Enhancing Efficiency: A Multilevel Evaluation of Bank Shahr Branches in Tehran

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Abstract: This study aims to evaluate the performance of different branches of Shahr Bank in Tehran by employing the TOPSIS method and Data Envelopment Analysis (DEA). The objective is to consider both customer-centric conditions and the core requirements of the organization simultaneously. The TOPSIS method provides a comprehensive assessment of the relative efficiency of decision-making units from both the customer and organization perspectives. Subsequently, at a higher level, the Data Envelopment Analysis models are utilized to integrate the results and determine the efficiency weight assigned to each branch. The findings reveal that the Shohada Square and Ferdowsi Square branches exhibited full (100%) efficiency in 2017, distinguishing them as top performers. Conversely, the remaining branches were identified as inefficient, indicating room for improvement. Specifically, the data analysis highlights the South Terminal Branch as operating at the lowest performance levels, underscoring the need for targeted interventions and improvement scenarios to enhance its efficiency. This research contributes to the field by combining multiple evaluation approaches to provide a comprehensive evaluation framework for branch performance. The results offer insights that can inform decision-making processes and guide efforts to optimize the overall efficiency of Shahr Bank branches.

Keywords: Multi-Criteria Decision Making, Performance Evaluation, Topsis, Data Envelopment Analysis.

1. Introduction

In today's highly competitive and rapidly changing business environment, organizations strive to operate with agility in order to gain a competitive edge and achieve their goals. This adaptability allows organizations to identify and respond to unforeseen changes, positioning themselves favorably in the competitive market and improving their management activities [1]. With the advent of electronic communications, organizations increasingly rely on talented and innovative employees who possess a closer proximity to decision-makers and are more responsive to evolving needs. The competitiveness and survival of organizations in this era hinge upon having skilled individuals in the right positions at the right time [2].

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It is widely recognized that the value and future success of any organization depend largely on the abilities and skills of its employees. In fact, employees are now considered the primary source of competitive advantage, surpassing traditional factors such as raw materials, capital, or technology. Organizations that possess capable individuals can make swift decisions in global markets and operate at the speed of networks [3].

To ensure the continuous improvement of organizational performance, it is crucial to evaluate the performance of individual units within the organization. Such evaluations not only increase employee motivation but also incentivize units to add value to their products and services. Additionally, these evaluations highlight the need for mechanisms to address issues faced by units with lower performance and prevent resource wastage. Efficiency, in this context, refers to the extent to which an organization or unit has optimally utilized its resources to achieve optimal production [4].

One method that provides a suitable tool for evaluating the relative efficiency of decision-making units in the presence of multiple inputs and outputs is Data Envelopment Analysis (DEA). DEA is a mathematical programming approach that differs from traditional methods, which rely on regression equations based on average parameters to measure efficiency. DEA, on the other hand, calculates efficiency based on individual observations of Decision-Making Units (DMUs) and compares their performance optimally against other units [5].

In the context of the banking sector, where competition is fierce and operational efficiency plays a critical role, it becomes imperative to measure the relative efficiency of bank branches. In this paper, we aim to measure the relative efficiency of Bank Shahr branches in Tehran, using a multilevel approach that incorporates Multi-Criteria Decision Making (MCDM), TOPSIS (Technique for Order of Preference by Similarity to Ideal Solution), and Data Envelopment Analysis (DEA). By utilizing these methods, we can provide valuable insights into the performance evaluation of Bank Shahr branches, enabling the identification of areas for improvement and potential strategies for enhancing efficiency.

With the advancement of technology and the role of service organizations in human life, we constantly witness the emergence of different and newer units of organizations. In this context, the first fundamental question arises: which unit has better performance? And what is the performance status of other units? Moreover, if the organization's management intends to consider the issue from different perspectives (such as customers and the organization itself), the complexity increases, as the criteria of each perspective may not necessarily align with those of other perspectives, and their importance may also vary. Furthermore, the direction of changes in these criteria may not be synchronized. Therefore, in this article, we first evaluate the performance of various branches of City Bank in Tehran based on the TOPSIS method using data from 2016. The score of each branch is then extracted as two virtual indices. Subsequently, at a higher level, these two virtual indices are considered as outputs in a data envelopment analysis (DEA) model, aiming to achieve a unified efficiency weight for all branches, enabling a general comparison of their performance.

The field of analyzing banking units using data envelopment analysis (DEA) saw its inception with the pioneering study conducted by Sherman and Gold in 1985. Their research focused on examining 14 branches of American banks, revealing that only 6 out of the 14 branches achieved a remarkable 100% efficiency. The remaining branches were deemed inefficient, with factors such as poor management and branch size being attributed as the primary causes [12].

Building upon this foundation, Alder and Golany published a notable article in 2002, which introduced the utilization of principal component analysis to reduce the dimensionality of the decision space in data envelopment analysis [13]. This advancement contributed to enhancing the effectiveness and applicability of DEA methodologies.

Expanding the scope of efficiency and productivity analysis, Morgono and Sharma conducted a comprehensive study on Indonesian manufacturing industries in sectors including food, textile, chemical, and metal. Employing a random frontier model, their research revealed a concerning decline in productivity within the Indonesian manufacturing sector during the specified time period [14]. These findings shed light on the challenges faced by the industry and underscored the need for further investigation and improvement.

In 2015, Moghaddasi Nejad and Namanian delved into the ranking of banks using multi-criteria decision-making methods. Their research utilized the Analytic Hierarchy Process (AHP) as the underlying technique, with a specific focus on evaluating the level of SMS marketing adopted by banks [15]. This study provided valuable insights into the effective utilization of marketing strategies in the banking industry.

Recent years have witnessed a growing interest in the development of specific data envelopment analysis models tailored to the banking sector. Researchers in this field have recognized the limitations of traditional models, particularly their inability to handle negatively oriented data that may be encountered in real-world scenarios. As a response, these studies have proposed innovative mathematical models capable of measuring the efficiency of decision-making units even in the presence of negative data, thus addressing the shortcomings of previous approaches.

Given the evolving nature of the banking industry, the current research holds significant implications from multiple perspectives, which are outlined below:

- Changing Dynamics: The number of decision-making units is not fixed, as new units may be added to existing organizational structures over time. This fluidity necessitates ongoing analysis and evaluation to adapt to changing dynamics.
- Performance Variability: Even when the number of decision-making units remains constant, their individual performance can fluctuate due to various factors such as workforce adjustments, employee motivation levels, market demand fluctuations, environmental conditions, climate variations, and more. These factors must be considered for accurate and up-to-date assessments.
- Indicator Relevance: In the present context, there may be emerging parameters that serve as crucial indicators for performance evaluation in decision-making units. Simultaneously, some previously significant indicators may have diminished in importance when determining unit efficiency. Identifying and incorporating these indicators is crucial for a comprehensive evaluation.

To provide a clear structure, the remainder of this paper is organized as follows: Section 2 offers an extensive literature review, covering performance evaluation, multi-criteria decision-making (MCDM), Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS), and DEA. Section 3 outlines the methodology adopted in this study. Section 4 details the process of data collection and analysis. Section 5 presents the results and findings of the efficiency measurement. Finally, the concluding section summarizes the key findings, implications, and provides suggestions for future research, thereby offering a comprehensive overview of the study.

2. Preliminaries

2.1 Multi-Criteria Decision Making

Decision-making is a cognitive process that involves selecting the most suitable action from a set of alternatives. It encompasses various stages, including defining objectives, identifying potential solutions, assessing their feasibility, evaluating the potential outcomes and consequences of each option, and ultimately making a choice and implementing the selected course of action. The quality of management greatly depends on the quality of decision-making, as it directly impacts the effectiveness and efficiency of strategies, the success of plans and programs, and the overall outcomes achieved.

In many cases, decision-making processes benefit from considering multiple criteria rather than relying on a single performance measurement criterion. These criteria can take various forms, ranging from quantitative to qualitative measures. Multi-criteria decision-making methods provide a framework for evaluating alternatives based on multiple criteria. Instead of a single performance measurement criterion, these methods employ multiple partial evaluation measures. Such models can be broadly categorized into two types: multi-objective decision-making models and multi-index decision-making models.

Multi-objective decision-making models are commonly used for design purposes. They aim to find optimal solutions that simultaneously satisfy multiple conflicting objectives. These models are suitable when decision-makers must consider trade-offs and balance multiple objectives to reach a satisfactory solution.

On the other hand, multi-index decision-making models are frequently employed for selecting the best option among a set of alternatives. These models incorporate various evaluation indices or indicators to assess the performance of each alternative. By aggregating these indices, decision-makers can rank and compare the alternatives to identify the most favorable choice.

In summary, multi-criteria decision-making provides a robust framework for decision-making processes that involve multiple criteria. By considering a range of evaluation measures, decision-makers can make informed choices that align with their objectives and preferences. These models enable the exploration of different trade-offs and assist in selecting the most suitable alternative based on the specific decision context [6].

2.1.1 TOPSIS Technique

TOPSIS (Technique for Order of Preference by Similarity to Ideal Solution) is a widely used multi-index decision-making method for ranking alternatives based on multiple criteria. This method aims to identify the alternative that is closest to the ideal solution and farthest from the worst solution. TOPSIS is particularly advantageous when dealing with complex and uncertain real-world data or frameworks [7]. The TOPSIS method consists of the following steps:

Step 1: Quantifying and scaling the decision matrix (D)

The decision matrix D is normalized to form the normalized matrix $R = \left[r_{ij}\right]_{(m \times n)}$ using the following mathematical equation:

$$r_{ij} = \frac{x_{ij}}{\sqrt{\sum_{i=1}^{m} {x_{ij}}^2}} \tag{1}$$

Step 2: Obtaining the weighted normalized matrix (V)

The unscaled matrix D is multiplied by the matrix of criterion weights (w_{1n}) to obtain the weighted normalized matrix

$$V = \left[v_{ij}\right]_{m \times n} \tag{2}$$

$$v_{ij} = w_j \times rij \tag{3}$$

Here, w_j represents the weight of the jth criterion.

Step 3: Determining the positive ideal and negative ideal solutions

The positive ideal solution A^+ and negative ideal solution A^- are determined using the following equations:

$$A^+ = (v_1^+ . v_2^+ . \; \ldots . v_n^+); \; v_j^+ = \begin{cases} \max_j \upsilon_{ij} & j \in B \\ \min_j \upsilon_{ij} & j \in C \end{cases} \tag{4}$$

$$A^- = (v_1^- . v_2^- . \; \ldots . v_n^-); \; v_j^- = \begin{cases} \min_j \upsilon_{ij} & j \in B \\ \max_j \upsilon_{ij} & j \in C \end{cases} \tag{5}$$

Step 4: Calculating the distance of each alternative to the ideal solutions

The Euclidean distance is calculated between each alternative and the positive ideal solution (A^+) and the negative ideal solution (A^-) using the following equations:

$$\mathrm{d_i^+} = \sqrt[2]{\sum_{j=1}^{n}(\mathrm{v_{ij}} - \mathrm{v_j^+})^2}\ ,\ \mathrm{i} = 1, 2, \dots, \mathrm{m} \tag{6}$$

$$\mathrm{d_i^-} = \sqrt[2]{\sum_{j=1}^{n}(\mathrm{v_{ij}} - \mathrm{v_j^-})^2}\ ,\ \mathrm{i} = 1, 2, \dots, \mathrm{m} \tag{7}$$

Step 5: Determining the relative closeness of each alternative to the ideal solution

The relative closeness (CL) of each alternative to the ideal solution is determined using the following equation:

$$\mathrm{CL_i} = \frac{\mathrm{d_i^-}}{\mathrm{d_i^-} + \mathrm{d_i^+}} \tag{8}$$

Step 6: Ranking the alternatives

Based on the calculated relative closeness values, the alternatives are ranked, with higher relative closeness indicating a higher ranking [8].

2.1.2 Shannon Entropy Technique

The Shannon entropy technique is a method used to extract the importance weights of criteria in multi-criteria decision-making. Unlike other weight extraction methods, this technique is completely objective and does not rely on expert opinions or subjective judgments. It is particularly useful when there is a possibility of errors in expert judgments, providing an unbiased alternative.

In the decision matrix of a multi-index decision-making model, denoted by A_i for different alternatives and X_j for different criteria, the values of the decision matrix are represented as x_{ij}; $i = 1,2,\dots,m$ and $j = 1,2,\dots,n$. The information content present in this matrix is initially calculated as normalized values (p_{ij}) using the following formula [6]:

$$p_{ij} = \frac{x_{ij}}{\sum_{i=1}^{m} x_{ij}}; \qquad \forall i, j \tag{9}$$

To calculate the entropy E_j for each criterion from the set of p_{ij}, the following equation is used:

$$E_j = -K \sum_{i=1}^{m} \left[p_{ij} Ln\left(p_{ij}\right)\right]\ ;\ \forall i, j \&\ \ K = \frac{1}{Ln(m)} \tag{10}$$

The uncertainty or deviation degree (d_j) from the generated information and the weight (w_j) associated with each criterion j are respectively given by:

$$d_j = 1 - E_j; \quad \forall j \tag{11}$$

$$w_j = \frac{d_j}{\sum_{j=1}^{n} d_j}; \quad \forall j \tag{12}$$

These calculations provide the weights for each criterion based on the Shannon entropy technique, offering an objective approach to assign importance weights in decision-making processes.

2.2 Efficiency

Efficiency is a crucial concept that encompasses the understanding of how work is performed and the achievement of optimal task execution. It is characterized by producing a greater output while utilizing fewer inputs. When an organization can accomplish a specific goal with fewer resources compared to other organizations, it is regarded as having higher efficiency. In essence, efficiency entails achieving the maximum amount of work with the least amount of time or energy expended. It can also be measured as the ratio of the work actually performed to the work that should be performed [5].

In the context of data envelopment analysis (DEA), Decision-Making Units (DMUs) play a central role. A DMU refers to an entity that transforms inputs into outputs. These units are entities that perform similar types of tasks and share common goals and objectives. To ensure accurate analysis within DEA, it is essential for the DMUs to be homogeneous, meaning they have the same types of inputs and outputs [9]. Homogeneity facilitates fair and meaningful comparisons among the DMUs, enabling robust efficiency evaluations.

2.2.1 Data Envelopment Analysis (DEA)

Data Envelopment Analysis (DEA) is a widely used technique for assessing the relative technical efficiency of different organizational units. The foundations of DEA were laid in 1976, and it was introduced to the scientific community in 1978 through the publication of the article "Measuring the Efficiency of Decision-Making Units" by Charnes, Cooper, and Rhodes, known as the CCR model. This model considers the importance of each characteristic in a manner that reflects the best performance for each decision-making unit [10].

In the present study, our aim is to employ the CCR model to rank the decision-making units in the city bank. This method offers a rigorous approach to calculating efficiency weights, ensuring a comprehensive evaluation of the units. In the subsequent sections, we will delve into the details of the CCR model and its application in assessing the efficiency of the decision-making units.

2.2.2 CCR Model in Data Envelopment Analysis

The CCR (Charnes-Cooper-Rhodes) model is a widely used approach in Data Envelopment Analysis (DEA) that assumes constant returns to scale. Its objective is to maximize the efficiency of the unit under study by selecting optimal weights for input and output variables, while ensuring that the efficiency of other units does not exceed one. Constant returns to scale imply that any proportional increase in inputs will generate the same proportional increase in outputs. This assumption allows for comparisons between units of different scales, accommodating both small and large units.

The mathematical formulation of the CCR model is as follows [11]:

$$
\begin{aligned}
&\text{Max} \sum_{r=1}^{s} u_r y_{ro} \\
&\text{st: } \textstyle\sum_{i=1}^{m} v_i x_{ij} = \sum_{j=1}^{s} u_r y_{rj} - \sum_{i=1}^{m} v_i x_{ij} \leq 0 \qquad j = 1.\dots.n \\
&u_r.v_i \geq 0
\end{aligned}
\tag{13}
$$

where:

u_r represents the weight assigned to the rth output variable,

y_{ro} denotes the observed value of the rth output variable for the unit under study,

v_i corresponds to the weight assigned to the ith input variable,

x_{ij} signifies the observed value of the ith input variable for the unit under study,

s represents the total number of output variables,

m represents the total number of input variables, and

n represents the number of decision-making units.

In this output-oriented model, the objective is to maximize the outputs while keeping the inputs constant. After solving the model, different scenarios can arise:

- If the efficiency weight is equal to one and all the weights assigned to inputs and outputs are strictly positive, it indicates strong efficiency for the unit under study.
- If the efficiency weight is equal to one, but at least one of the weights for inputs or outputs is zero, it suggests weak efficiency.
- In all other cases, the unit under study is considered inefficient.

The CCR model provides a comprehensive framework for evaluating the efficiency of decision-making units, taking into account both input and output variables. By solving the model, we can determine the efficiency weights and classify the units accordingly.

3. Main Results

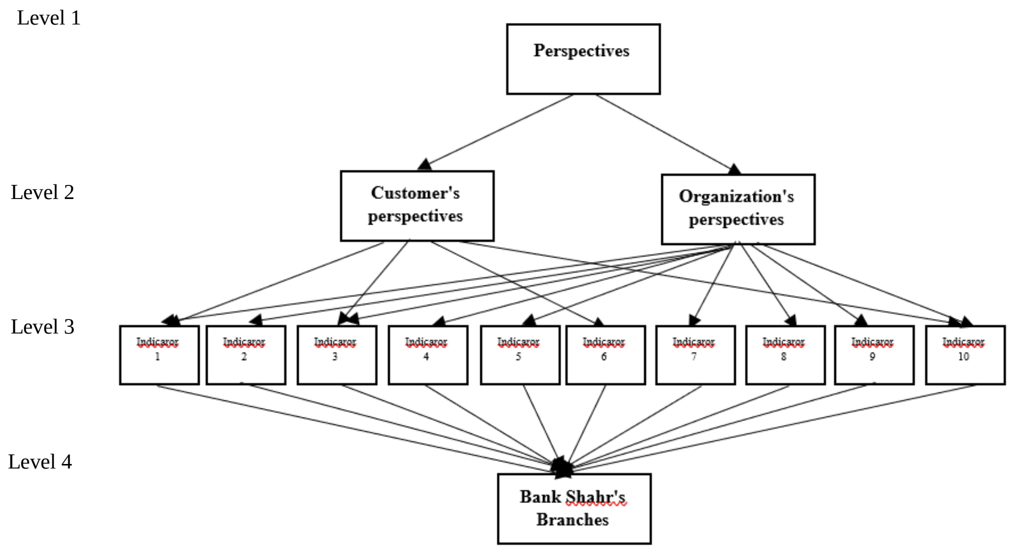
In order to address the issues raised in the problem statement, a conceptual model (Figure 1) was developed to transform data into meaningful information. This conceptual model incorporates 10 evaluation indicators, derived from previous research and the expertise of professionals from Bank Shahr, as shown in Table 1. These indicators are selected based on their relevance to both the customer's perspective and the organization's perspective, highlighting the comprehensive nature of the model.

The analysis of data and information follows a hierarchical process, starting from the lowest level (Level 4) and progressing to higher levels. Using the specified indicators, dedicated decision matrices are created to evaluate the branches from both the customer's perspective and the organization's perspective. The first decision matrix focuses on evaluating branches from the customer's perspective, while the second decision matrix evaluates branches from the organization's perspective.

To determine branch scores from the customer's perspective, the entropy and TOPSIS methods are applied to the first decision matrix. These methods help in assessing the relative importance of each indicator and calculating branch scores accordingly. Similarly, the same process is applied to the second decision matrix to determine branch scores from the organization's perspective. The resulting information is then transferred to the second level.

To facilitate the transfer of information from the second level to the first level, the data envelopment analysis (DEA) method is utilized. DEA indicators represent the branch scores derived from both the customer's and organization's perspectives. This comprehensive analysis provides a holistic understanding of branch performance and efficiency from multiple viewpoints.

Overall, the developed conceptual model and the application of various methods contribute to a robust evaluation framework, enabling the assessment of branch performance from different perspectives and facilitating data-driven decision-making processes. The subsequent sections will delve into the specific findings and outcomes derived from the implementation of these methods.



<Figure 1.>

The current research focuses on the investigation of twenty-six selected branches of Bank Shahr, located in the metropolitan area of Tehran. These branches were carefully chosen by experts from Bank Shahr for analysis and evaluation. It is important to note that these branches have not undergone a comprehensive assessment prior to this study.

Table 1 provides all the relevant information pertaining to these twenty-six branches. This includes various data points and indicators that will be utilized in the evaluation process. The selection of these branches and the availability of their detailed information provide a valuable opportunity to conduct a thorough analysis of their performance and efficiency.

By examining these branches using the developed conceptual model and employing appropriate evaluation methods, this research aims to provide valuable insights and recommendations for optimizing the performance of Bank Shahr's branches in the Tehran metropolitan area.

Table 2. Alternatives

#	1	2	3	4	5	6	7	8	9	10	11	12	13
Branch	Shahid Rajaei	Shahid Bahonar	Meydan-e-Qods	Meydan-e-Shohada	Meydan-e-Jomhuri-e-Eslami	Meydan-e-Ferdowsi	Meydan-e-Enghelab	Elahieh	Meydan-e-Manirieh	Meydan-e-Haravi	Meydan-e-Valiasr	Meydan-e-Tajrish	Saadatabad
Code	253	513	221	251	277	329	356	472	489	490	492	495	499
#	14	15	16	17	18	19	20	21	22	23	24	25	26
Branch	Meydan-e-Hassanabad	Tehranpars	Falakeh-e-Dovvom Tehranpars	Khayaban-e-Qazvin	Khayaban-e-Khorramshahr	Khayaban-e-Damavand	Park-e-Bahman	Markazi	Shahrdari Markazi	Miyadine Markazi	Shahrak-e-Rah-Ahan	Terminal-e-Janubi	Dibaji Janubi
Code	528	231	252	260	345	476	207	201	202	205	222	242	533

3.1 Evaluation Criteria

Table 2 presents the criteria that have been agreed upon by Bank Shahr experts, taking into account records and the opinions of experienced professionals in the banking industry. These criteria have been carefully selected to assess the performance and efficiency of the branches in the Tehran metropolitan area.

The criteria listed in Table 2 reflect a diverse range of perspectives. Some criteria are customer-oriented, focusing on aspects that directly impact customer satisfaction and experience. Other criteria are organization-oriented, considering factors that contribute to the overall effectiveness and success of the bank. Additionally, certain criteria are relevant to both customers and the organization, highlighting their dual significance.

Furthermore, each criterion is categorized based on its nature, specifically into two groups. This categorization helps to provide a comprehensive framework for evaluation and facilitates a deeper understanding of the specific aspects being assessed.

By utilizing these evaluation criteria, the research aims to gain valuable insights into the performance of Bank Shahr's branches in the Tehran metropolitan area. The criteria will serve as a foundation for the subsequent analysis and assessment of the branches, enabling a thorough evaluation from various perspectives.

Table 2. Evaluation Criteria

Criterion	Customer-oriented Nature	Organization-oriented Nature
Number of Active Staff Members in Branch (persons)	Profit	Cost
Average Costs (million Rials)	-	Cost
Branch Area (square meters)	Profit	Cost
Average Claims (million Rials)	-	Profit
Capital Balance (million Rials)	-	Profit
Number of ATMs	Profit	-
Average Expenditures (million Rials)	-	Cost
Volume of Monetary Activities (million Rials)	-	Profit
Average Daily Number of Customers (persons)	-	Profit
Average Service Time for Customers (minutes)	Cost	Cost

In Table 3, the performance status of each branch has been individually assessed and categorized based on the ten evaluation criteria. The data presented in this table has been collected from organizational documents using a library-based method.

The library-based method involves gathering relevant information and data from organizational documents, such as reports, records, and other sources within the bank's library. This approach allows for a comprehensive and systematic collection of data, ensuring the reliability and accuracy of the information obtained.

Using the established evaluation criteria and the collected data, each branch's performance status has been determined and recorded in Table 3. This table provides a clear overview of how each branch performs across the different criteria, enabling a comparative analysis and evaluation of their strengths and areas for improvement.

The information presented in Table 3 serves as a valuable foundation for the subsequent analysis and interpretation of branch performance. It will further inform the decision-making process and guide the identification of areas where interventions and improvements may be necessary.

Table (3): Performance Status of Each Branch of Bank Shahr in Ten Evaluation Criteria

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
1	5	995	180	258	40163	1	33547	242165	110	40
2	8	1274	135	3115	41705	2	30320	161409	114	35
3	5	722	466	4802	25911	1	30376	166796	76	45
4	13	1613	627	12341	102939	4	115268	356593	258	25
5	6	812	509	4409	28157	2	28296	170720	82	45
6	11	1541	535	20848	47089	3	105106	450970	126	35
7	6	1001	243	9019	31341	2	35338	176345	89	45
8	6	901	552	4015	30402	2	26215	174644	87	40
9	7	1442	320	14284	44825	2	48750	251760	121	35
10	13	1877	542	6102	62469	4	61308	380183	163	30
11	5	641	316	4278	21884	1	26151	133863	67	45
12	6	767	253	5033	22074	2	28172	139626	67	45
13	9	1238	376	13054	63341	3	78562	261008	165	40
14	7	1028	413	2373	36382	2	22887	212561	101	40
15	7	1136	280	9500	41337	2	54400	222191	113	35
16	6	847	182	9241	30796	2	50952	179022	88	40
17	6	889	411	6112	26304	2	36388	216235	77	40
18	4	560	165	3753	17856	1	21926	100930	57	45
19	8	1077	344	3357	31675	2	33558	212998	90	45
20	7	1154	274	731	42361	2	19558	250478	115	35
21	10	1262	510	7405	63991	3	71343	266378	166	40
22	6	830	240	4715	37849	2	60049	192622	104	40

23	8	1242	295	4244	38308	2	93698	249834	106	35
24	6	1059	487	5754	34136	2	46935	280710	96	40
25	7	911	392	2469	25042	2	27418	176162	74	40
26	5	863	124	13766	23742	1	41855	165422	71	45

Table (4): Results of Ideal Competency Based on Different Perspectives

	Customer	Organization	Combined
DMU1	0.09	0.28	0.406
DMU2	0.24	0.32	0.464
DMU3	0.41	0.33	0.506
DMU4	1	0.53	1
DMU5	0.53	0.33	0.572
DMU6	0.75	0.69	1
DMU7	0.27	0.46	0.667
DMU8	0.56	0.32	0.580
DMU9	0.36	0.63	0.913
DMU10	0.88	0.35	0.880
DMU11	0.25	0.34	0.493
DMU12	0.28	0.35	0.507
DMU13	0.57	0.58	0.841
DMU14	0.46	0.31	0.517
DMU15	0.32	0.46	0.667
DMU16	0.22	0.45	0.652
DMU17	0.44	0.36	0.36
DMU18	0.06	0.34	0.34
DMU19	0.4	0.3	0.3
DMU20	0.32	0.3	0.3
DMU21	0.72	0.38	0.38
DMU22	0.27	0.3	0.3
DMU23	0.35	0.32	0.32
DMU24	0.52	0.34	0.34
DMU25	0.44	0.29	0.29
DMU26	0.04	0.6	0.6

Upon examining Table (4), it is evident that based on the data envelopment analysis, the fourth and sixth decision-making units (DMUs) are classified as efficient, meeting the desired performance standards. However, the remaining 24 branches are deemed inefficient in terms of their performance.

It is noteworthy that the twenty-fifth unit displayed the weakest performance among all the DMUs in the year 1395. This indicates a significant opportunity for improvement in this particular unit, as it falls considerably short in meeting the desired performance benchmarks.

The findings from Table (4) shed light on the overall performance status of the analyzed DMUs. The identification of both efficient and inefficient units highlights the disparities in performance among different branches of Bank Shahr in the Tehran metropolitan area. This comprehensive evaluation serves as a valuable tool for decision-makers to prioritize interventions and allocate resources effectively to enhance the overall performance and efficiency of the branches.

Conclusion

When decision-makers are faced with multiple options, it is crucial to select the option that maximizes efficiency for the organization. However, assessing the efficiency of alternative options is often a complex task, as it involves considering various criteria from different perspectives, such as those of customers and the organization itself. Previous investigations and studies have highlighted the challenges associated with evaluating efficiency in such multi-dimensional scenarios.

In the conducted research, an innovative multi-level approach was employed to evaluate the branches of Bank Shahr. This approach aimed to address the complexity of conflicting criteria and provide a comprehensive assessment of branch efficiency. The results of this research indicate that in the year 1395, the branches of Meydan Shahada and Meydan Ferdowsi demonstrated 100% efficiency, highlighting their exceptional performance. However, it is noteworthy that the remaining twenty-four branches were found to be inefficient based on the evaluation criteria utilized in the study.

The findings underscore the importance of adopting a multi-level approach that considers diverse perspectives when evaluating efficiency. By incorporating multiple criteria and employing robust evaluation methodologies, decision-makers gain valuable insights into the performance of different branches. These insights can guide strategic decision-making processes and enable targeted interventions to improve overall branch efficiency throughout Bank Shahr.

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