

Article

Financial Performance Evaluation of Türkiye's Savings Finance Sector Using the CRITIC-EDAS Method

Murat Ahmet Doğan 

Department of Aviation Management, Samsun University, 55420 Samsun, Türkiye;
muratahmet.dogan@samsun.edu.tr

Abstract

The rapid growth of Türkiye's savings finance sector under Law No. 7292 has created demand for objective, multidimensional performance evaluation tools. This study assesses the financial performance of six savings finance companies in Türkiye over 2022–2024 using a hybrid CRITIC-EDAS multi-criteria decision-making model. Criterion weights for eight financial indicators—spanning profitability, operational efficiency, growth, and financial structure—were derived objectively via CRITIC, while EDAS produced the rankings, which were applied to criterion-direction-normalized data because the dataset contains negative values. The operating expense-to-revenue ratio carried the greatest weight in 2022 and 2023; gross profit margin became dominant in 2024. Katılımevim led the rankings in 2022 ($ASi = 1.000$); Eminevim then took the lead in 2023 ($ASi = 1.000$) and held it in 2024 ($ASi = 0.968$), with Fuzulev second ($ASi = 0.815$). A normalization artifact affecting two revenue-denominator ratios for one company (İmece) in 2024 was corrected through winsorization. Validity was confirmed in two stages: Spearman correlations between EDAS and the TOPSIS, MABAC, and MARCOS rankings exceeded the 0.89 reliability threshold in all three years, and a nine-scenario sensitivity analysis supported the rankings' robustness. These findings give regulators, investors, and managers a replicable framework for evaluating performance in this young, underexamined sector and point to operational efficiency and outlier management as priorities for oversight.

Keywords: savings finance companies; financial performance evaluation; CRITIC-EDAS; multi-criteria decision-making (MCDM); Islamic finance

1. Introduction

Global financial markets have grown far more complex in recent years, as derivatives, structured finance products, and securitized instruments have proliferated alongside a widening range of financial products (Blanco & Wehrheim, 2017; Botta et al., 2022; Ghent et al., 2019). Traditional financial ratio analysis, built around single-dimension comparisons, struggles to keep pace with this complexity—a shortcoming that becomes especially clear when markets turn volatile (Acar, 2024; Danci et al., 2025; Lo, 2017). Türkiye offers a case in point: the CBRT's one-week repo rate climbed to 19.42% in 2018, dropped below 12% during 2020–2021, then surged again to 26.69% in 2023 and 47.50% in 2024 before easing slightly to 42.07% in 2025. Combined with elevated credit, auto, and mortgage loan costs (Table 1), these swings have made conventional financing harder to access and pushed interest-sensitive borrowers toward alternatives such as savings-based financing.



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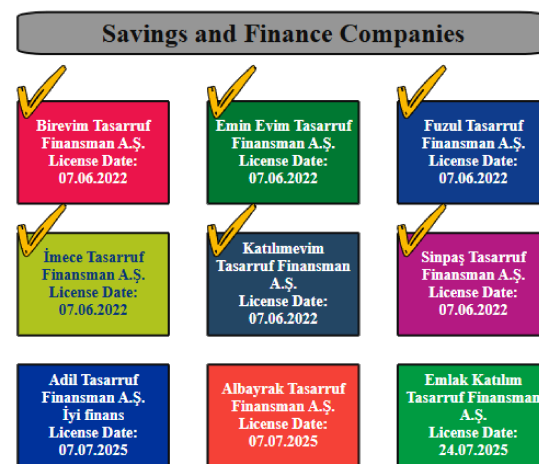
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Table 1. Interest and Loan Cost Rates (TCMB, 2026).

Year	Weekly Repo Rate (%)	Avg. Term Deposit Rate (%)	Avg. Auto Loan Cost (%)	Avg. Mortgage Loan Cost (%)
2013	4.75	7.95	11.38	10.07
2014	9.13	9.72	11.71	10.34
2015	7.63	10.35	12.53	10.82
2016	8.00	10.89	14.29	11.68
2017	8.00	12.05	15.10	11.80
2018	19.42	17.62	17.22	12.37
2019	15.56	18.57	21.13	12.99
2020	11.38	10.38	15.86	12.06
2021	16.40	17.71	17.53	12.44
2022	11.13	17.41	22.71	14.13
2023	26.69	28.10	26.06	16.31
2024	47.50	53.78	30.44	21.08
2025	42.07	50.39	34.02	28.47

Source: TCMB (2026), Interest Rate and Profit Statistics.

In this context, interest-free financing methods—particularly models such as the savings finance sector based on the principles of Islamic economics—have emerged as alternatives to traditional models, offering innovative solutions for interest-sensitive segments in high-interest environments (Dinç et al., 2022; Ustaoglu & Karabalık, 2023, 2025). The savings finance sector, an alternative component of Türkiye’s financial system, has solidified its importance through growth momentum and regulatory developments in recent years. The requirement for these companies (Figure 1) to obtain operating licenses has contributed to the implementation of corporate governance principles, improved liquidity and risk management, enhanced asset quality, and greater transparency in financial reporting (BDDK, 2012; Çetin, 2024; Baştuğ, 2024).

**Figure 1.** Savings and Finance Companies in Türkiye. Note: ✓ indicates an active BDDK operating license at the date shown.

In Türkiye, the savings-based financing sector began in the 1980s with informal structures known as the “el birliği system,” particularly for individuals seeking interest-free financing (Arcan & Savut, 2022; M. Yavuz, 2021). This system pools participants’ savings to enable them to acquire housing or vehicles in turn, transforming a traditional culture of mutual aid into a financial model (M. Yavuz, 2021). However, operating for many years without any regulatory framework or public oversight posed risks to the system’s sustainability (M. Yavuz, 2021).

A turning point for the sector was Law No. 7292, which entered into force in 2021 (Selvi, 2021). With this regulation, savings financing activities were brought under the scope

of Law No. 6361, establishing a legal foundation and subjecting the sector to supervision by the Banking Regulation and Supervision Agency (BDDK, 2012; Selvi, 2021). The primary objective is to protect the rights of participants, establish trust in financial markets, and ensure that companies operate in accordance with corporate governance principles (Basaran Brooks, 2023; Selvi, 2021). Today, the sector continues to develop in terms of mission, vision, and operational efficiency, while taking steps toward institutionalization in areas such as liquidity and risk management (Çetin, 2024).

Financial performance is conceptualized in the literature as a financial institution's ability to generate profitability and maintain long-term financial stability by rationally managing its assets and equity (Chinh et al., 2025). The heterogeneity observed in performance indicators between banks and non-bank financial institutions significantly complicates comparative analysis. MCDM methods provide the ability to obtain objective and integrated rankings by simultaneously synthesizing multiple criteria (Wang et al., 2023). In the literature, Eyüboğlu and Çelik (2016) analyzed the energy sector, Sariyer and Acar (2021) analyzed the basic metals industry, Saleh and Kimiagari (2017) analyzed publicly traded companies in Iran, and Sanfeliu et al. (2013) and Rana et al. (2022) analyzed microfinance institutions using methods such as AHP, TOPSIS, MABAC, and VIKOR. In evaluations of participatory banking in Türkiye, methods such as ELECTRE (Odabaş & Bozdoğan, 2020), CRITIC-EDAS (Bayram, 2021), CRITIC-PROMETHEE (Bayram, 2020), and ENTROPY-EDAS (İ. Yavuz, 2025) have been preferred. In the performance analysis of non-bank financial institutions such as savings finance, factoring, and leasing, Özçelik and Küçükçakal (2019) used TOPSIS, Gülcan (2022) used VIKOR, and Yıldırım (2024) used MABAC-MAIRCA to obtain effective results (Selimler & Taş, 2019).

In recent years, “hybrid” models have gained prominence as a means of overcoming the limitations of a single method. Hybrid approaches are typically constructed by having one method determine the criterion weights and another rank the alternatives (Eyüboğlu & Çelik, 2016; Gülsün & Erdoğan, 2021; Kumar & Sharma, 2023; Ünvan, 2020). In a specific study on savings and finance companies in Türkiye, Bektaş and Çimen (2024) analyzed performance for the 2021–2023 period by combining the PSI and MABAC methods, finding that total debt/total assets emerged as the most important criterion, and that institutionalization efforts following legal regulation were reflected in performance data. The criteria used in that study (e.g., net income/total assets, equity/total assets, savings-based financing receivables/total assets) are commonly used as standard measures in the financial performance evaluation of participation banks, supporting the validity of the criteria used in the present study (Abdel-Basset et al., 2021; Aliakbari Nouri et al., 2015; Bektaş, 2021; Safaei Ghadikolaie et al., 2014).

This study aims to comparatively evaluate the financial performance of six savings finance companies operating in Türkiye during the 2022–2024 period—for which publicly available financial data are accessible—using an objective approach based on eight financial criteria. The CRITIC method was applied to objectively determine criterion weights, and a hybrid MCDM model based on the EDAS method was used to rank the alternatives. Result reliability was verified in two stages: Spearman's rank correlation analysis using the TOPSIS, MABAC, and MARCOS methods, and a sensitivity test involving nine weighting scenarios. Studies on the savings finance sector in the current literature are limited in scope; only Bektaş and Çimen (2024) have applied a PSI-MABAC hybrid model, for the 2021–2023 period. CRITIC-EDAS itself has previously been applied to Turkish participation banks (Bayram, 2021) and to airlines (Kiracı & Bakır, 2019), so the methodological pairing is not new in itself. This study's contribution is therefore empirical and contextual rather than purely methodological: it provides the first application of a CRITIC-EDAS model to Türkiye's savings finance sector, extends the evidence base to the 2022–2024 period, and

documents a normalization sensitivity in EDAS relevant to datasets containing extreme values. The remainder of this paper is organized as follows: Section 2 describes the materials, criteria, and CRITIC-EDAS methodology; Section 3 presents the empirical results, including sensitivity and cross-method validation; Section 4 discusses the findings, study limitations, and a preliminary 2025 extension; and Section 5 concludes with implications and directions for future research.

2. Materials and Methods

This study applies a CRITIC-EDAS multi-criteria decision-making model to evaluate the financial performance of Türkiye's savings finance companies. CRITIC determines the criterion weights; EDAS then ranks the alternatives. Because the dataset includes negative values, each criterion was normalized before applying EDAS— $(x - \min)/(\max - \min)$ for benefit criteria and $(\max - x)/(\max - \min)$ for cost criteria—and the arithmetic mean (AVj) was computed from these normalized values. Data (Figure 2) come from the financial statements in the publicly available independent audit reports of savings finance companies for 2022–2024, covering eight performance indicators across profitability, operational efficiency, growth, and financial structure. All figures underlying these criteria (Table 2 and Figure 2) are nominal, as originally reported for 2022–2024, with no restatement under inflation accounting (TMS 29). This is a regulatory fact rather than a data gap: BDDK decides each year whether TMS 29 applies to the entities it supervises, and for this entire period, it exempted banks, leasing, factoring, financing, savings finance, and asset management companies from inflation accounting (BDDK, 2023, 2024, 2025). Since every company in the sample reports on this same regulator-mandated nominal basis, within-year comparisons across the six companies are not distorted by economy-wide inflation—all firms are measured at the same price level in a given year. Inter-temporal comparisons are a different matter: the asset-growth criterion (C5) and the year-over-year figures in the 2025 extension (Section 4.2) are more exposed to inflation, and they are treated accordingly (see Section 4.1).

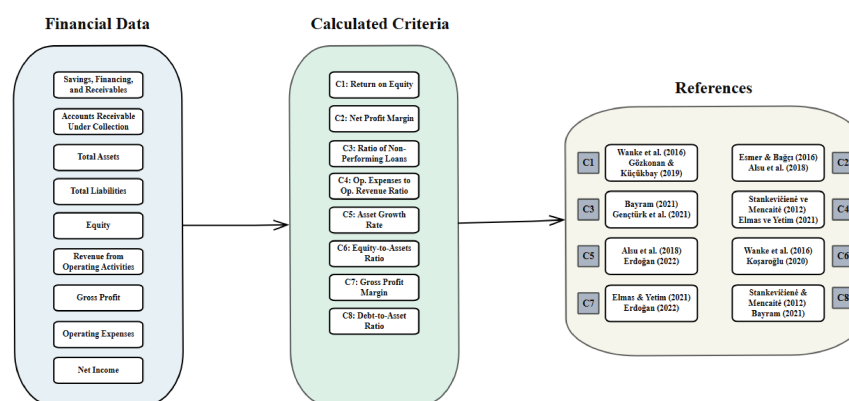


Figure 2. Data Structure of The Study.

Table 2. Criterion Definitions, Formulas, and Direction (C1–C8).

Criterion	Definition	Formula	Direction
C1	Return on Equity (ROE)	$\text{Net Income} / \text{Equity} \times 100$	Benefit
C2	Net Profit Margin	$\text{Net Income} / \text{Core Operating Revenue} \times 100$	Benefit
C3	Non-Performing Loan Ratio (NPL)	$\text{Overdue Receivables} / \text{Savings Finance Receivables} \times 100$	Cost
C4	Operating Expense Ratio	$\text{Operating Expenses} / \text{Core Operating Revenue} \times 100$	Cost
C5	Asset Growth	$(\text{Total Assets}_t - \text{Total Assets}_{t-1}) / \text{Total Assets}_{t-1} \times 100$	Benefit
C6	Equity-to-Assets Ratio	$\text{Equity} / \text{Total Assets} \times 100$	Benefit
C7	Gross Profit Margin	$\text{Gross Profit} / \text{Core Operating Revenue} \times 100$	Benefit
C8	Debt-to-Assets Ratio	$(\text{Total Assets} - \text{Equity}) / \text{Total Assets} \times 100$	Cost

2.1. The CRITIC Method

The CRITIC method, widely used among objective weighting techniques, was developed by Diakoulaki et al. (1995) and derives criterion weights from the levels of contrast, standard deviations, and inter-criterion correlation coefficients in the decision matrix (Bayram, 2021). The method consists of five steps: (1) constructing the decision matrix; (2) normalizing the data to the [0, 1] range; (3) computing the Pearson correlation coefficients between criteria; (4) computing each criterion's information content (C_j) from its standard deviation and correlation structure; and (5) computing the final weight (W_j) as each criterion's share of total information content (Çakir & Perçin, 2013). The relevant equations are defined as follows:

$$C_j = \sigma_j \cdot \sum_k = 1n (1 - \rho_{jk}) \quad (1)$$

$$W_j = C_j / \sum_k = 1n C_k \quad (2)$$

2.2. The EDAS Method

The EDAS method was developed by Keshavarz Ghorabae et al. (2015) and evaluates alternatives based on their positive and negative distances from an average solution, rather than from ideal and anti-ideal points as in TOPSIS and VIKOR (Bayram, 2021; Kiracı & Bakır, 2019). Because the dataset contains negative values for several criteria (Section 2), the decision matrix X_{ij} is first normalized to the [0, 1] interval according to criterion direction, using Equation (3) for benefit criteria and Equation (4) for cost criteria, prior to computing the average solution and distance measures:

$$N_{ij} = (X_{ij} - \min_i X_{ij}) / (\max_i X_{ij} - \min_i X_{ij}) \text{ [benefit criteria]} \quad (3)$$

$$N_{ij} = (\max_i X_{ij} - X_{ij}) / (\max_i X_{ij} - \min_i X_{ij}) \text{ [cost criteria]} \quad (4)$$

Because normalization already orients every criterion in the benefit direction, the average solution and the positive/negative distance measures are computed uniformly on N_{ij} :

$$AV_j = (\sum_i N_{ij}) / n \quad (5)$$

$$PDA_{ij} = \max(0, (N_{ij} - AV_j) / AV_j); \quad (6)$$

$$NDA_{ij} = \max(0, (AV_j - N_{ij}) / AV_j) \quad (7)$$

$$SP_i = \sum_j = 1m W_j \cdot PDA_{ij}; \quad (8)$$

$$SN_i = \sum_j = 1m W_j \cdot NDA_{ij} \quad (9)$$

$$NSP_i = SP_i / \max_i (SP_i); \quad (10)$$

$$NSN_i = 1 - SN_i / \max_i (SN_i) \quad (11)$$

$$AS_i = (1/2)(NSP_i + NSN_i) \quad (12)$$

The evaluation score (AS_i) is calculated as the average of the normalized NSP_i and NSN_i values; alternatives are ranked in descending order of AS_i , with the highest-scoring company identified as the most successful (Keshavarz Ghorabae et al., 2015).

3. Results

This section presents the findings of the CRITIC-EDAS analysis. First, criterion weights were determined using the CRITIC method; companies were then ranked using the EDAS method. Sensitivity and Spearman correlation analyses are also reported. Calculation steps

are presented in detail for 2024; for 2022 and 2023, the same methodological process was applied and results are summarized in the relevant tables.

3.1. Application of the CRITIC Method

The initial decision matrix (Table 3) was constructed from the raw data for the eight performance criteria (C1–C8) across the six savings finance companies.

Table 3. Decision Matrix Based on 2024 Data.

Company	C1	C2	C3	C4	C5	C6	C7	C8
Birevim	159.06	24.88	1.15	61.55	130.00	6.31	91.49	56.10
Eminevim	50.21	80.77	0.10	31.67	159.00	41.94	98.94	58.06
Fuzulev	72.97	55.14	0.05	37.05	310.00	26.72	98.35	73.28
İmece	−490.77	−969.79	0.63	−464.43	−21.00	9.25	122.47	90.75
Katılımevim	52.86	98.47	0.72	33.00	450.00	21.60	95.41	78.40
Sinpaş	67.90	34.19	0.56	57.31	412.00	21.00	93.29	79.00
Min	−490.77	−969.79	0.05	−464.43	−21.00	6.31	91.49	56.10
Max	159.06	98.47	1.15	61.55	450.00	41.94	122.47	90.75

As criteria differ in units and magnitude, data were normalized to [0, 1] according to criterion direction (Table 4).

Table 4. Normalization of the Criteria Decision Matrix for 2024 Data.

Company	C1	C2	C3	C4	C5	C6	C7	C8
Birevim	1.0000	0.9311	0.0000	0.5188	0.3206	0.0000	0.0000	1.0000
Eminevim	0.8325	0.9834	0.9557	1.0000	0.3822	1.0000	1.0000	0.9433
Fuzulev	0.8675	0.9594	1.0000	0.9134	0.7028	0.5730	0.9209	0.5042
İmece	0.0000	0.0000	0.4762	0.0000	0.0000	0.0825	1.0000	0.0000
Katılımevim	0.8366	1.0000	0.3968	0.9786	1.0000	0.4293	0.5261	0.3565
Sinpaş	0.8597	0.9398	0.5404	0.5871	0.9193	0.4122	0.2423	0.3389
oj	0.3325	0.3596	0.3410	0.3516	0.3525	0.3292	0.3905	0.3511

The correlation matrix (Table 5) was calculated to determine the level of conflict among criteria, forming the basis for computing each criterion's unique information content.

Table 5. The 2024 Correlation Matrix (r_{jk}).

Criteria	C1	C2	C3	C4	C5	C6	C7	C8
C1	1.0000	0.9752	−0.0131	0.7666	0.6245	0.3251	−0.5434	0.7273
C2	0.9752	1.0000	0.1372	0.8775	0.7168	0.4879	−0.4025	0.6548
C3	−0.0131	0.1372	1.0000	0.4583	0.1313	0.8299	0.7770	−0.0480
C4	0.7666	0.8775	0.4583	1.0000	0.6634	0.7511	0.0486	0.5080
C5	0.6245	0.7168	0.1313	0.6634	1.0000	0.3008	−0.3223	−0.0513
C6	0.3251	0.4879	0.8299	0.7511	0.3008	1.0000	0.5193	0.3129
C7	−0.5434	−0.4025	0.7770	0.0486	−0.3223	0.5193	1.0000	−0.3102
C8	0.7273	0.6548	−0.0480	0.5080	−0.0513	0.3129	−0.3102	1.0000

Using normalization and correlation results, the total information content (C_j) and final criterion weights (W_j) were determined (Table 6).

Table 6. Information Content and Criterion Weights for 2024.

	C1	C2	C3	C4	C5	C6	C7	C8
Cj	1.3759	1.2776	1.6122	1.0291	1.7401	1.1433	2.8250	1.8280
Wj	0.1072	0.0996	0.1256	0.0802	0.1356	0.0891	0.2202	0.1425

Table 7 presents the evolution of criterion weights over the three-year period, illustrating changing sector priorities.

Table 7. The 2022–2024 Criterion Weights.

Year	C1	C2	C3	C4	C5	C6	C7	C8
2022	0.0978	0.0999	0.1201	0.2003	0.0900	0.1054	0.1286	0.1579
2023	0.1066	0.1010	0.1655	0.1668	0.1001	0.0953	0.1115	0.1531
2024	0.1072	0.0996	0.1256	0.0802	0.1356	0.0891	0.2202	0.1425

3.2. Application of the EDAS Method

The average solution (AVj) was calculated as the arithmetic mean of the direction-normalized decision matrix, providing the reference point against which each company's performance is measured (Table 8).

Table 8. The 2024 Average Solution Calculation.

	C1	C2	C3	C4	C5	C6	C7	C8
AVj	0.7327	0.8023	0.5615	0.6663	0.5541	0.4162	0.6149	0.5238

Distance matrices (Tables 9 and 10) show each company's positive and negative deviation from the average solution for each criterion.

Table 9. The 2024 PDA Calculation.

Company	C1	C2	C3	C4	C5	C6	C7	C8
Birevim	0.3648	0.1606	0.0000	0.0000	0.0000	0.0000	0.0000	0.9091
Eminevim	0.1362	0.2258	0.7020	0.5008	0.0000	1.4029	0.6263	0.8008
Fuzulev	0.1840	0.1958	0.7809	0.3708	0.2682	0.3769	0.4977	0.0000
İmece	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.6263	0.0000
Katılmevim	0.1418	0.2464	0.0000	0.4687	0.8046	0.0316	0.0000	0.0000
Sinpaş	0.1733	0.1714	0.0000	0.0000	0.6589	0.0000	0.0000	0.0000

Table 10. The 2024 NDA Calculation.

Company	C1	C2	C3	C4	C5	C6	C7	C8
Birevim	0.0000	0.0000	1.0000	0.2214	0.4215	1.0000	1.0000	0.0000
Eminevim	0.0000	0.0000	0.0000	0.0000	0.3103	0.0000	0.0000	0.0000
Fuzulev	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0374
İmece	1.0000	1.0000	0.1519	1.0000	1.0000	0.8018	0.0000	1.0000
Katılmevim	0.0000	0.0000	0.2933	0.0000	0.0000	0.0000	0.1444	0.3194
Sinpaş	0.0000	0.0000	0.0376	0.1189	0.0000	0.0095	0.6059	0.3530

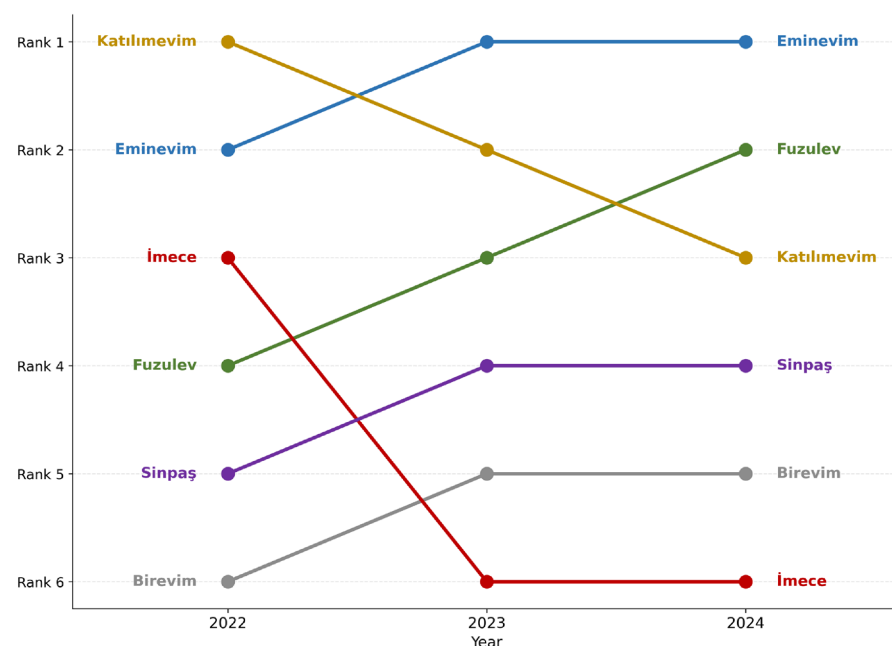
The weighted totals (SPi, SNi) were normalized to compute the final evaluation score (ASi) for each company (Table 11).

Table 11. The 2024 Performance Indicators.

Company	SPi	SNi	NSPi	NSNi	ASi	Rank
Birevim	0.1846	0.5098	0.3404	0.2224	0.2814	5
Eminevim	0.5424	0.0421	1.0000	0.9358	0.9679	1
Fuzulev	0.3466	0.0053	0.6390	0.9919	0.8154	2
İmece	0.1379	0.6556	0.2542	0.0000	0.1271	6
Katılımevim	0.1893	0.1142	0.3489	0.8259	0.5874	3
Sinpaş	0.1250	0.1988	0.2305	0.6968	0.4636	4

Note: Because C4's raw value for İmece (−464.43) and C7's raw value (122.47%) both stem from a near-zero/negative 2024 core operating revenue denominator, they were winsorized prior to normalization: C4 was capped at the upper Tukey fence of the peer distribution (93.76; $Q3 + 1.5 \times IQR$, computed from the other five companies), and C7 was capped at the peer group's observed maximum (98.94%, Eminevim), preventing an economically undefined ratio from being scored as the sector's best performance on either criterion. With this treatment, İmece ranks last (6th) under EDAS, consistent with TOPSIS (5th), MABAC (6th), and MARCOS (6th) and with the company's underlying negative profitability indicators (Section 4).

Figure 3 summarizes the performance rankings of the six companies over the three-year period.

**Figure 3.** Performance and Success Rankings of Savings and Finance Companies, 2022–2024.

3.3. Sensitivity Analysis

To confirm result reliability, nine weighting scenarios—an equal-weighting baseline (S0) and eight scenarios in which each criterion in turn receives a dominant weight of 0.50, with the remaining weight distributed equally among the other seven criteria (Bakır & Atalık, 2021; Işık et al., 2024; Keshavarz Ghorabae et al., 2015; Li et al., 2020; Menekse et al., 2023)—were tested and EDAS reapplied for each, using the direction-aware normalization described in Section 2.2. Ranking stability was quantified via the average Spearman correlation between the equal-weighting baseline (S0) and each of the eight dominant-criterion scenarios (S1–S8). In 2022, rankings were moderately stable (mean $\rho = 0.864$); in 2023, rankings were highly stable (mean $\rho = 0.957$). In 2024, the model shows moderate stability (mean $\rho = 0.850$). The C5-dominant scenario (S5) still produces the largest deviation from the baseline ($\rho = 0.486$), reflecting an economically coherent reordering. Under a

weighting scheme that prioritizes asset growth, Katılmevim and Sinpaş (the two companies with the highest raw asset growth, i.e., 450 and 412, respectively) rise to the top. Overall, the CRITIC-EDAS model shows acceptable to strong robustness across all three years. These patterns are summarized in Figure 4.

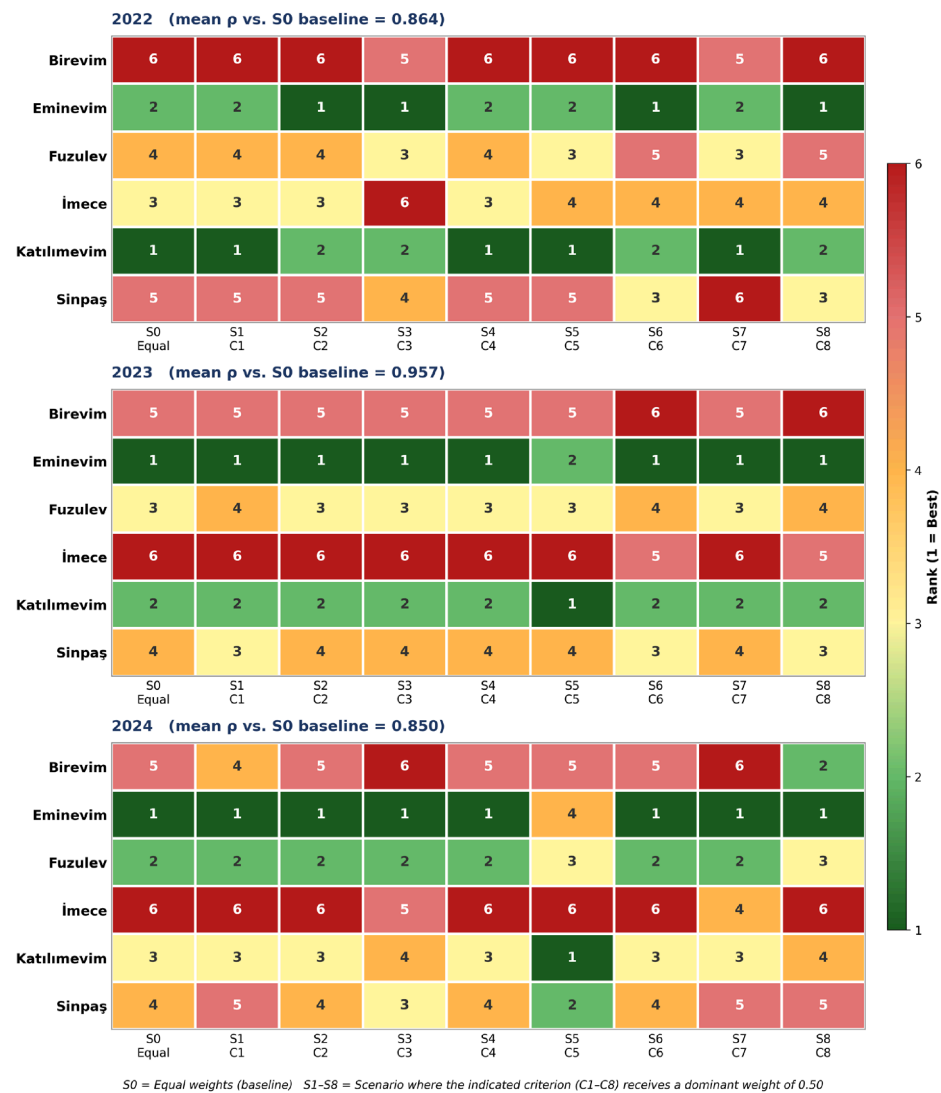


Figure 4. Sensitivity Analysis.

3.4. Validation via Spearman Rank Correlation

To assess the reliability and consistency of the applied MCDM methods, a Spearman rank correlation analysis was conducted among the EDAS, TOPSIS, MABAC, and MARCOS rankings obtained using CRITIC weights (Bakır & Atalık, 2021; Bektaş & Çimen, 2024). Statistical reliability is typically confirmed when the average correlation coefficient exceeds 0.89 (Baydaş et al., 2024).

In 2022, perfect agreement ($\rho = 1.000$) was observed between EDAS, MABAC, and MARCOS rankings, with strong correlation ($\rho = 0.943$) against TOPSIS. In 2023, EDAS showed strong correlation ($\rho = 0.943$) with all three benchmark methods. In 2024, following the winsorized normalization treatment described in Section 3.2, correlations were strong: EDAS achieved perfect agreement with MABAC ($\rho = 1.000$) and MARCOS ($\rho = 1.000$) and strong agreement with TOPSIS ($\rho = 0.943$). Across the full period, the average inter-method Spearman coefficient now exceeds the literature threshold of 0.89 in all three years (2022: $\rho \geq 0.94$; 2023: $\rho = 0.943$; 2024: $\rho = 0.971$), confirming that the EDAS rankings are statistically

reliable and consistent with the three benchmark methods throughout the study period. These correlations are illustrated in Figure 5.

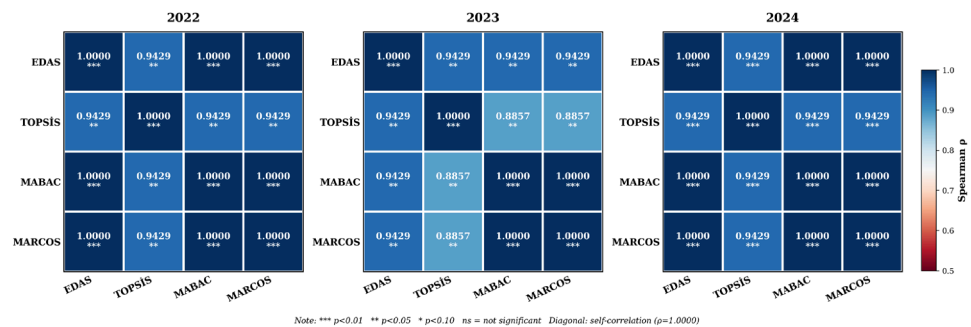


Figure 5. Spearman Correlation Matrix.

4. Discussion

These findings trace how institutionalization following Law No. 7292 (2021) shows up in the sector's financial data (Selvi, 2021; M. Yavuz, 2021). Company performance diverged substantially across 2022–2024 under the new BDDK supervisory regime (Basaran Brooks, 2023; Çetin, 2024).

Katılımevim led the rankings in 2022 ($ASi = 1.000$). In 2023, Eminevim rose to first place ($ASi = 1.000$), with Katılımevim second ($ASi = 0.956$); Eminevim maintained its leadership in 2024 ($ASi = 0.968$), with Fuzulev in second position ($ASi = 0.815$, up from fourth in 2022 and third in 2023). These ranking shifts coincide with the sector's post-2021 institutionalization under BDDK supervision (Basaran Brooks, 2023; Çetin, 2024), though this study's cross-sectional MCDM design does not test the specific corporate mechanisms (governance, capital structure, market strategy) that may underlie any individual company's ranking; such firm-level explanations would require separate case-based or econometric investigation and are noted as a topic for future research in Section 5.

İmece's extreme negative return on equity (-490.77) and net profit margin (-969.79) in 2024 point to serious operational problems, consistent with the "perception issue" and "trust" challenges documented in the savings finance literature (Basaran Brooks, 2023; Çetin, 2024). The winsorized normalization treatment described in Section 3.2 results in EDAS ranking İmece last (6th) in 2024, consistent with TOPSIS, MABAC, and MARCOS, and with the company's negative profitability indicators. The alignment across all four methods highlights the need to verify extreme or undefined ratios (arising from a near-zero revenue denominator) are treated consistently with their economic meaning before applying distance-based MCDM methods.

From a methodological perspective, the rankings in this study align closely with Bektaş and Çimen (2024), who identified Eminevim as the sector leader for 2021–2023 using a PSI-MABAC model: the present results likewise identify Eminevim as the 2023–2024 leader. This illustrates the value of cross-method validation in MCDM-based financial performance studies: a single method's output should not be accepted at face value when it diverges sharply from benchmark methods and the prior literature (Bektaş & Çimen, 2024; Wang et al., 2023).

4.1. Limitations

This study has several limitations, though one commonly expected limitation does not apply. The sample includes all six savings finance companies that held an operating licence during the 2022–2024 study period (Birevim, Eminevim, Fuzulev, İmece, Katılımevim, and Sinpaş), so it covers the entire regulated population for that time; three additional companies (Adil, Albayrak, and Emlak Katılım) were licensed in July 2025, after the study window,

and results should not be extrapolated to this larger post-2025 sector. All six original licences were granted in June 2022, roughly halfway through that financial year, so FY2022 reflects a period of only partial BDDK supervision; this is relevant when interpreting the 2022 rankings, including Katılmevim’s leading position (ASi = 1.000). Second, all financial figures are reported on a nominal (as-originally reported) basis without inflation restatement, consistent with BDDK’s annual determination that savings finance companies are exempt from TMS 29 inflation accounting throughout 2022–2024 (BDDK, 2023, 2024, 2025; Section 2). While this does not bias within-year cross-sectional comparisons, it does affect the intertemporal asset-growth criterion (C5) and the 2025 extension (Section 4.2), where nominal figures may overstate real performance in a high-inflation environment—addressed in Section 4.2 using TÜİK CPI deflation. Third, the EDAS method’s average-solution normalization remains sensitive to extreme or economically undefined ratios, as illustrated by İmece’s 2024 ranking prior to winsorization (Section 3.2); future applications to datasets containing similar extreme values should screen for and treat such cases explicitly before normalization. Fourth, criterion weights were derived solely from the CRITIC method; subjective or hybrid weighting approaches incorporating expert judgment were outside this study’s scope. Finally, the three-year core study window and single national market limit our ability to assess long-run or cross-country performance trends. The July 2025 entry of three new licensees thereby presents a natural opportunity for future research into how new entrants alter competitive dynamics in this maturing sector.

4.2. Extended Outlook: Preliminary Evidence for 2025

As an extension beyond the core 2022–2024 analysis, preliminary 2025 financial data for five of the six companies were also evaluated using the same CRITIC-EDAS methodology and the same eight criteria, including asset growth (C5). İmece’s 2025 financial statements were not publicly available at the time of writing and the company is therefore excluded from this extension. Unlike the core 2022–2024 analysis, the 2025 evaluation has not been cross-validated against TOPSIS, MABAC, or MARCOS, nor subjected to the nine-scenario sensitivity analysis applied in Section 3.3; it should accordingly be read as a preliminary outlook rather than a fully validated result on the same footing as the core findings. CRITIC weights for this extension are reported in Table 12, and the resulting EDAS rankings in Table 13.

Table 12. The 2025 CRITIC Criterion Weights (Five Companies, Excluding İmece).

Criterion	C1	C2	C3	C4	C5	C6	C7	C8
Wj (2025)	0.1829	0.0910	0.1043	0.1110	0.1546	0.1199	0.1163	0.1199

Table 13. The 2025 EDAS Performance Results.

Company	SPi	SNi	NSPi	NSNi	ASi	Rank
Birevim	0.5511	0.3018	0.9605	0.3777	0.6691	3
Eminevim	0.5738	0.2516	1.0000	0.4813	0.7407	2
Fuzulev	0.3432	0.0430	0.5981	0.9114	0.7548	1
Katılmevim	0.0194	0.4850	0.0339	0.0000	0.0169	5
Sinpaş	0.0452	0.4514	0.0787	0.0692	0.0740	4

Note: İmece is excluded due to unavailable 2025 financial disclosures. The results reflect five companies only and are not directly comparable in scale to the six-company rankings reported for 2022–2024.

Katılmevim recorded the sector’s lowest asset growth in 2025 (nominal 136.9%; real 81.0%) and fell to fifth place overall. Sinpaş’s nominal asset growth (270.3%; real 182.9%)

was in fact higher than Fuzulev's, yet Sinpaş ranked fourth, indicating that its comparatively weaker performance on other criteria—rather than asset growth—drove its lower overall position.

These preliminary findings should be interpreted with appropriate caution. First, the exclusion of İmece means the 2025 ranking reflects a five-company comparison and is not directly commensurable with the six-company rankings for 2022–2024. Second, unlike the core analysis, the 2025 results have not been cross-validated against TOPSIS, MABAC, or MARCOS, nor subjected to the nine-scenario sensitivity analysis applied in Section 3.3; the sensitivity of the C5-driven reordering to alternative criterion weightings therefore remains untested. Third, extremely high year-over-year asset growth rates (in excess of 250–350%) may reflect the sector's early-stage expansion dynamics rather than sustainable operating performance, and should be interpreted as a structural characteristic of a young, rapidly scaling sector rather than a like-for-like efficiency signal. Notwithstanding these limitations, the 2025 evidence indicates that the leadership position in this nascent market is subject to annual fluctuations and that growth-stage dynamics may become increasingly salient as the sector's regulatory framework evolves.

5. Conclusions

This study compared the financial performance of six savings finance companies in Türkiye over 2022–2024, using a hybrid CRITIC-EDAS model built on eight criteria spanning profitability, operational efficiency, growth, and financial structure. Criterion weights came directly from the data via the CRITIC method, rather than from researcher judgment.

Operating expenses relative to revenue carried the most weight in 2022 and 2023, making operational efficiency the main differentiator among companies in those years. By 2024, gross profit margin had taken over as the dominant criterion, reflecting profitability's growing importance as the sector matured.

Katılımevim topped the EDAS rankings in 2022 ($AS_i = 1.000$). Eminevim then took over, leading in 2023 ($AS_i = 1.000$) and again in 2024 ($AS_i = 0.968$), with Fuzulev second ($AS_i = 0.815$) and Katılımevim third ($AS_i = 0.587$) that year. İmece's 2024 figures point to serious operational problems—a return on equity of -490.77 and a net profit margin of -969.79 . Once the winsorization treatment described in Section 3.2 corrected two revenue-denominator ratios affected by these extremes, EDAS placed İmece last (6th) in 2024, matching TOPSIS, MABAC, and MARCOS.

Two validation steps assessed result reliability. Spearman correlations across all four MCDM methods stayed high throughout the study (2022: $\rho \geq 0.94$; 2023: $\rho = 0.943$; 2024: $\rho = 0.971$), consistently above the literature's 0.89 reliability threshold. The nine-scenario sensitivity analysis found rankings stable under alternative criterion weightings in 2022 (mean $\rho = 0.864$) and 2023 (mean $\rho = 0.957$) and reasonably stable in 2024 (mean $\rho = 0.850$); the one scenario with lower stability—asset-growth-dominant weighting—simply shifted the rankings toward higher-growth companies rather than exposing a flaw in the model. All three years hold up as methodologically robust.

These results carry several practical implications. For BDDK, İmece's negative return on equity and net profit margin in 2024 signal potential sector-level risk, suggesting that early warning systems and improvement plans could be worth developing for companies that fall below defined financial thresholds. Since operational efficiency drove much of the variation in 2022–2023, companies such as Birevim and İmece stand to gain from tighter control of operating expenses and a closer look at their management processes. Strengthening standard financial ratio criteria and corporate governance transparency sector-wide would also support ongoing monitoring. Looking ahead, this framework could be extended with larger datasets, macroeconomic control variables, and outlier-

robust MCDM methods less sensitive to extreme values. Once enough financial history accumulates, the three companies licensed in July 2025 (Adil, Albayrak, and Emlak Katılım) would be worth examining; applying the CRITIC-EDAS framework to inflation-adjusted (TMS 29-restated) statements, testing fuzzy or outlier-robust MCDM variants built for extreme-value datasets, and incorporating expert-elicited or hybrid weighting schemes alongside the purely data-driven CRITIC weights used here are all natural next steps.

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