	B3	B4	B5	Worst	B1	B2	B3	B4	B5
Expert1	B4	2	3	4	1	5	B5	4	3	2	5	1
Expert2	B1	1	4	6	3	7	B5	7	4	3	6	1
Expert3	B3	4	9	1	3	2	B2	3	1	9	4	3
Expert4	B1	1	6	2	3	7	B5	5	3	4	4	1
Expert5	B1	1	3	2	4	7	B5	8	5	6	3	1
Expert6	B1	1	5	4	8	9	B5	9	4	5	2	1
Expert7	B3	5	4	1	6	9	B5	2	5	8	4	1
Expert8	B3	2	3	1	4	6	B5	2	3	6	3	1

C. Sub-criteria of the Bargaining Power of Buyers

	Best	C1	C2	C3	Worst	C1	C2	C3
Expert1	C3	3	9	1	C2	6	1	9
Expert2	C3	5	3	1	C1	1	2	5
Expert3	C3	3	5	1	C2	2	1	5
Expert4	C3	3	4	1	C2	5	1	7
Expert5	C3	8	4	1	C1	1	3	7
Expert6	C3	3	5	1	C2	2	1	4
Expert7	C3	6	9	1	C2	3	1	8
Expert8	C3	2	4	1	C2	2	1	4

D. Sub-criteria of the Bargaining Power of Suppliers

	Best	D1	D2	D3	D4	Worst	D1	D2	D3	D4
Expert1	D1	1	5	3	4	D2	5	1	2	2
Expert2	D4	5	2	4	1	D1	1	4	2	5
Expert3	D1	1	7	2	3	D2	7	1	3	4
Expert4	D4	2	2	2	1	D1	1	2	2	2
Expert5	D4	4	7	5	1	D2	3	1	2	6
Expert6	D1	1	8	4	3	D2	8	1	3	4
Expert7	D4	5	9	6	1	D2	4	1	3	8
Expert8	D1	1	7	2	3	D2	6	1	5	3

E. Sub-criteria of the Threat of Substitute Products or Services

	Best	E1	E2	E3	Worst	E1	E2	E3
Expert1	E1	1	2	7	E3	7	6	1
Expert2	E2	3	1	6	E3	3	5	1
Expert3	E1	1	3	6	E3	6	3	1
Expert4	E1	1	2	3	E3	2	2	1
Expert5	E2	3	1	6	E3	3	6	1
Expert6	E2	4	1	9	E3	4	9	1
Expert7	E1	1	5	9	E3	8	3	1
Expert8	E1	1	3	9	E3	8	3	1