CAP CONTEMPORARY ACCOUNTING PERSPECTIVES
AN INTERNATIONAL PEER-REVIEWED JOURNAL
RESEARCH ARTICLE

VOLUME: 1 • ISSUE: 1 • YEAR • 2026
DOI: https://doi.org/10.68656/t6n6rb08
Pages | 30–53
Submitted | 2 August 2026
Accepted | 21 September 2026
Published | 1 October 2026

Comparative Financial Performance of Participation Banks in Türkiye and Islamic Banks in GCC Countries: Evidence from the MULTIMOORA Method[1]

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Suggested Citation: Othman, S. Y., & Coşkun Arslan, M. (2026). Comparative financial performance of participation banks in Türkiye and Islamic banks in GCC countries: Evidence from the MULTIMOORA method. *Contemporary Accounting Perspectives*, 1(1), 30–53. https://doi.org/10.68656/t6n6rb08

Abstract

Purpose: *This study compares the financial performance of participation banks in Türkiye and Islamic banks operating in the Gulf Cooperation Council (GCC) countries during the COVID-19 period.*

Methodology: *Financial performance is evaluated using nine financial ratios representing capital adequacy, leverage, asset quality, liquidity, and profitability. The MULTIMOORA method, including the Ratio System, Reference Point Approach, Full Multiplicative Form, and Dominance Theory, is employed to obtain comprehensive performance rankings.*

Findings: *The findings indicate that the different components of the MULTIMOORA method produce varying rankings, highlighting the multidimensional nature of financial performance evaluation. The results show that several GCC Islamic banks outperform their Turkish counterparts in overall financial performance, although Turkish participation banks perform competitively under specific evaluation approaches.*

Scope and Limitations: *The sample and scope of the study are limited to six participation banks in Türkiye and seventeen full-fledged Islamic banks in GCC countries specifically during the COVID-19 period.*

Originality / Value: *The study contributes to the Islamic banking literature by comparing participation banks in Türkiye with GCC Islamic banks. It also demonstrates the usefulness of the MULTIMOORA method for evaluating multidimensional financial performance.*

Keywords: Islamic and Participation Banks, Financial Performance, MULTIMOORA

JEL Codes: C44, G21, M41

[1] This article is based on the master's thesis entitled "Financial Performance Evaluation of Islamic Banks with the MULTIMOORA Method: An Analytical Study of Islamic Banks in Turkey and the Gulf Cooperation Council Countries," completed in 2022 by Sherwan Younis OTHMAN under the supervision of Prof. Dr. Mihriban COŞKUN ARSLAN.

1. Introduction

Islamic finance has become one of the fastest-growing components of the global financial system over the last two decades. According to the Islamic Financial Services Industry Stability Report 2025, published by the Islamic Financial Services Board (IFSB), total assets in the global Islamic financial services industry reached USD 3.88 trillion by the end of 2024, representing an annual growth rate of 14.9% (IFSB, 2025). This remarkable expansion has not only increased the industry's economic size but also strengthened its strategic role in the global financial system. Today, Islamic banking accounts for the largest share of global Islamic financial assets. With its interest-free financing principles, risk-sharing approach, and close connection to real economic activities, Islamic banking has expanded steadily in both Muslim-majority countries and countries with different legal and economic systems. Since its institutional development accelerated during the 1970s, the industry has evolved beyond banking to include sukuk markets, takaful, Islamic investment funds, and various other Shariah-compliant financial products, becoming an important component of the global financial system (Hassan & Lewis, 2007; Wilson, 2009).

The Gulf Cooperation Council (GCC) countries have historically played a leading role in developing the Islamic finance industry. Modern Islamic banking in the region gained momentum in the 1970s, as oil revenues accumulated and demand for interest-free financial institutions grew. The establishment of Dubai Islamic Bank in the United Arab Emirates and the Islamic Development Bank in Jeddah in 1975 marked important milestones in the institutionalization of modern Islamic banking. This development continued with the establishment of Kuwait Finance House in 1977 and the rapid expansion of Islamic financial institutions in Bahrain after 1978. As a result, the GCC countries have become a global center for Islamic banking, sukuk markets, and takaful services (Wilson, 2009; Akkaş, 2017).

In Türkiye, the institutional development of interest-free banking began with the legal regulations introduced in 1983 that allowed the establishment of Special Finance Houses. The sector became operational in 1985 with the establishment of Albaraka Türk and Faisal Finans. A significant stage of institutional development came in 1999, when Special Finance Houses were brought under the Banking Law, followed by the enactment of Banking Law No. 5411 in 2005, which officially replaced the term Special Finance House with Participation Bank. The establishment of Türkiye Finans Participation Bank and the subsequent entry of state-owned participation banks further strengthened participation banking's position within the Turkish financial system. After more than four decades of development, participation banks have strengthened their institutional capacity and gradually increased their share of the financial sector, becoming important actors.

Although the GCC countries and Türkiye operate under the same principles of Islamic banking, their financial systems have evolved under different historical, regulatory, market, and macroeconomic conditions. These differences make it important to evaluate Islamic banks' financial performance not only within individual countries but also across financial systems. Financial performance is a key indicator of how effectively banks use their resources, including capital adequacy, financial structure, asset quality, liquidity, and profitability. Evaluating these indicators together provides a more comprehensive understanding of banks' financial resilience and operational efficiency.

Against this background, this study aims to evaluate and compare the financial performance of participation banks operating in Türkiye and Islamic banks operating in the GCC countries using the MULTIMOORA method for 2020, when the effects of the COVID-19 pandemic were felt most strongly across the global financial system. Financial performance is measured using nine financial ratios representing five key dimensions: capital adequacy, financial leverage, asset quality, liquidity, and profitability. The year 2020 was selected because the COVID-19 pandemic created a common environment of economic uncertainty for all banks, allowing evaluation of the financial resilience of banks operating under different institutional settings under comparable macroeconomic conditions. In addition, since multi-criteria decision-making methods focus on the relative performance of alternatives within a specific period, using a single accounting year reduces the influence of intertemporal economic fluctuations and enables a more reliable comparison of banks' financial performance. In this respect, the study contributes to the literature by providing a common analytical framework for evaluating the financial performance of Islamic banks operating under different institutional structures. To achieve this objective, the study first reviews the literature on Islamic banks' financial performance to identify key findings, commonly used methods, and existing knowledge. The study then highlights the research gap this analysis addresses.

2. Literature Review

The financial performance of Islamic banks has long been a major topic in banking and finance research. A considerable body of research has evaluated the financial performance of Islamic banks operating under interest-free banking principles compared with conventional banks. Al-Fadhli (1998) examined Islamic banks in Kuwait using financial ratios, customer satisfaction, and managerial evaluations, and concluded that these banks achieved financial performance comparable to conventional banks. Similarly, Samad and Hassan (2004) and Safiullah (2010) reported that Islamic banks exhibit a competitive financial structure, particularly in terms of profitability and financial stability.

The global financial crisis of 2008 shifted scholarly attention toward the performance of Islamic banks during periods of financial distress. Hasan and Dridi (2010) compared Islamic and conventional banks across eight countries. They found that Islamic banks were less affected by the crisis because of their asset-backed business model and risk-sharing financing structure. Their findings indicate that Islamic banks maintained stronger credit growth and asset expansion during the crisis, although weaknesses in risk management negatively affected some institutions' profitability in 2009.

Subsequent studies of crisis periods have reassessed these findings using different performance indicators and shown that Islamic banks' financial performance should be evaluated multidimensionally. In this context, Beck et al. (2013) emphasized the importance of considering asset quality, capital structure, and risk management together when evaluating Islamic banks' performance. Likewise, Hazzi and Al Kilani (2013) reported significant differences between Islamic and conventional banks in profitability, liquidity, and capital adequacy. Ibrahim (2015) found that Islamic banks in the United Arab Emirates outperformed one another across different financial indicators. In contrast, Daoud and Kammoun (2017) showed that Al Baraka Bank achieved superior results, particularly in profitability and risk management, among banks operating in Tunisia. Chokri and Anis (2018) further argued that bank performance is influenced not only by financial indicators but also by capital structure, asset utilization, and

macroeconomic conditions. Studies investigating the effects of Islamic banking practices on financial performance have reached similar conclusions. Odongo and Muchelule (2019) reported that interest-free banking practices positively influence commercial banks' financial performance.

Collectively, these studies suggest that financial performance is a multidimensional concept that extends beyond profitability and should be evaluated by considering liquidity, capital adequacy, asset quality, and risk management simultaneously. Moreover, global financial crises and periods of economic uncertainty have highlighted financial resilience as an essential dimension of bank performance. Nevertheless, most previous studies have examined these indicators separately, while relatively few have employed comprehensive approaches that evaluate multiple criteria simultaneously to rank banks. This limitation has increased the importance of multi-criteria decision-making (MCDM) methods in banking research.

Recent studies have also shown that liquidity risk, capital adequacy, and profitability are key determinants of financial resilience. Ben Jedidia (2020) identified liquidity risk as a primary driver of financial performance, while Bilgin et al. (2021) emphasized the critical role of liquidity indicators during periods of economic uncertainty. Similarly, Moustapha and Benziane (2022), El-Chaarani (2023), and Ghenimi et al. (2024) concluded that evaluating capital adequacy, capital structure, and profitability together provides a more comprehensive assessment of bank performance.

The COVID-19 pandemic has also generated new evidence regarding the financial performance of Islamic banks during periods of crisis. Butt and Chamberlain (2025) compared Islamic and conventional banks and concluded that Islamic banks showed greater resilience in asset quality, capital adequacy, and risk management. The authors attributed this resilience to the risk-sharing financing model and the asset-backed nature of Islamic banking transactions. These findings further indicate that focusing on a single financial indicator is insufficient for evaluating bank performance and that multiple performance dimensions should be considered simultaneously.

This growing need has encouraged the widespread application of multi-criteria decision-making (MCDM) methods in banking research. MCDM techniques enable researchers to evaluate different performance dimensions—including profitability, liquidity, capital adequacy, asset quality, risk management, and operational efficiency—within a unified analytical framework, thereby providing a more comprehensive assessment of banks' relative performance. Among the most widely used MCDM techniques are the Analytic Hierarchy Process (AHP), TOPSIS, VIKOR, COPRAS, MOORA, and MULTIMOORA. Özçalıcı et al. (2022) compared the performance of deposit banks using different MCDM methods. They found that although the methods produced similar rankings, combining multiple approaches improved decision-making reliability.

Brauers and Zavadskas (2012) developed MULTIMOORA (Multi-Objective Optimization by Ratio Analysis plus the Full Multiplicative Form). The method combines the Ratio System, the Reference Point Approach, and the Full Multiplicative Form within a single framework, thereby enhancing the robustness of ranking results. In the international literature, MULTIMOORA has been widely applied in the performance evaluation and risk analysis of financial institutions (Baležentis et al., 2010; Gou et al., 2017). Unlike methods such as TOPSIS and VIKOR, which rely on a single evaluation mechanism, MULTIMOORA integrates the results of three independent ranking approaches to produce the final ranking, thereby reducing potential biases associated with any individual method (Brauers and Zavadskas, 2012).

Empirical applications in the banking sector have demonstrated that the MULTIMOORA method produces reliable results in financial performance evaluation. Şişman and Doğan (2016) and Altunöz (2017) employed the method together with fuzzy decision-making techniques and found that profitability, liquidity, and capital adequacy were the most influential performance criteria. Similarly, Ceyhan and Demirci (2017) evaluated the financial performance of financial leasing companies using different MULTIMOORA approaches and confirmed the method's applicability across different types of financial institutions.

However, studies focusing specifically on participation banks remain limited. Erdoğdu (2018) and Çilek and Karavardar (2020) applied the MULTIMOORA method to participation banks operating in Türkiye. Although these studies demonstrated the method's effectiveness in ranking banking performance, they were largely confined to single-country settings.

The growing use of multi-criteria decision-making (MCDM) methods has contributed to more comprehensive approaches to evaluating the financial performance of Islamic banks. Jamali, Faghih, Fathi, and Rostami (2023) evaluated Islamic banks operating in the MENA region using an integrated fuzzy multi-criteria decision-making framework and found that incorporating uncertainty into the evaluation process produces more reliable performance rankings. Their findings further demonstrate the suitability of MCDM methods for assessing the financial performance of Islamic banks.

Despite this growing body of literature, comparative studies examining participation banks in Türkiye and Islamic banks operating in the Gulf Cooperation Council (GCC) countries within a common evaluation framework remain scarce. Furthermore, limited attention has been given to comparing the financial resilience of Islamic banks under the common macroeconomic uncertainty created by the COVID-19 pandemic. To address this gap, the present study aims to contribute to the literature by comparatively evaluating the financial performance of participation banks in Türkiye and Islamic banks in the GCC countries using the MULTIMOORA method.

3. Methodology

3.1. Research Design

This study was designed as a quantitative study to comparatively evaluate the financial performance of participation banks operating in Türkiye and Islamic banks operating in the Gulf Cooperation Council (GCC) countries. The study adopted a cross-sectional comparative research design based on financial data from a single accounting period. Within this framework, the banks' financial performance was evaluated using the MULTIMOORA method, a Multi-Criteria Decision-Making (MCDM) technique. This method enables a comprehensive assessment of banks' relative financial performance by incorporating multiple financial performance indicators into a single evaluation framework.

The analysis focuses on the year 2020. This period was selected because the COVID-19 pandemic created significant uncertainty across the global financial system, providing a common macroeconomic environment for comparing the financial performance of Islamic banks operating in different countries. Using a single accounting period minimizes the influence of year-to-year changes in economic conditions and allows evaluation of banks' relative performance under comparable circumstances. Furthermore, because MCDM techniques assess the relative

performance of alternatives within a specific decision environment, single-period data are fully consistent with the MULTIMOORA methodological framework.

The analysis includes participating banks operating in Türkiye and Islamic banks operating in the GCC countries within a common evaluation framework. Although these banks operate under different regulatory and institutional environments, they all follow Islamic finance principles. Therefore, the study evaluated their financial performance using the same analytical approach, allowing consistent comparison and ranking of relative performance.

3.2. Sample and Data Set

The study established the sample through a multi-stage, systematic screening procedure. First, the study identified all interest-free financial institutions officially registered with the central banks and regulatory supervisory authorities of the six GCC member countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates). To ensure institutional comparability and financial statement consistency, we excluded conventional banks operating under the "Islamic window" model, as their financial data, risk exposures, and balance sheet items are not reported on a fully segregated and autonomous accounting basis. Consequently, the initial screening universe was limited to fully fledged, standalone Islamic commercial banks.

From an initial universe of 35 fully-fledged Islamic banks identified across the GCC region, the following exclusion criteria were applied:

1. Banks undergoing restructuring, merger/acquisition, or liquidation procedures during the fiscal year 2020 (3 banks),

2. Institutions whose audited annual reports and comprehensive financial statement footnotes for 2020 were publicly inaccessible or incomplete (4 banks),

3. Institutions reporting negative equity balances or extreme outlier values that distorted ratio denominators (5 banks),

4. Specialized institutions operating exclusively in wholesale, investment, or offshore banking whose asset and liability structures are not directly comparable to commercial retail participation banking (6 banks).

After these exclusions, the final sample included 17 fully fledged Islamic banks from the GCC with complete, audited, and continuous financial data. On the Turkish side, we included all six participation banks (both state-owned and privately held) operating in Türkiye during 2020. Thus, the study formed a balanced and comparable sample of 23 banks, representing the core of the participation and Islamic banking sectors in their respective jurisdictions. Table 3.1 presents the banks included in the analysis.

Table 1. Islamic Banks and Participation Banks Used in the Research

Gulf Arab Countries Cooperation Council (GCC)	Türkiye
A1 - Saudi Arabia /Bank Albilad	T1 - Albaraka Turk Participation Bank
A2 - Saudi Arabia /Al Rajhi Bank	T2 - Kuwait Turk Participation Bank
A3 - Saudi Arabia /Bank Al Jazira	T3 - Turkiye Emlak Participation Bank

Gulf Arab Countries Cooperation Council (GCC)	Türkiye
A4 - Saudi Arabia /Alinma Bank	T4 - Turkiye Fınans Participation Bank
A5 - Oman/ Nizwa Bank	T5 - Vakıf Participation Bank
A6 - UAE / Dubai Islamic Bank	T6 - Zıraat Participation Bank
A7 - UAE / Emirates Islamic Bank	
A8 - Kuwait / Ahli United Bank	
A9 - Kuwait / Kuwait International Bank	
A10 - Kuwait /Boubyan Bank	
A11 - Kuwait /Warba Bank	
A12 - Kuwait /Kuwait Finance House	
A13 - Qatar /Qatar International Islamic Bank	
A14 - Qatar /Masraf Al Rayan	
A15 - Qatar /Qatar Islamic Bank	
A16 - Bahrain /Khaleeji Commercial Bank	
A17 - Bahrain /Al Salam Bank	

The analysis is based on the audited annual financial statements of the sample banks for the year 2020. Financial data were obtained from the annual reports and financial statements published on the official websites of the respective banks. The financial ratios used in the analysis were calculated from these financial statements, and a common decision matrix was constructed for all banks. This approach ensured that the financial performance of the banks was evaluated within a comparable framework using the same set of performance indicators.

The year 2020 was selected as the analysis period because the COVID-19 pandemic created substantial uncertainty across the global financial system, providing a common macroeconomic environment for comparing the financial performance of Islamic banks operating in different countries. Using a single accounting period minimizes the potential influence of cross-period economic differences and allows assessment of the banks' relative performance under comparable conditions. Furthermore, because Multi-Criteria Decision-Making (MCDM) methods evaluate the relative performance of decision alternatives within a specific period, single-period data align with the analysis' methodological framework.

3.3. Financial Performance Indicators

Islamic banks' financial performance is multidimensional and cannot be adequately evaluated using a single financial indicator. Therefore, this study employs a set of financial ratios representing five key dimensions of financial performance: capital adequacy, financial leverage, asset quality, liquidity, and profitability. These performance dimensions collectively reflect banks' financial soundness, risk management capacity, efficiency in utilizing assets, ability to meet short-term obligations, and overall profitability. Consequently, the literature has widely used them to evaluate the financial performance of both conventional and Islamic banks (Samad & Hassan, 2004; Olson & Zoubi, 2008; Hasan & Dridi, 2010; Beck et al., 2013).

Table 3.2 presents the financial ratios used in this study and their calculation methods. All ratios were calculated using the same methodology for each bank and were incorporated into the MULTIMOORA analysis as the decision criteria.

Table 2. Financial Ratios Used in the Research

Financial Indicators	Code	Name of Ratio	Formulation of Ratio
Capital Adequacy	K1	Capital Adequacy	Equity/ (Credit+Market+Operational Risk Basel)
	K2	Equity To Assets	Total Equity/Total Assets
leverage ratio	K3	Debt-to-Equity Ratio	Total Liabilities/Total Equity
	K4	Debt-to-Assets	Total Liabilities/Total Assets
Assets Quality	K5	Financial Assets To Assets	Financial Assets/Total Assets
Liquidity	K6	Liquid Assets To Assets	Liquid Assets/Total Assets
	K7	Current Ratio	Current Assets/Current Liabilities
Profitability	K8	Return on Assets	Net Profit (Loss)/Total Assets
	K9	Return on Equity	Net Profit (Loss)/Total Equity

The financial performance indicators used in this study were selected because they provide a comprehensive assessment of banks' financial performance and are widely accepted in the Islamic banking literature. Accordingly, the selected ratios are among the most frequently used indicators for evaluating the financial performance of Islamic banks and enable a comprehensive assessment of capital adequacy, financial structure, asset quality, liquidity, and profitability (Akhtar et al., 2011; Mollah et al., 2017; Ghenimi et al., 2024). Moreover, using these ratios consistently across periods and countries improves comparability with previous studies and supports the reliability of the results. Therefore, this study's decision criteria were based on both the theoretical foundations of bank performance evaluation and evidence from recent empirical literature.

A critical methodological consideration in cross-country comparative banking research is the underlying financial reporting framework. Participating banks in Türkiye prepare their financial statements in full compliance with the Banking Regulation and Supervision Agency (BRSA/BDDK) regulations and Turkish Financial Reporting Standards (TFRS/TMS), which correspond directly to International Financial Reporting Standards (IFRS). In contrast, Islamic banks in the GCC region report either under IFRS or under the accounting and governance standards issued by the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), depending on their respective national central bank mandates.

To mitigate potential classification discrepancies and ensure strict cross-country comparability across the decision matrix, the audited balance sheet items and disclosure notes were cross-examined and standardized as follows:

Capital Adequacy Ratio (Regulatory Capital to Risk-Weighted Assets – K1): Rather than relying on accounting equity, the K1 numerator represents regulatory total capital (Tier 1 plus Tier 2 capital) as defined by national supervisory authorities under the Basel framework. The denominator comprises total Risk-Weighted Assets (RWA), aggregating credit, market, and operational risk exposures. These figures were extracted directly from the mandatory, audited Basel capital adequacy disclosures in the banks' annual financial reports. Because the BRSA in Türkiye and national central banks across the GCC jurisdictions had enforced the Basel III capital standards as of 2020, regulatory capital comparability across the sample is robust.

Financial Assets (Asset Quality - K5): In the Turkish context (under TFRS 9), financial assets represent financial assets measured at fair value through profit or loss (FVTPL), fair value through other comprehensive income (FVOCI), and debt securities measured at amortized cost. For GCC banks, this category comprises investments in sukuk portfolios, Islamic mutual funds, and other Shariah-compliant negotiable market instruments, as reported under equivalent AAOIFI or IFRS classifications. This ratio deliberately excludes direct customer financing portfolios (such as Murabaha, Mudaraba, and Ijara receivables). It reflects the proportion of marketable financial instruments and securities within total assets and serves as an indicator of portfolio composition and market exposure.

Liquid Assets (Liquidity - K6): To prevent variations in national reporting terminology from skewing the results, a conservative and unified definition of liquid assets was adopted. Specifically, the numerator is restricted to:

- Cash in hand,
- Free (unrestricted) balances and demand deposits held with respective central banks,
- Unencumbered, short-term placements and balances with other financial institutions with original maturities of 90 days or less (cash and cash equivalents).
- Statutory mandatory reserve requirements with central banks that are legally restricted or blocked, as well as medium- to long-term placements, were excluded from liquid assets.

Debt and Leverage Ratios (K3 and K4): In Islamic financial reporting, funds mobilized under profit-sharing contracts (such as unrestricted investment accounts/participation accounts) represent partnership funds. However, because they are formally recognized as obligations toward depositors within total liabilities (or liabilities and equity of investment account holders) in standard accounting presentations, they were treated as part of total debt/liabilities to preserve structural consistency and leverage comparability across both banking systems.

Current Ratio (Bank Liquidity & Maturity Matching Approach – K7): Because commercial bank balance sheets do not present a standard working-capital structure based on conventional 'current' versus 'non-current' distinctions, the Current Ratio was constructed using the contractual liquidity risk and remaining maturity profiles disclosed in the audited financial statement footnotes:

- Current Assets: Defined as short-term assets maturing within one year, encompassing cash in hand, unrestricted central bank deposits, interbank placements maturing under 12 months, and short-term financing receivables/marketable securities due within one year.
- Current Liabilities: Defined as short-term obligations maturing within one year, including current/checking accounts, participation/investment deposit accounts with remaining maturities up to one year, and short-term money market borrowings. This standardized definition aligns with regulatory liquidity risk profiling and ensures consistent, cross-border comparability across both banking systems.

3.4. Method

Evaluating financial performance is a multi-criteria decision-making problem that requires considering numerous financial indicators with different characteristics. For this reason, Multi-Criteria Decision-Making (MCDM) methods have been widely applied in recent years to financial performance analysis in banking and finance. Among these methods, the MULTIMOORA approach has gained considerable attention because it does not require predetermined criterion weights, integrates three complementary evaluation techniques—the Ratio System, the Reference Point Approach, and the Full Multiplicative Form—and provides more robust ranking results (Brauers & Zavadskas, 2011; Brauers & Zavadskas, 2012).

The MULTIMOORA method begins by constructing a decision matrix of the alternatives and evaluation criteria. Because the criteria are measured in different units, the data are normalized to ensure comparability across criteria. After normalization, the first evaluation uses the Ratio System approach, in which the performance value of each alternative is calculated by considering both benefit and cost criteria simultaneously. Next, the Reference Point Approach determines each alternative's distance from the ideal solution. Finally, the Full Multiplicative Form evaluates the multiplicative relationship between the benefit and cost criteria. The three ranking results obtained from these approaches are then integrated using the Dominance Theory to produce the final performance ranking of the alternatives.

In the final synthesis stage of MULTIMOORA, Dominance Theory is deployed following Brauers and Zavadskas (2012). Under this framework, alternative A dominates alternative B if it achieves a superior ranking in at least two of the three sub-methods: the Ratio System, the Reference Point Approach, and the Full Multiplicative Form. To ensure a strictly deterministic and reproducible final ranking in cases of parity (i.e., non-dominance or circular pairwise dominance), we implemented an auxiliary tie-breaking rule in line with established MULTIMOORA conventions: we calculated the sum of ordinal ranks across the three sub-techniques for tied institutions. We assigned the bank with the lower aggregate rank sum the higher overall ranking.

4. Findings

This section evaluates the financial performance of participation banks operating in Türkiye and Islamic banks operating in the GCC countries using the MULTIMOORA method. The analysis begins by constructing the decision matrix, followed by data normalization and applying the Ratio System, the Reference Point Approach, and the Full Multiplicative Form. In the final stage, we integrate the results from these three approaches using Dominance Theory to determine the overall performance rankings. The findings of each stage of the analysis are presented below.

Step 1. Construction of the Decision Matrix

In the first stage of the MULTIMOORA analysis, we treated the banks in the sample as the decision alternatives. The selected financial performance indicators served as the evaluation criteria. Based on these alternatives and criteria, we constructed the decision matrix. Table 3.3 presents the resulting decision matrix.

Table 3. Decision Matrix Used in the MULTIMOORA Analysis

BANKS	K1	K2	K3	K4	K5	K6	K7	K8	K9
T1	0.1497	0.1537	6.5081	0.1632	0.9666	0.4799	0.6444	0.0037	0.0239
T2	0.2126	0.1081	9.2495	0.1075	0.9134	0.4000	0.4986	0.0092	0.0850

BANKS	K1	K2	K3	K4	K5	K6	K7	K8	K9
T3	0.2830	0.1717	5.8250	0.4038	0.9742	0.3117	0.5442	0.0040	0.0230
T4	0.1664	0.1526	6.5544	0.1868	0.9659	0.4867	0.6901	0.0083	0.0544
T5	0.1847	0.1820	5.4953	0.1337	0.9812	0.3779	0.5077	0.0125	0.0689
T6	0.1480	0.1319	7.5826	0.1613	0.9872	0.3414	0.4430	0.0106	0.0804
A1	0,1795	0,1121	7,9227	0,8879	0,9704	0,0828	0,0932	0,0141	0,1257
A2	0,1908	0,1240	7,0667	0,8760	0,9641	0,1621	0,1851	0,0226	0,1823
A3	0,2362	0,1234	7,1032	0,8766	0,9806	0,0616	0,0703	0,0004	0,0030
A4	0,1900	0,1554	5,4352	0,8446	0,9780	0,0807	0,0955	0,0125	0,0807
A5	0,1368	0,1324	4,2613	0,5641	0,9826	0,0671	0,1189	0,0092	0,0693
A6	0,1200	0,1490	5,7135	0,8510	0,9604	0,1231	0,1447	0,0095	0,0641
A7	0,1805	0,1212	7,2499	0,8788	0,9675	0,1946	0,2214	0,0077	0,0635
A8	0,1610	0,1257	6,9564	0,8743	0,9591	0,1900	0,2173	0,0121	0,0966
A9	0,2201	0,1258	6,9519	0,8742	0,9816	0,1897	0,2169	0,0000	0,0003
A10	0,1350	0,0974	9,2710	0,9026	0,9788	0,1249	0,1383	0,0052	0,0535
A11	0,1694	0,0806	11,4075	0,9194	0,9877	0,1349	0,1468	0,0016	0,0201
A12	0,1753	0,0977	9,2324	0,9023	0,9539	0,2723	0,3018	0,0086	0,0877
A13	0,1655	0,1358	2,9582	0,4016	0,9903	0,2167	0,5395	0,0153	0,1127
A14	0,2031	0,1205	3,1591	0,3806	0,9948	0,1105	0,2902	0,0180	0,1496
A15	0,1940	0,1331	2,1728	0,2892	0,9841	0,0876	0,3029	0,0173	0,1303
A16	0,2031	0,1497	2,8823	0,4315	0,9654	0,0992	0,2299	0,0078	0,0520
A17	0,2646	0,1243	2,6845	0,3338	0,9364	0,3181	0,9530	0,0040	0,0324

Step 2. Normalization of the Decision Matrix

To ensure comparability of the financial ratios measured in different units, the decision matrix was normalized. Table 3.4 presents the normalized decision matrix.

Table 4. Normalized Decision Matrix

BANKS	K1	K2	K3	K4	K5	K6	K7	K8	K9
T1	0.02241	0.02361	42.35514	0.02663	0.93436	0.23026	0.41530	0.00001	0.00057
T2	0.04520	0.01169	85.55367	0.01155	0.83434	0.15999	0.24859	0.00008	0.00723
T3	0.08009	0.02947	33.93114	0.16309	0.94907	0.09713	0.29614	0.00002	0.00053
T4	0.02769	0.02328	42.95961	0.03491	0.93301	0.23692	0.47628	0.00007	0.00296
T5	0.03411	0.03311	30.19816	0.01789	0.96268	0.14282	0.25779	0.00016	0.00475
T6	0.02190	0.01739	57.49636	0.02601	0.97450	0.11659	0.19628	0.00011	0.00647
A1	0,03222	0,01256	62,76862	0,78841	0,94174	0,00685	0,00869	0,00020	0,01579
A2	0,03640	0,01537	49,93827	0,76743	0,92957	0,02629	0,03426	0,00051	0,03324
A3	0,05579	0,01523	50,45553	0,76841	0,96163	0,00380	0,00494	0,00000	0,00001
A4	0,03610	0,02415	29,54086	0,71336	0,95655	0,00651	0,00912	0,00016	0,00651
A5	0,01871	0,01753	18,15876	0,31824	0,96554	0,00450	0,01415	0,00008	0,00480
A6	0,01440	0,02219	32,64426	0,72428	0,92234	0,01516	0,02093	0,00009	0,00410
A7	0,03257	0,01469	52,56047	0,77226	0,93605	0,03786	0,04903	0,00006	0,00403
A8	0,02592	0,01580	48,39119	0,76443	0,91982	0,03611	0,04723	0,00015	0,00933
A9	0,04844	0,01581	48,32850	0,76430	0,96358	0,03597	0,04707	0,00000	0,00000
A10	0,01823	0,00948	85,95159	0,81476	0,95796	0,01559	0,01913	0,00003	0,00287
A11	0,02870	0,00650	130,13005	0,84530	0,97556	0,01820	0,02154	0,00000	0,00040

BANKS	K1	K2	K3	K4	K5	K6	K7	K8	K9
A12	0,03073	0,00955	85,23694	0,81409	0,90995	0,07415	0,09109	0,00007	0,00769
A13	0,02739	0,01843	8,75090	0,16127	0,98072	0,04694	0,29108	0,00023	0,01269
A14	0,04125	0,01452	9,97970	0,14486	0,98957	0,01220	0,08423	0,00032	0,02238
A15	0,03764	0,01771	4,72098	0,08363	0,96849	0,00767	0,09172	0,00030	0,01698
A16	0,04125	0,02241	8,30764	0,18618	0,93208	0,00984	0,05285	0,00006	0,00270
A17	0,07001	0,01546	7,20679	0,11141	0,87689	0,10119	0,90823	0,00002	0,00105

Step 3. Application of the Ratio System Approach

Using the normalized decision matrix, the Ratio System performance value (y_i) for each bank was calculated by subtracting the sum of the cost criteria from the sum of the benefit criteria. Based on the calculated $y_i$values, the banks were ranked according to their performance. Table 3.5 presents the resulting performance values and ranking results.

Table 5. Performance Values and Ranking Results of the Ratio System Approach

	K1	K2	K3	K4	K5	K6	K7	K8	K9	yi	Türkiye Rank	GCC Rank	Rank
	max	max	min	max	min	max	max	max	max				
T1	0.311	0.413	0.381	0.308	0.409	0.484	0.469	0.173	0.159	1.528	6		9
T2	0.442	0.290	0.541	0.203	0.386	0.403	0.363	0.432	0.567	1.773	5		5
T3	0.588	0.461	0.341	0.763	0.412	0.314	0.396	0.186	0.153	2.109	2		2
T4	0.346	0.410	0.383	0.353	0.409	0.491	0.502	0.390	0.363	2.063	3		3
T5	0.384	0.489	0.321	0.253	0.415	0.381	0.369	0.590	0.459	2.189	1		1
T6	0.308	0.354	0.443	0.305	0.418	0.344	0.322	0.499	0.536	1.807	4		4
A1	0,2326	0,2167	0,2926	0,2874	0,2419	0,1222	0,0696	0,2945	0,3305	1,0189		10	16
A2	0,2472	0,2397	0,2610	0,2836	0,2404	0,2394	0,1381	0,4725	0,4795	1,5986		2	7
A3	0,3060	0,2387	0,2624	0,2838	0,2445	0,0910	0,0525	0,0077	0,0078	0,4805		16	22
A4	0,2462	0,3005	0,2007	0,2734	0,2438	0,1191	0,0713	0,2621	0,2122	1,0402		8	14
A5	0,1772	0,2560	0,1574	0,1826	0,2450	0,0991	0,0888	0,1918	0,1823	0,7754		13	19
A6	0,1555	0,2881	0,2110	0,2755	0,2394	0,1818	0,1080	0,1995	0,1685	0,9263		12	18
A7	0,2338	0,2344	0,2678	0,2845	0,2412	0,2873	0,1653	0,1610	0,1671	1,0243		9	15
A8	0,2086	0,2431	0,2569	0,2830	0,2391	0,2805	0,1622	0,2538	0,2540	1,1892		6	12
A9	0,2852	0,2432	0,2568	0,2830	0,2447	0,2800	0,1619	0,0009	0,0009	0,7536		14	20
A10	0,1749	0,1883	0,3424	0,2922	0,2440	0,1843	0,1032	0,1090	0,1408	0,6062		15	21
A11	0,2195	0,1559	0,4213	0,2976	0,2462	0,1992	0,1095	0,0339	0,0529	0,4009		17	23
A12	0,2271	0,1890	0,3410	0,2921	0,2378	0,4020	0,2253	0,1791	0,2306	1,1663		7	13
A13	0,2144	0,2625	0,1093	0,1300	0,2469	0,3199	0,4027	0,3197	0,2963	1,5893		3	8
A14	0,2631	0,2330	0,1167	0,1232	0,2480	0,1631	0,2166	0,3768	0,3934	1,4046		4	10
A15	0,2513	0,2574	0,0802	0,0936	0,2454	0,1293	0,2260	0,3626	0,3427	1,3374		5	11
A16	0,2631	0,2895	0,1065	0,1397	0,2407	0,1464	0,1716	0,1627	0,1367	0,9626		11	17
A17	0,3428	0,2405	0,0992	0,1081	0,2335	0,4696	0,7113	0,0843	0,0853	1,7092		1	6

The study presents not only the overall performance rankings of the banks but also their relative rankings within the Türkiye and GCC groups. While the overall ranking reflects the comparative performance of all banks included in the sample, the group-specific rankings reveal performance differences within each group. This approach allows evaluation of both the competitive positions of participation banks in Türkiye and the relative performance of Islamic banks operating in the GCC countries, while also examining both groups' positions in the overall ranking.

According to the Ratio System results, T5 achieved the highest performance among the participation banks in Türkiye, whereas A17 ranked first within the GCC group. However, A17 ranked sixth overall. This indicates that although A17 was the best-performing bank among the GCC institutions, several Turkish participation banks achieved higher Ratio System performance values. Similarly, although T1 ranked last within the Türkiye group, it ranked ninth overall, suggesting that the relative performance of Turkish participation banks within their own group differs from their position in the full sample.

Step 4. Reference Point Approach

Using the normalized decision matrix, we identified reference points for each evaluation criterion and calculated each bank's maximum deviation from the corresponding reference point. Based on these deviations, we ranked the banks by financial performance. Table 3.6 presents the resulting financial performance values and ranking results.

Table 6. Financial Performance Values and Ranking Results Based on the Reference Point Approach

	K1	K2	K3	K4	K5	K6	K7	K8	K9	yi	Türkiye Rank	GCC Rank	Rank
	max	max	min	max	min	max	max	max	max				
	0.5883	0.4889	0.3213	0.7631	0.3864	0.4908	0.5019	0.5897	0.5667				
T1	0.2771	0.0761	0.0592	0.4548	0.0225	0.0070	0.0332	0.4169	0.4073	1.5907	6		17
T2	0.1463	0.1984	0.2195	0.5600	0.0000	0.0875	0.1393	0.1575	0.0000	1.0696	3		6
T3	0.0000	0.0277	0.0193	0.0000	0.0257	0.1765	0.1061	0.4039	0.4133	1.0826	4		7
T4	0.2424	0.0790	0.0619	0.4100	0.0222	0.0000	0.0000	0.1994	0.2040	1.0507	2		4
T5	0.2043	0.0000	0.0000	0.5104	0.0287	0.1097	0.1327	0.0000	0.1073	1.0358	1		3
T6	0.2806	0.1346	0.1220	0.4584	0.0312	0.1465	0.1797	0.0910	0.0306	1.1682	5		9
A1	0,1103	0,0838	0,2124	0,0102	0,0085	0,3474	0,6417	0,1780	0,1489	1,2995		7	12
A2	0,0956	0,0608	0,1808	0,0140	0,0069	0,2302	0,5731	0,0000	0,0000	0,7861		1	1
A3	0,0368	0,0619	0,1821	0,0139	0,0110	0,3786	0,6588	0,4648	0,4716	1,8933		17	23
A4	0,0967	0,0000	0,1205	0,0242	0,0104	0,3505	0,6400	0,2104	0,2673	1,4582		10	15
A5	0,1656	0,0445	0,0771	0,1150	0,0115	0,3705	0,6225	0,2807	0,2972	1,8073		16	22
A6	0,1873	0,0125	0,1308	0,0221	0,0060	0,2878	0,6033	0,2730	0,3110	1,5603		11	16
A7	0,1090	0,0661	0,1875	0,0131	0,0077	0,1823	0,5460	0,3115	0,3124	1,3453		8	13
A8	0,1342	0,0575	0,1767	0,0146	0,0056	0,1891	0,5491	0,2187	0,2254	1,2062		5	10
A9	0,0577	0,0573	0,1765	0,0146	0,0113	0,1896	0,5493	0,4716	0,4785	1,6309		13	19
A10	0,1679	0,1122	0,2622	0,0054	0,0106	0,2853	0,6080	0,3635	0,3387	1,6084		12	18
A11	0,1233	0,1447	0,3411	0,0000	0,0128	0,2704	0,6017	0,4386	0,4266	1,6514		14	20
A12	0,1157	0,1115	0,2607	0,0055	0,0044	0,0676	0,4860	0,2934	0,2489	1,0635		3	5
A13	0,1284	0,0380	0,0290	0,1676	0,0134	0,1497	0,3086	0,1528	0,1832	1,0858		4	8
A14	0,0797	0,0675	0,0364	0,1744	0,0145	0,3065	0,4947	0,0957	0,0860	1,2536		6	11
A15	0,0915	0,0431	0,0000	0,2040	0,0119	0,3403	0,4852	0,1099	0,1367	1,3988		9	14
A16	0,0797	0,0110	0,0262	0,1579	0,0072	0,3232	0,5397	0,3098	0,3427	1,7305		15	21
A17	0,0000	0,0601	0,0189	0,1896	0,0000	0,0000	0,0000	0,3882	0,3942	1,0131		2	2

According to the Reference Point Approach results, A2, operating in the GCC countries, achieved the highest financial performance in the overall sample, with a value of 0.7861. A17, also from the GCC group, followed A2 with a value of 1.0131, while T5 from Türkiye ranked third with 1.0358. These results indicate that the two best-performing banks according to the Reference Point Approach belong to the GCC group.

Among the participating banks in Türkiye, T5 ranks first, followed by T4, T2, T3, T6, and T1. In contrast, among the GCC banks, A2, A17, and A12 occupy the top three positions.

In the overall ranking, the top ten positions include five Turkish participation banks (T5, T4, T2, T3, and T6) and five GCC banks (A2, A17, A12, A13, and A8). This finding indicates that, under the Reference Point Approach, the two groups show relatively similar levels of financial performance. In contrast, the Ratio System approach shows a more pronounced advantage for Turkish participation banks, while GCC banks occupy the top two positions under the Reference Point Approach. This difference arises from the different evaluation logic underlying the two methods.

The table also presents important findings on competition within each group. In the Türkiye group, the difference between the highest- and lowest-performing banks spans 3rd to 17th place in the overall ranking, whereas in the GCC group it spans 1st to 23rd place. This finding indicates that GCC banks have a more heterogeneous performance structure within their group, whereas Turkish participation banks are relatively more homogeneous in performance.

When examining the lowest-performing banks, A3, A5, and A16 occupy the last three positions in the overall ranking. In the Türkiye group, T1 performed the worst and ranked 17th overall.

Step 5. Full Multiplicative Form Approach

In the matrix, the Full Multiplicative Form performance value for each bank was calculated by considering the product of the benefit criteria and the product of the cost criteria. Based on these performance values, the banks were ranked by financial performance. Table 3.7 presents the resulting performance values and rankings.

According to the Full Multiplicative Form results, A13 ranks first among both GCC banks and the overall sample. A13 is followed by A2, A14, A15, and A17, respectively. Thus, the top five positions in the overall ranking are occupied entirely by Islamic banks operating in the GCC countries. T5, the best-performing bank in Türkiye, ranks sixth overall.

Within the Türkiye group, the ranking is T5, T4, T6, T3, T2, and T1. The fact that T5, the best-performing bank in the Türkiye group, ranks sixth overall, while T4, which ranks second within the group, occupies the eighth position in the overall ranking, indicates that although Turkish participating banks are positioned in the upper part of the overall ranking, they remain behind the best-performing banks in the GCC group. T1, which ranks last within the Türkiye group, ranks 18th overall.

Notably, A13, A2, A14, A15, and A17, which occupy the top five positions among GCC banks, also rank in the top five overall. However, not all GCC banks exhibit high financial performance. A9, A3, and A11 occupy the last three positions in the overall ranking. Therefore, the concentration of GCC banks at both the upper and lower ends of the ranking indicates that financial performance differences within this group are quite pronounced.

Table 7. Financial Performance Values and Rankings Based on the Full Multiplicative Form Approach

	max	max		min		max		min		max		max		max		max		Türkiye Rank	GCC Rank	Rank
	K1	K2	K1xK2	K3	2'/K3	K4	3'/K4	K5	4'xK5	K6	5'xK6	K7	6'xK7	K8	7'xK8	K9	8'xK9			
	1	2	2'	3	3'	4	4'	5	5'	6	6'	7	7'	8	8'	9	9'			
T1	0,150	0,154	0,023	6,508	0,004	0,967	0,004	0,163	0,0005	0,480	0,000286	0,64443	0,000185	0,00368	6,8E-07	0,02392	1,62E-08	6		18
T2	0,213	0,108	0,023	9,250	0,002	0,913	0,003	0,107	0,0002	0,400	0,000117	0,49859	5,83E-05	0,00919	5,4E-07	0,08505	4,56E-08	5		13
T3	0,283	0,172	0,049	5,825	0,008	0,974	0,009	0,404	0,0034	0,312	0,001078	0,54418	0,000586	0,00395	2,3E-06	0,02302	5,34E-08	4		12
T4	0,166	0,153	0,025	6,554	0,004	0,966	0,004	0,187	0,0007	0,487	0,000365	0,69013	0,000252	0,00830	2,1E-06	0,05443	1,14E-07	2		8
T5	0,185	0,182	0,034	5,495	0,006	0,981	0,006	0,134	0,0008	0,378	0,000315	0,50773	0,00016	0,01255	2E-06	0,06894	1,38E-07	1		6
T6	0,148	0,132	0,020	7,583	0,003	0,987	0,003	0,161	0,0004	0,341	0,000144	0,44304	6,36E-05	0,01061	6,7E-07	0,08045	5,43E-08	3		11
A1	0,1795	0,1121	0,0201	7,9227	0,0025	0,8879	0,0023	0,9704	0,0023	0,0828	0,0002	0,0932	1,793E-05	0,0141	2,525E-07	0,1257	3,173E-08		11	16
A2	0,1908	0,1240	0,0237	7,0667	0,0033	0,8760	0,0029	0,9641	0,0030	0,1621	0,0005	0,1851	9,127E-05	0,0226	2,063E-06	0,1823	3,761E-07		2	2
A3	0,2362	0,1234	0,0291	7,1032	0,0041	0,8766	0,0036	0,9806	0,0037	0,0616	0,0002	0,0703	1,589E-05	0,0004	5,824E-09	0,0030	1,73E-11		16	22
A4	0,1900	0,1554	0,0295	5,4352	0,0054	0,8446	0,0046	0,9780	0,0047	0,0807	0,0004	0,0955	3,615E-05	0,0125	4,532E-07	0,0807	3,656E-08		10	15
A5	0,1368	0,1324	0,0181	4,2613	0,0042	0,5641	0,0024	0,9826	0,0024	0,0671	0,0002	0,1189	1,947E-05	0,0092	1,787E-07	0,0693	1,238E-08		13	19
A6	0,1200	0,1490	0,0179	5,7135	0,0031	0,8510	0,0027	0,9604	0,0028	0,1231	0,0003	0,1447	4,939E-05	0,0095	4,713E-07	0,0641	3,019E-08		12	17
A7	0,1805	0,1212	0,0219	7,2499	0,0030	0,8788	0,0027	0,9675	0,0027	0,1946	0,0005	0,2214	0,0001181	0,0077	9,092E-07	0,0635	5,775E-08		8	10
A8	0,1610	0,1257	0,0202	6,9564	0,0029	0,8743	0,0025	0,9591	0,0027	0,1900	0,0005	0,2173	0,0001095	0,0121	1,329E-06	0,0966	1,284E-07		6	7
A9	0,2201	0,1258	0,0277	6,9519	0,0040	0,8742	0,0035	0,9816	0,0035	0,1897	0,0007	0,2169	0,0001459	0,0000	6,406E-09	0,0003	2,236E-12		17	23
A10	0,1350	0,0974	0,0131	9,2710	0,0014	0,9026	0,0013	0,9788	0,0013	0,1249	0,0002	0,1383	2,258E-05	0,0052	1,177E-07	0,0535	6,299E-09		14	20
A11	0,1694	0,0806	0,0137	11,4075	0,0012	0,9194	0,0011	0,9877	0,0011	0,1349	0,0002	0,1468	2,206E-05	0,0016	3,576E-08	0,0201	7,193E-10		15	21
A12	0,1753	0,0977	0,0171	9,2324	0,0019	0,9023	0,0017	0,9539	0,0018	0,2723	0,0005	0,3018	0,0001443	0,0086	1,236E-06	0,0877	1,083E-07		7	9
A13	0,1655	0,1358	0,0225	2,9582	0,0076	0,4016	0,0031	0,9903	0,0031	0,2167	0,0007	0,5395	0,00036	0,0153	5,506E-06	0,1127	6,203E-07		1	1
A14	0,2031	0,1205	0,0245	3,1591	0,0077	0,3806	0,0029	0,9948	0,0030	0,1105	0,0003	0,2902	9,5E-05	0,0180	1,712E-06	0,1496	2,562E-07		3	3
A15	0,1940	0,1331	0,0258	2,1728	0,0119	0,2892	0,0034	0,9841	0,0035	0,0876	0,0003	0,3029	9,263E-05	0,0173	1,607E-06	0,1303	2,094E-07		4	4

	max	max		min		max		min		max		max		max		max				
	K1	K2	K1xK2	K3	2'/K3	K4	3'/K4	K5	4'xK5	K6	5'xK6	K7	6'xK7	K8	7'xK8	K9	8'xK9	Türkiye Rank	GCC Rank	Rank
	1	2	2'	3	3'	4	4'	5	5'	6	6'	7	7'	8	8'	9	9'			
A16	0,2031	0,1497	0,0304	2,8823	0,0105	0,4315	0,0046	0,9654	0,0047	0,0992	0,0005	0,2299	0,0001075	0,0078	8,367E-07	0,0520	4,351E-08		9	14
A17	0,2646	0,1243	0,0329	2,6845	0,0123	0,3338	0,0041	0,9364	0,0044	0,3181	0,0014	0,9530	0,0013243	0,0040	5,34E-06	0,0324	1,732E-07		5	5

The overall ranking shows that the top ten positions include three Turkish participating banks and seven GCC banks. Among the top ten, T5, T4, and T6 represent Türkiye, while A13, A2, A14, A15, A17, A8, and A12 represent the GCC group. This finding indicates that the Full Multiplicative Form approach ranks GCC banks particularly highly.

These findings are more meaningful when considered alongside the results of the previous approaches. While the Ratio System approach shows Turkish participating banks performing better overall, the Full Multiplicative Form approach reveals a clear advantage for GCC banks. This difference arises because the Full Multiplicative Form approach evaluates the criteria multiplicatively rather than additively. As a result, a very low value for any single criterion can substantially reduce the overall performance score. Consequently, banks with balanced, consistently strong criterion values gain an advantage under this approach. In contrast, banks with very low values in one or more indicators tend to fall more quickly in the ranking.

Step 6. Determination of the Final Ranking Using Dominance Theory

To determine the final MULTIMOORA ranking, we integrated the rankings from the Ratio System, Reference Point, and Full Multiplicative Form approaches using Dominance Theory.

Dominance Theory is a decision rule applied in the final stage of the MULTIMOORA method. Within this framework, we compared each bank pairwise with every other bank in the sample. In the pairwise comparisons, we considered a bank dominant if it outperformed the other bank in at least two of the three approaches: Ratio System, Reference Point, and Full Multiplicative Form. We then counted how many alternatives each bank dominated and established the final performance ranking based on dominance. When banks had the same level of dominance, we used the sum of their rankings from the three sub-methods as a tie-breaking criterion. Tables 3.8, 3.9, and 3.10 present the final MULTIMOORA rankings for the Türkiye group, the GCC group, and the overall sample, respectively.

Table 8. Final Financial Performance Ranking Obtained Using Dominance Theory

	Ratio Method	Reference Point Approach	FMF	MULTI - MOORA
T1 - Albaraka Turk Participation Bank	6	6	6	6
T2 - Kuveyt Turk Participation Bank	5	3	5	5
T3 - Turkıye Emlak Participation Bank	2	4	4	3
T4 - Türkiye Finans Participation Bank	3	2	2	2
T5 - Vakıf Participation Bank	1	1	1	1
T6 - Ziraat Participation Bank	4	5	3	4

Final ranking: T5 > T4 > T3 > T6 > T2 > T1

Since T5 ranks first in all three approaches, it is clearly the best-performing bank. T4 outperforms T3 in the Reference Point and Full Multiplicative Form (FMF) approaches, whereas T3 performs better only in the Ratio System approach. Therefore, under the majority rule, T4 ranks second and T3 third. Similarly, T6 outperforms T2 in the Ratio System and FMF results and therefore ranks fourth, while T2 ranks fifth. Since T1 ranks last in all three approaches, it ranks sixth in the final ranking.

Table 9. Final Financial Performance Ranking for the GCC Group Obtained Using Dominance Theory

	Ratio Method	Reference Point Approach	FMF	MULTI - MOORA
A1 - Saudi Arabia /Bank Albılad	10	7	11	10
A2 - Saudi Arabia /Al Rajhı Bank	2	1	2	1
A3 - Saudi Arabia /Bank Al Jazira	16	17	16	17
A4 - Saudi Arabia /Alınma Bank	8	10	10	9
A5 - Oman/ Nizwa Bank	13	16	13	13
A6 - UAE / Dubai Islamic Bank	12	11	12	12
A7 - UAE / Emirates Islamic Bank	9	8	8	8
A8 - Kuwait / Ahli United Bank	6	5	6	6
A9 - Kuwait / Kuwait International Bank	14	13	17	15
A10 - Kuwait /Boubyan Bank	15	12	14	14
A11 - Kuwait /Warba Bank	17	14	15	16
A12 - Kuwait /Kuwait Finance House	7	3	7	7
A13 - Qatar /Qatar International Islamic Bank	3	4	1	3
A14 - Qatar /Masraf Al Rayan	4	6	3	4
A15 - Qatar /Qatar Islamic Bank	5	9	4	5
A16 - Bahrain /Khaleeji Commercial Bank	11	15	9	11
A17 - Bahrain /Al Salam Bank	1	2	5	2

Final ranking: A2 > A17 > A13 > A14 > A15 > A8 > A12 > A7 > A4 > A1 > A16 > A6 > A5 > A10 > A9 > A11 > A3

In the final MULTIMOORA ranking, Al Rajhi Bank (A2) ranks first because it outperforms all other banks in at least two of the three approaches in the pairwise comparisons. Al Salam Bank (A17) ranks second because it performs strongly in the Ratio System and Reference Point approaches. Qatar International Islamic Bank (A13) ranks third, mainly because it ranked first in the Full Multiplicative Form (FMF) approach.

Table 10. Final Financial Performance Ranking for the Overall Sample Obtained Using Dominance Theory

	Ratio Method	Reference Point Approach	FMF	MULTI - MOORA
T1 - Albaraka Turk Participation Bank	9	17	18	16
T2 - Kuveyt Turk Participation Bank	5	6	13	7
T3 - Turkıye Emlak Participation Bank	2	7	12	5
T4 - Türkiye Finans Participation Bank	3	4	8	4
T5 - Vakıf Participation Bank	1	3	6	3
T6 - Ziraat Participation Bank	4	9	11	8
A1 - Saudi Arabia /Bank Albılad	16	12	16	15
A2 - Saudi Arabia /Al Rajhı Bank	7	1	2	1
A3 - Saudi Arabia /Bank Al Jazira	22	23	22	23
A4 - Saudi Arabia /Alınma Bank	14	15	15	14

	Ratio Method	Reference Point Approach	FMF	MULTI - MOORA
A5 - Oman/ Nizwa Bank	19	22	19	19
A6 - UAE / Dubai Islamic Bank	18	16	17	17
A7 - UAE / Emirates Islamic Bank	15	13	10	13
A8 - Kuwait / Ahli United Bank	12	10	7	12
A9 - Kuwait / Kuwait International Bank	20	19	23	21
A10 - Kuwait /Boubyan Bank	21	18	20	20
A11 - Kuwait /Warba Bank	23	20	21	22
A12 - Kuwait /Kuwait Finance House	13	5	9	10
A13 - Qatar /Qatar International Islamic Bank	8	8	1	6
A14 - Qatar /Masraf Al Rayan	10	11	3	9
A15 - Qatar /Qatar Islamic Bank	11	14	4	11
A16 - Bahrain /Khaleeji Commercial Bank	17	21	14	18
A17 - Bahrain /Al Salam Bank	6	2	5	2

Table 3.10 shows that, according to the final MULTIMOORA ranking obtained using Dominance Theory, Al Rajhi Bank (A2) ranks first, followed by Al Salam Bank (A17) in second place and Vakıf Participation Bank (T5) in third place. Türkiye Finans Participation Bank (T4) and Türkiye Emlak Participation Bank (T3) also rank among the top five, while Bank Al Jazira (A3) ranks last. These results indicate that the final financial performance rankings of the participation banks in Türkiye and the Islamic banks operating in the GCC countries were determined by integrating the rankings obtained from the three MULTIMOORA approaches using Dominance Theory.

5. Discussion

This study comparatively evaluated the financial performance of banks operating in Türkiye and Islamic banks operating in the Gulf Cooperation Council (GCC) countries using the MULTIMOORA method. The findings indicate that the three component approaches employed in the analysis (Ratio System, Reference Point, and Full Multiplicative Form) provide different perspectives on bank performance. However, the final ranking obtained by integrating these approaches through Dominance Theory offers a more balanced and comprehensive evaluation. This finding supports the rationale of the MULTIMOORA method developed by Brauers and Zavadskas (2010), which seeks to reduce the potential biases associated with relying on a single decision-making approach by combining different evaluation logics.

One notable finding is that although participating banks operating in Türkiye achieved relatively strong results under some component approaches, large-scale Islamic banks in the GCC countries generally ranked higher in the final MULTIMOORA ranking. In particular, Al Rajhi Bank and Al Salam Bank ranked first and second, respectively, suggesting these banks have a more balanced financial structure across dimensions of financial performance. At the same time, the high rankings of Vakıf Participation Bank, Türkiye Finans Participation Bank, and Türkiye Emlak Participation Bank demonstrate that Turkish participation banks also display competitive financial performance. Nevertheless, the presence of only one Turkish participation bank among the top five institutions in the overall ranking suggests the relative strength of GCC banks, particularly in capital structure, profitability, and financial resilience.

These findings generally align with previous studies reporting that Islamic banks' financial performance differs across countries. Hasan and Dridi (2010), Beck et al. (2013), and Mollah et al. (2017) emphasize that large-scale Islamic banks in the Gulf region show greater financial resilience due to strong capital structures, high liquidity levels, and risk-sharing business models. The findings of the present study support these conclusions. In particular, the high rankings of banks headquartered in Qatar and Saudi Arabia indicate that the Islamic banking systems in these countries possess a relatively strong financial structure.

However, the results should not be interpreted as implying that all GCC banks perform at similarly high levels. The relatively low rankings of Bank Al Jazira, Kuwait International Bank, and Warba Bank show that substantial performance differences exist even among Islamic banks operating in the same region. Therefore, a bank's country of operation cannot explain financial performance on its own. Institutional factors, including bank size, capital structure, asset quality, managerial efficiency, and strategic decisions, also play an important role in determining financial performance.

Another noteworthy finding is that the different MULTIMOORA components may evaluate the same banks differently. For example, some banks ranked highly under the Ratio System approach but received lower rankings under the Reference Point or Full Multiplicative Form approaches. This finding suggests that financial performance is a multidimensional concept and that different decision-making approaches vary in their sensitivity to financial indicators. Accordingly, performance evaluations based on a single multi-criteria decision-making method may not fully reflect banks' actual financial performance.

From this perspective, the study's principal methodological contribution is the use of Dominance Theory. By integrating three evaluation approaches, the study considered each approach's relative strengths, resulting in a more comprehensive final performance ranking. Consequently, the ranking differences that may arise from relying on any single component approach were reduced, thereby enhancing the reliability of the decision-making process. This finding demonstrates that the integrated structure of the MULTIMOORA method provides an important advantage, particularly in multi-criteria performance evaluation studies.

6. Conclusion

This study comparatively evaluated the financial performance of participation banks operating in Türkiye and Islamic banks operating in the Gulf Cooperation Council (GCC) countries for the year 2020 using the MULTIMOORA method. The analysis considered nine financial ratios representing capital adequacy, financial leverage, asset quality, liquidity, and profitability. The results obtained from the Ratio System, Reference Point, and Full Multiplicative Form approaches were integrated using Dominance Theory to establish the final performance rankings.

The findings show that the three component approaches assess bank performance from different perspectives. At the same time, the final ranking from Dominance Theory provides a more comprehensive and balanced evaluation of financial performance. According to the results, several large-scale Islamic banks operating in the GCC countries ranked among the top-performing institutions in the final ranking. At the same time, participation banks in Türkiye—particularly Vakıf Participation Bank, Türkiye Finans Participation Bank, and Türkiye Emlak Participation Bank—also demonstrated competitive financial performance. Nevertheless, considerable performance differences even among banks within the same country group suggest

that financial performance cannot be explained solely by the country or market in which a bank operates. Rather, bank-specific factors such as capital structure, asset quality, liquidity management, and profitability also play a decisive role.

One of the main contributions of this study to the literature is that it not only compares Islamic banks operating in Türkiye and the GCC countries within a common analytical framework but also evaluates financial performance from a multidimensional perspective by integrating the three components of the MULTIMOORA method through Dominance Theory. In this respect, the study provides a more comprehensive and reliable assessment than analyses based on a single multi-criteria decision-making approach. Moreover, the findings offer a useful decision-support tool for managers, investors, and regulatory authorities in assessing the relative financial performance of Islamic banks.

From a practical perspective, the findings suggest that participating banks in Türkiye could strengthen their international competitiveness by developing strategies to improve capital adequacy, asset quality, liquidity management, and profitability, while considering the financial strengths demonstrated by leading GCC banks. Furthermore, the results may help regulatory authorities formulate policies to enhance the financial resilience of the Islamic banking sector.

This study has several limitations. First, the analysis is based solely on financial data for the year 2020. Consequently, the findings reflect the economic conditions during the period when the effects of the COVID-19 pandemic were most pronounced. Second, the analysis is limited to nine financial ratios and does not incorporate corporate governance practices, digital transformation, sustainability performance, ESG indicators, or macroeconomic variables. In addition, the study includes only full-fledged Islamic banks and excludes conventional banks that offer Islamic windows.

The empirical findings show that the sub-techniques of the MULTIMOORA method (Ratio System, Reference Point Approach, and Full Multiplicative Form) capture distinct facets of financial performance, which Dominance Theory synthesizes into a coherent final ranking. The strong showing of large-scale GCC institutions, such as Al Rajhi Bank and Al Salam Bank, reflects a balanced performance across capital adequacy, profitability, and leverage indicators within the nine-criteria matrix. Concurrently, the competitive positions of Turkish institutions—notably Vakıf Katılım, Türkiye Finans, and Türkiye Emlak Katılım—show their relative strengths, particularly in liquidity ratios and capital adequacy indicators under standardized evaluation.

However, because Multi-Criteria Decision-Making (MCDM) methods evaluate relative, normalized positions across specified criteria rather than test causal econometric relationships, caution is warranted when drawing deterministic or causal conclusions. The observed variations between Turkish participation banks and GCC Islamic banks cannot be attributed definitively to single factors such as operational governance or managerial quality. Instead, these comparative rankings reflect the mathematical aggregation of the nine performance indicators, which are inevitably shaped by institutional asset size, prevailing macroeconomic contexts (such as local inflation and monetary policy divergence in 2020), and specific balance sheet structures. Consequently, these rankings reflect relative multidimensional standings rather than absolute superiority.

Future research may use panel datasets spanning multiple years to examine changes in financial performance over time, compare MULTIMOORA results with those from other multi-criteria decision-making methods, and incorporate sustainability, corporate governance, and digital banking indicators alongside traditional financial measures. Furthermore, extending the analysis to Islamic banks operating in different geographical regions would contribute to a more comprehensive understanding of how structural differences across countries influence financial performance.

Declarations

Ethics Approval	**This study is based exclusively on publicly available annual reports and audited financial statements of banks. Since the research did not involve human participants, animals, personal data, or experimental procedures, ethical approval was not required.**
Conflict of Interest	The authors declare no conflict of interest regarding this study.
Funding	This research received no specific grant from funding agencies in the public, commercial, or not-for-profit sectors.
Author Contributions	Mihriban Coşkun Arslan, Sherwan Younis Othman; Methodology: Mihriban Coşkun Arslan, Sherwan Younis Othman; Data Collection: Sherwan Younis Othman; Formal Analysis: Sherwan Younis Othman; Writing – Original Draft: Sherwan Younis Othman; Writing – Review & Editing: Mihriban Coşkun Arslan. All authors have read and approved the final version of the manuscript.
Data Availability Statement	The data used in this study were obtained from the publicly available annual reports and audited financial statements of the banks included in the analysis. These data are available on the respective banks' official websites.
Use of AI and AI-Assisted Technologies	AI-assisted tools were used solely to improve language quality, readability, and academic writing during manuscript preparation. The author(s) carried out the study design, literature review, data collection, analysis, interpretation of the findings, and all scientific conclusions, and took full responsibility for the manuscript's content.

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