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Identification and Prioritization of Efficiency-Influencing Factors in Banking Using MADM Technique (Case Study: Mehr-e-Eghtesad Bank)

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ABSTRACT

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The present study is an attempt to identify and prioritize efficiency-influencing factors in banking system based on Analytic Hierarchy Process (AHP) and (topsis), performed by considering comments and remarks of Mehr-e-Eghtesad bank experts in Tehran. For this purpose, first the most important efficiency-influencing factors were identified by studying the related literature, background of the study, and interviews with some of Mehr-e-Eghtesad bank's managers and authorities. Then, by performing a field study, it was attempted to ask Mehr-e-Eghtesad bank experts for their opinions in Tehran as the statistical population of the study. After analyzing data and testing measures using T-student test, it was finally found that all recognized variables and factors influence banking efficiency. Results obtained from Analytic Hierarchy Process (AHP)-based statistical studies and analyses indicated that among the main criteria, the criteria of hardware, software, and working systems are most important, followed by manpower; financial tools and attitudes have the lowest priority. Also regarding sub-criteria, the sub-criteria of customers-specific convenient facilities, targeted marketing and advertisement of products and services had the highest rank. Topsis-based statistical studies and analyses showed that branches of Seyyed Khandan, Markazi, and Saipa captured the first, second, and third position respectively.

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INTRODUCTION

Since the remote past, humans have paid attention to evaluation and assessment of performance. In fact, performance evaluation is a process which begins with human birth and attempts to correct and promote individuals' performance. Human has been faced with a problem called limited resources and facilities of production at all times. Considering limited resources and facilities and increasing promotion of goods and services' level of consumption, maximum use of existing facilities is one of the most important feasible solutions to reduce the gap between supply and demand (Samaoilenko *et al.* 2013).

In the current era, significant changes in management knowledge has made the existence of evaluation system inevitable in such a way that absence of evaluation system in different aspects including evaluation in using resources, facilities, aims, and strategies regards managers and staff as one of the symptoms of organization's diseases (Bougnol *et al.* 2012).

Evaluating amount of achievement to aims and the way of using resources and facilities plays a very important role in this regard. Indeed, performance evaluation is considered as the core of activities and measures of management (Akçay *et al.* 2013). The fact is that due to the fundamental role of banking system in countries' economy, efficiency of banking system has always gained attention from statesmen because weak banking system can be threatening to economic stability. With the entry of private banks into the arena of Iran's banking system and also due to privatization of some public banks, banks are increasingly competing to attract customers' funds and it is quite clear that there is a high capacity in this regard in our country because every day we are witnessing the emergence of a new private bank (Venos and Safaiyan, 2010). Thus, the present study is attempted to determine and explain the factors influencing Mehr bank's branches efficiency and prioritization of these factors in Tehran with the help of Multiple Attribute Decision Model (MADM).

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Research Literature:

Under current circumstances and with the increasing development of science and technology, (what is?) still limited to existing facilities. Economic attempts by human have always been focused on obtain maximum result from existing facilities and factors, which is the very tendency of humans to the highest efficiency. Regarding efficiency, including at the level of enterprises and monetary and financial institutions, the present study is considered one of the most important and fundamental economy-centered research (Imami Meybodi, Ali, 2000).

In 1957, Farrell attempted to measure efficiency for a production unit using a method like measuring efficiency in engineering matters. Efficiency is the relation of actual obtained return to the expected return. In other words, it is the relation of the amount of work done to the amount of work that must be done (Wu *et al.*, 2013). Webster dictionary has considered efficiency as equivalent to effectiveness and has defined it as the capacity of desirable production with minimum consumption of energy, time, money, or material (Farhang, Manouchehr, 1997).

A study by Hauner (2005) has attempted to compare and investigate the efficiency of cost and measure between Germany and Austria's major banks during 1995-1999 using Data Envelopment Analysis (DEA) method. Results of this study indicate that the mean efficiency of Austrian banks is lower than that of German banks (Hauner, 2005).

In 2009, Asrayeri performed a study in relation to Persian Gulf Cooperation Council Countries and concluded that inefficiency has a positive relationship with operational cost and loan-to-asset ratio and a negative relationship with the ratio of stock holders' rights to asset, of net profit to total asset, and bank size (Asrayeri, 2009).

In a study, Hadiyan and Azimi (2006) have investigated the status of 10 specialized and commercial banks in the country during 1997-1999. Results of this study suggest that during the study period, specialized banks have enjoyed a better position than commercial banks in terms of specialized and economic technological efficiency (Hadiyan *et al.*, 2004).

Research Methodology:

The recent study was performed in Tehran in 2013 with a research approach. First, the factors influencing efficiency of Tehran's Mehr-e-Eghtesad bank's branches are identified and prioritized. Research data are collected through library and field studies as well as doing interviews with subject-familiar managers and experts and filling out questionnaire by them. This study is a survey-type descriptive research in terms of collecting data and an applied research in terms of aim.

The statistical population of the study includes faculties and Mehr-e-Eghtesad bank managers and experts. This study adopts a simple random sampling method. The statistical sample of this study includes managers and experts of 10 branches of Tehran's Mehr-e-eghtesad bank.

In order to determine the suitable sample size from the introduced population and verify research findings, "Cochran" formula with below-mentioned conditions has been used. Cochran formula:

$$n = \frac{NZ \left(\frac{\alpha}{2}\right)^2 P(1-P)}{(N-1)\varepsilon^2 + Z \left(\frac{\alpha}{2}\right)^2 P(1-P)}$$

The appropriate sample size for this study will be 60 persons.

$$n = \frac{70 * (1.96)^2 * 0.5 * 0.5}{69 * (0.05)^2 + (1.96)^2 * 0.5 * 0.5} = 60$$

Among the distributed questionnaires, 66 questionnaires were returned and due to answers' incompleteness, 60 questionnaires have been analyzed. Thus, selecting sample in this kind of analyses isn't as true as other analyses and has been used from the viewpoint of this bank's experts and managers who were 20 persons.

The method adopted in the present study is the Multiple Attribute Decision Making combined model of AHP-TOPSIS. Also, T-test has been used to identify efficiency-influencing factors in Iran's banking system. Finally, in order to choose the most important efficiency-influencing factors, SPSS-gathered data have been analyzed. Next, after gathering data, Expert Choice and Excel 2007 have been used. Validity of research questionnaire is content-type in which questionnaires' content have been confirmed by research advisors and readers and some production experts, counselors, and Mehr-e-Eghtesad bank experts. In order to test reliability, Cronbach's alpha has been computed with the help of SPSS. Considering the measure of Cronbach's alpha coefficient which is 0/735, the reliability of the study has been confirmed. Research hypotheses are as follow: the main hypothesis: "factors of organization and management, hardware, software and, work systems, manpower, customer and environmental factors, and financial tools and attitudes influence the improvement of banking efficiency."

H1 “the aspect of organization and management influences the improvement of banking system.”

H2 “Hardware, software, and work systems influence the improvement of banking system.”

H3 “the aspect of manpower influences the improvement of banking system.”

H4 “the aspect of customer and environmental factors influences the improvement of banking system.”

H5 “the aspect of financial tools and attitudes influences the improvement of banking system.”

The tree of decision which constitutes the basis of hierarchical structure includes aim, criteria, and sub-criteria as follow:

Level 1: It's the same as research purpose, meaning the prioritization of efficiency-influencing factors in banking.

Level 2: It's referring to criteria which are divided into five factors: organization and management, hardware, software, work systems, manpower, customer, and environmental factors.

Level 3: It in fact regards sub-criteria in which study, 60 sub-criteria influencing banking efficiency have been identified.

Research Findings:

Respondents of relative frequency are between 35-45 years old, followed by the age group 55-64 in such a way that these two age groups have constituted 83% of the sample size. Also, the age group 55 years and above has the least frequency, meaning 17%. The highest frequency of education level relates to people with bachelor's degree, meaning 36% of the sample size. Also, 20% of the sample size belongs to people with associate degree, and 20% belongs to graduate students. In terms of gender, men constitute 85% of the sample size. Furthermore, among respondents, 82% have had an expert position in the organization and the rest have had a management position in units.

The main hypothesis:

H0: Efficiency-influencing factors in Mehr-e-Eghtesad bank are normally distributed.

H1: Efficiency-influencing factors in Mehr-e-Eghtesad bank are not normally distributed.

Considering Kolmogorov – Smirnov test results, we see that factors influencing the improvement of Mehr-e-Eghtesad bank's efficiency are normally distributed. KS value calculated at the confidence level of 95%, ($\alpha=0/05$), is smaller than KS in the critical table and ($\text{Sig}0.05$). Therefore, the H0 is corroborated by observations and it is concluded that variables are normally distributed.

Table 1: Hypotheses-related descriptive statistics

| Variable | Number | Mean | SD | Mean SD Error |
|--|--------|--------|---------|---------------|
| Banking Efficiency-Influencing Factors | 60 | 3.856 | 0.29322 | 0.03785 |
| Organization and Management | 60 | 3.7833 | 0.48334 | 0.0624 |
| Hardware, Software, and Work System | 60 | 3.8467 | 0.41065 | 0.05301 |
| Manpower | 60 | 3.9618 | 0.52131 | 0.0673 |
| Customer and Environmental Factors | 60 | 3.7 | 0.40074 | 0.05174 |
| Financial Tools and Attitudes | 60 | 3.6458 | 0.22686 | 0.02929 |

Table 2: Hypotheses-related t-test

| | T-test Statistics | Freedom Degree | Two-way significance test | Mean difference | Confidence distance difference 95% | |
|--|-------------------|----------------|---------------------------|-----------------|------------------------------------|--------|
| | | | | | Low | High |
| Banking Efficiency-Influencing Factors | 22.613 | 59 | 0/00 | 0.856 | 0.7803 | 0.9317 |
| Organization and Management | 12.554 | 59 | 0/00 | 0.78333 | 0.6585 | 0.9082 |
| Hardware, Software, and Work System | 15.97 | 59 | 0 | 0.84667 | 0.7406 | 0.9527 |
| Manpower | 14.291 | 59 | 0 | 0.96183 | 0.8272 | 1.0965 |
| Customer and Environmental Factors | 13.53 | 59 | 0/002 | 0.7 | 0.5965 | 0.8035 |
| Financial Tools and Attitudes | 22.052 | 59 | 0/00 | 0.64583 | 0.5872 | 0.7044 |

It is concluded from the results of the main hypothesis test that the main hypothesis is corroborated with confidence of 95%. In other words, “factors of organization and management, hardware, software, and work systems, manpower, customer and environmental factors, and financial tools and attitudes influence the improvement of banking efficiency. Considering the results of testing H1, we conclude that with confidence of 0.95%, the aspect of organization and management influences the improvement of banking efficiency. Concerning H3, it is concluded that with confidence of 95%, the aspect of manpower influences the improvement of banking efficiency. As regard H4, it is concluded that with confidence of 95%, the aspect of customer and environmental factors influences the improvement of banking efficiency. Regarding H5, we conclude that with confidence of 95%, the aspect of financial tools and attitudes influences the improvement of banking efficiency.

Table 3: Matrix of Paired Comparisons of Main Criteria

| Major Criterion | Organization and Management | Hardware, Software, and Work System | Manpower | Customer and Environmental Factors | Financial Tools and Attitudes |
|-------------------------------------|-----------------------------|-------------------------------------|----------|------------------------------------|-------------------------------|
| Organization and Management | 1.00 | 0.56 | 0.83 | 1.40 | 2.90 |
| Hardware, Software, and Work System | 1.80 | 1.00 | 1.20 | 2.50 | 2.30 |
| Manpower | 1.20 | 0.83 | 1.00 | 1.70 | 1.50 |
| Customer and Environmental Factors | 0.71 | 0.40 | 0.59 | 1.00 | 1.70 |
| Financial Tools and Attitudes | 0.34 | 0.43 | 0.67 | 0.59 | 1.00 |

Table 4: Weighting and Prioritization of Main Efficiency Improvement-Influencing Factors

| Row | Main Criteria | Weight | Priority |
|-----|-------------------------------------|--------|----------|
| 1 | Organization and Management | 0.203 | 3 |
| 2 | Hardware, Software, and Work System | 0.306 | 1 |
| 3 | Manpower | 0.239 | 2 |
| 4 | Customer and Environmental Factors | 0.144 | 4 |
| 5 | Financial Tools and Attitudes | 0.108 | 5 |

As can be seen, the aspect of hardware, software, and work systems has the most importance, with relative weight of 0/306. Therefore, it has the greatest impact among the factors influencing the improvement of efficiency, followed by manpower with relative weight of 0/239. The aspect of financial tools and attitudes has the last priority, with relative weight of 0/108. Inconsistency rate of paired comparisons has been obtained as 0/03. The consistency of these comparisons is acceptable due to the inconsistency ratio of smaller than 0/10.

Table 5: Prioritization of Sub-Criteria of Organization and Management Criterion

| Row | Sub-Criterion | Weight | Priority |
|-----|--|--------|----------|
| 1 | Manager's Behavioral Characteristics | 0.098 | 2 |
| 2 | Division of Labor and Description of Specified Jobs | 0.083 | 4 |
| 3 | Delegation of Authority | 0.057 | 9 |
| 4 | Internal Control System | 0.059 | 8 |
| 5 | Transparency in Business Processes and Activities | 0.078 | 5 |
| 6 | Strategic and Operational Program and Specified Targets | 0.042 | 13 |
| 7 | Attention to Research and Development | 0.064 | 6 |
| 8 | System of Evaluating Organization's performance and Manpower | 0.045 | 12 |
| 9 | Use of Modern Methods in Budgeting Process | 0.05 | 11 |
| 10 | Presentation of Transparent (Financial and Non-financial) Periodic Performance Reports | 0.029 | 15 |
| 11 | Organization's Brand | 0.032 | 14 |
| 12 | Performing Social Responsibilities | 0.052 | 10 |
| 13 | Customer-Respect Culture | 0.09 | 3 |
| 14 | Organization's Strategies | 0.14 | 1 |
| 15 | Focus on Islamic Banking | 0.061 | 7 |
| 16 | Stockholders' Decision-Making Approach | 0.021 | 16 |

Consistency rate for combined matrix of criteria of the above table is 0/04. Thus, respondent-made paired comparisons enjoy a high consistency. The sub-criteria of organization's strategies and manager's behavioral features have the most importance and top priorities, with weights of 0/140 and 0/098 respectively.

Table 6: Prioritization of Sub-Criteria of Hardware, Software, and Work Systems Aspect

| Row | Sub-Criteria | Weight | Priority |
|-----|---|--------|----------|
| 1 | Up-to-date Hardware Equipments | 0.096 | 6 |
| 2 | Work environment-Suitable Ergonomics | 0.111 | 4 |
| 3 | Customer-Specific Facilities | 0.137 | 1 |
| 4 | Products and Services' Targeted Marketing | 0.127 | 2 |
| 5 | Products and Services' Targeted Advertisement | 0.112 | 3 |
| 6 | Classification of Customers and Offer of Special Services to Each Class | 0.09 | 7 |
| 7 | Establishment of Work Process Management System | 0.063 | 8 |
| 8 | Comprehensive Information System and (Financial and Non-financial) Information Dashboards | 0.1 | 5 |
| 9 | Establishment of System of Physical Assets Management | 0.042 | 11 |
| 10 | Offer of Modern Banking Products (in the Area of Deposits, Facilities, Investments, etc.) | 0.046 | 9 |
| 11 | Use of IT in Offering Services | 0.045 | 10 |
| 12 | Branch Planning System | 0.031 | 12 |

Considering the software-obtained results, the sub-criteria of customer-specific facilities and products and services targeted marketing have the most importance, with weights of 0/137 and 0/127 respectively. Therefore, they occupy the first and second priority. The inconsistency rate of paired comparisons is 0/08. Thus, consistency of these comparisons is acceptable too.

Table 7: Prioritization of Manpower Sub-criteria

| Row | Sub-Criteria | Weight | Priority |
|-----|--|--------|----------|
| 1 | Expert Managerial Body | 0.048 | 11 |
| 2 | Meritocratic system | 0.055 | 10 |
| 3 | Salary and Welfare Facilities | 0.109 | 4 |
| 4 | General Training of Manpower | 0.077 | 6 |
| 5 | Specialized Training of Manpower | 0.066 | 9 |
| 6 | Education of Manpower | 0.12 | 2 |
| 7 | Skill and Experience of Manpower | 0.074 | 7 |
| 8 | Age Integration of Manpower | 0.073 | 8 |
| 9 | Behavioral Features of Manpower | 0.118 | 3 |
| 10 | Reward System (Encouragement & Punishment) Based on Manpower Performance | 0.087 | 5 |
| 11 | Job Security for Manpower | 0.173 | 1 |

Considering obtained results, the sub-criterion of job security for manpower is of the highest importance, with weight of 0/173. The second priority belongs to education of manpower, with relative weight of 0/120, and the third priority is for the manpower's behavioral features, with weight of 0/118. The inconsistency rate of paired comparisons is 0/01, which is less than 0/10. Therefore, the consistency of these comparisons is acceptable.

Table 8: Prioritization of Customer and Environmental Factors-Related Sub-Criteria

| Row | Sub-Criteria | Weight | Priority |
|-----|---|--------|----------|
| 1 | Customers' Level of Education | 0.198 | 1 |
| 2 | Customers' Age composition | 0.093 | 5 |
| 3 | Customers' Employment Status | 0.127 | 3 |
| 4 | Population Density | 0.104 | 4 |
| 5 | (Economic, Geographical, Cultural, etc.)Structure of the Area | 0.149 | 2 |
| 6 | Competitors' Position in the Area | 0.062 | 8 |
| 7 | Customer's Understanding of Banking Operation Mechanisms | 0.085 | 6 |
| 8 | Upstream Rules and Guidelines in the Area of Efficiency Improvement | 0.059 | 9 |
| 9 | Economic Macro-indicators (Inflation, employment Rate, Currency Fluctuations, etc.) | 0.082 | 7 |
| 10 | Substitute goods (capital markets, real estate, currency, coins, etc) | 0.042 | 10 |

Considering the results obtained from indicators' paired comparisons matrix relative to customer and environmental factors-related sub-criteria, the sub-criteria of customers' education level and the (economic, geographical, cultural, etc.) structure of the area had the first and second priorities, with weights of 0/198 and 0/149 respectively. Inconsistency ratio was obtained to be 0/06, which is less than 0/10. Therefore, consistency of this matrix of decision-making is acceptable too.

Table 9: Prioritization of Financial Tools and Attitudes-Related Sub-Criteria

| Row | Sub-Criteria | Weight | Priority |
|-----|---|--------|----------|
| 1 | Amount of Resources | 0.145 | 2 |
| 2 | Amount of Facilities | 0.117 | 4 |
| 3 | Composition of Resources | 0.128 | 3 |
| 4 | Composition of Facilities | 0.079 | 6 |
| 5 | Amount of Arrears | 0.101 | 5 |
| 6 | Composition of Arrears | 0.158 | 1 |
| 7 | Capital Adequacy Ratio | 0.063 | 8 |
| 8 | Establishment of Management Accounting System | 0.074 | 7 |
| 9 | Establishment of Comprehensive Risk Management System (Market Risk, Credit, Operational, Liquidity, etc.) | 0.05 | 9 |
| 10 | Establishment of Financial Asset Management System | 0.045 | 10 |
| 11 | Establishment of Debt Management System (Resources) | 0.041 | 11 |

Considering the results obtained from the matrix of indicators' paired comparisons relative to financial tools and attitudes-related sub-criteria, the sub-criteria of arrears composition, amount of resources, and composition of resources occupied the first, second, and third positions, with weights of 0/158, 0/145, and 0/128 respectively.

Inconsistency rate was obtained to be 0/08, which is less than 0/10. Therefore, consistency of this decision-making matrix is acceptable too.

Table 10: Prioritization of Efficiency-Influencing Factors

| Indicator | Weight | Priority |
|---|----------|----------|
| Customer-Specific Welfare Facilities | 0.041922 | 1 |
| Job Security for Manpower | 0.041347 | 2 |
| Products and Services' Targeted Marketing | 0.038862 | 3 |
| Products and Services' Targeted Advertisement | 0.034272 | 4 |
| Suitable Ergonomics of Work Environment | 0.033966 | 5 |
| (Financial and Non-Financial) Comprehensive Information System and Information Dashboards | 0.0306 | 6 |
| Up-To-Date Hardware Equipments | 0.029376 | 7 |
| Manpower Education | 0.02868 | 8 |
| Customers' Level of Education | 0.028512 | 9 |
| Organization's Strategies | 0.02842 | 10 |
| Manpower Behavioral Features | 0.028202 | 11 |
| Classification of Customers and Offer of Class-Specific Services | 0.02754 | 12 |
| Salary and Welfare Facilities | 0.026051 | 13 |
| (Economic, Geographical, Cultural, etc.) Structure of the Area | 0.021456 | 14 |
| System of Awarding (Encouragement and Punishment) based on Manpower Performance | 0.020793 | 15 |
| Manager's Behavioral Features | 0.019894 | 16 |
| Establishment of Work Process Management System | 0.019278 | 17 |
| General Training of Manpower | 0.018403 | 18 |
| Customers' Employment Status | 0.018288 | 19 |
| Customer-Centered Culture | 0.01827 | 20 |
| Skill and Experience of Manpower | 0.017686 | 21 |
| Age Composition of Manpower | 0.017447 | 22 |
| Arrears Composition | 0.017064 | 23 |
| Division of Labor and Description of Specified Duties | 0.016849 | 24 |
| Transparency of Working Processes and Activities | 0.015834 | 25 |
| Specialized Training of Manpower | 0.015774 | 26 |
| Amount of Resources | 0.01566 | 27 |
| Population Density | 0.014976 | 28 |
| Offer of Modern Banking Products (In the Area of Deposits, Facilities, Investments, etc.) | 0.014076 | 29 |
| Composition of Resources | 0.013824 | 30 |
| Use of IT in Offering Services | 0.01377 | 31 |
| Customers' Age Composition | 0.013392 | 32 |
| Meritocratic System | 0.013145 | 33 |
| Attention to Research and Development | 0.012992 | 34 |
| Establishment of Physical Asset Management System | 0.012852 | 35 |
| Amount of Facilities | 0.012636 | 36 |
| Focus on Islamic Banking | 0.012383 | 37 |
| Customer's Understanding of Banking Operation Mechanisms | 0.01224 | 38 |
| Internal Control System | 0.011977 | 39 |
| Economic Macro-Indicators (Inflation, Employment Ratio, Currency Fluctuations, etc.) | 0.011808 | 40 |
| Delegation of Authority | 0.011571 | 41 |
| Expert Managerial Body | 0.011472 | 42 |
| Amount of Arrears | 0.010908 | 43 |
| Performing Social Responsibilities | 0.010556 | 44 |
| Use of Modern Methods in Budgeting Process | 0.01015 | 45 |
| Branch Planning System | 0.009486 | 46 |
| System of Organization Performance and Manpower Evaluation | 0.009135 | 47 |
| Competitors' Status in the Region | 0.008928 | 48 |
| Composition of Facilities | 0.008532 | 49 |
| Strategic and Operational Program and Specified Aims | 0.008526 | 50 |
| Upstream Rules and Guidelines in the Area of Efficiency Improvement | 0.008496 | 51 |
| Establishment of Management Accounting System | 0.007992 | 52 |
| Capital Adequacy Ratio | 0.006804 | 53 |
| Organization's Brand | 0.006496 | 54 |
| Substitute Goods (Capital Market, Real Estate, Currency, Coin, etc.) | 0.006048 | 55 |
| Presentation of (Financial and Non-financial) Transparent Periodic Performance Reports | 0.005887 | 56 |
| Establishment of Comprehensive Risk Management System (Market Risk, Credit, Operational, Liquidity, etc.) | 0.0054 | 57 |
| Establishment of Financial Asset Management System | 0.00486 | 58 |
| Establishment of Debt Management System (Resources) | 0.004428 | 59 |
| Stockholders' Decision-Making Approach | 0.004263 | 60 |

Considering the obtained results, it can be concluded that efficiency-influencing criteria and sub-criteria in banking have different priorities; and considering that inconsistency rate of all factors is less than 0/1, all paired comparisons are consistent with each other and the results are reliable. Generally speaking, weight of 28 factors

that influence efficiency from experts' point of view is presented according to table 10. Manpower security and welfare facilities have occupied top priorities.

Table 11: Matrix of Professional Experts' Decision-Making Considering 5 Main Research Hypotheses and 10 First-Degree Branches among Mehr-e-Eghtesad Bank

| Option | Organization and Management | Hardware, Software, and Working Systems | Manpower | Customer and Environmental Factors | Financial Tools and Attitudes |
|-------------------|-----------------------------|---|----------|------------------------------------|-------------------------------|
| Tajrish | 5.5 | 4.6 | 5.2 | 6.3 | 6.7 |
| Markazi | 5.2 | 7.2 | 6.7 | 5.5 | 6.5 |
| Ayatollah Kashani | 3.2 | 5.3 | 3.3 | 7.9 | 5.6 |
| Nabovvat | 5.7 | 7.7 | 5.3 | 6.8 | 5.5 |
| Poonak | 4.4 | 6.3 | 5.8 | 4.3 | 6.4 |
| Seyyed Khandan | 7.3 | 6.2 | 6.8 | 5.7 | 6.4 |
| Kaj | 5.1 | 6.8 | 4.5 | 7.2 | 7.5 |
| Cheezar | 4.7 | 5.2 | 6.8 | 3.9 | 4.5 |
| Saipa | 4.8 | 6.7 | 6.5 | 3.5 | 6.6 |
| Vanak | 7.6 | 7.3 | 4.2 | 6.2 | 7.4 |

Table 12: Weight of 5 Main Criteria

| | | | | | |
|---------------|-------|-------|-------|-------|-------|
| Weight of AHP | 0.203 | 0.306 | 0.239 | 0.144 | 0.108 |
|---------------|-------|-------|-------|-------|-------|

Considering the 5 main research criteria, 10 branches from first-degree branches of (Tehran's) Mehr-e-Eghtesad have been presented in table 12 of the matrix of decision-making as the option, and the weight of 5 main criteria has been presented in table 12, in which computation are performed and rated using TOPSIS method and EXCEL software.

Table 13: Rating Mehr-e-Eghtesad Bank Branches Considering 5 Main Criteria Using TOPSIS

| Option | -d | +d | +d-+d | CL | Priority |
|----------------|-------|-------|-------|-------|----------|
| Tajrish | 0.065 | 0.035 | 0.100 | 0.648 | 4 |
| Markazi | 0.055 | 0.052 | 0.107 | 0.515 | 2 |
| Kashani | 0.050 | 0.071 | 0.121 | 0.413 | 10 |
| Nabovvat | 0.047 | 0.057 | 0.105 | 0.453 | 7 |
| Poonak | 0.044 | 0.055 | 0.099 | 0.442 | 6 |
| Seyyed Khandan | 0.074 | 0.030 | 0.104 | 0.708 | 1 |
| Kaj | 0.045 | 0.054 | 0.099 | 0.453 | 8 |
| Cheezar | 0.063 | 0.049 | 0.112 | 0.560 | 5 |
| Saipa | 0.050 | 0.057 | 0.108 | 0.469 | 3 |
| Vanak | 0.059 | 0.055 | 0.114 | 0.517 | 9 |

Considering the matrix of decision-making of professional experts relative to main research criteria and 10 options and TOPSIS-obtained results, branches of Seyyed Khandan, Markazi, and Saipa occupy the first, second, and third ranks with weight CL of 0/708, 0.515, and 0.469 respectively, presented in table 13.

Therefore, branches of Seyyed Khandan, Markazi, and Saipa enjoy high efficiency in terms of staff, customers, and experts.

Discussion and Conclusion:

Considering results obtained from prioritizing efficiency-influencing factors in Mehr-e-Eghtesad bank, amount of effectiveness and importance of 60 main criteria have been obtained with the method of AHP. The aspect of hardware, software, and working system has the highest importance with the relative weight of 0/306. Therefore, it has the greatest impact among the efficiency-influencing factors, followed by manpower with the relative weight of 0/239. The aspect of financial tools and attitudes occupies the last priority, with the relative weight of 0/108. Inconsistency rate of paired comparisons has been obtained to be 0/03, leading to acceptability of these comparisons due to being less than 0/10.

In the present research, totally 60 criteria related to 5 main factors have been identified in order to prioritize efficiency-influencing factors in Mehr-e-Eghtesad bank's banking using subject literature and related experts, in which prioritization of the criteria of organization and management is that the sub-criteria of strategies of organization and manager's behavioral features occupy top priorities.

Also, considering software-obtained results, the criteria of customer-specific welfare facilities and products and service targeted aims have the highest importance and occupy the first and second priorities in terms of hardware, software, and working systems. In terms of manpower aspect, sub-criteria of job security for manpower have the highest importance. Manpower education has occupied the second priority and manpower behavioral features aspect has obtained the third priority. In terms of technical factors-related sub-criteria, the sub-criteria of customers' education level and (economic, geographical, cultural, etc.) structure of the region obtained the first and second priorities. In terms of financial tools and attitudes aspect-related sub-criteria, sub-

criteria of composition of arrears, amount of resources, and composition of resources of 0 occupied the first, second, and third priorities. Considering the matrix of decision-making of professional experts relative to main research criteria and 10 first-degree branches among Mehr-e-Eghtesad bank and TOPSIS-obtained results, branches Seyyed Khandan, Markazi, and Saipa obtained the first, second, and third priorities with weights CL of 0/708, 0.515, and 0.469 respectively. It was stated at the beginning of the study that banking system efficiency is of a high importance and must be paid attention by bank's managers.

With emphasizing more important factors in the real world, banks' managers can increase their share of resources compared to other bank competitors. Of course, correct offer of facilities and close control of consumptions as the credit risk can facilitate their achievement for bank so that it doesn't incur additional costs. Bank can gain customers' attention with the help of the identified factors, which is itself a kind of advertisement in society. Considering that in this research, "customer-specific welfare facilities" factor obtained the first and "manpower job security" factor gained the second priority in improvement of efficiency in Iran's banking system and since based on other studies done in the area of customers and relations with banks, it shows that competition in Iran's banks has become more and more serious and that customers' needs and demands will become greater and more sensitive, in which banks must attempt to gain further competitive and facilitative advantages for customers. It should be noted that the results of the present study regarding key efficiency-influencing factors and obtained priorities are consistent with results obtained from similar domestic and foreign studies – some of which were briefly mentioned in sections of theoretical basics and research literature – to a great extent.

Research Suggestions:

1. Equipping banks with online banking, electronic banking technology including ATM machines, Pin Pad and internal and external networks, and high-speed data transmission lines
2. Culture-building and encouraging customers to use modern and electronic services in order to reduce personal visiting
3. It is recommended to use stable and low-risk composition in the light of one's resources
4. Bank's managers are recommended to promote their employees in terms of skill and experience through enriching jobs
5. Having a strategic and operational program and specified aims
6. It is recommended to use modern marketing methods in the process of products and services' marketing
7. It is recommended to move away from traditional methods and toward modern methods in performance evaluation
8. Bank is recommended to study and set world standards as its example in paying salaries and welfare facilities to employees
9. Bank is recommended to evaluate the workload of branches' employees and the number of branches' employees during an ergonomic and scientific program.

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