



Assessment of Organizational Excellence Based on Analytical Hierarchy Process (AHP) Emphasizing on the Development of Bank Shahr Economic Capabilities

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Abstract: Applying organizational excellence models has been effective on assessment of organization's performance in order to identify strengths, weaknesses, and organizations' achievement to better quality and performance. Organizational excellence is subject to certain conditions, culture, internal and external environment, characteristics of organization's human force, strengths, weaknesses, opportunities, and threats that covered the organization. In this regard, identification the path of organizational excellence leads to organization's development and success. This research aims to assess organizational excellence of Bank Shahr based on EFQM Excellence Model by using the analytic hierarchy process (AHP). This research is descriptive, field survey, and cross-sectional addressing to assess organizational excellence of Bank Shahr from perspective of Tehran branches' managers in 2014. Statistical population includes 193 branch managers of Bank Shahr in 2014. 100 of them were selected as sample by using Cochran formula with simple random sampling. Data were collected through researcher-made questionnaire according to the Analytical Hierarchy Process (AHP) and taken from the competence criteria of the European Foundation for Quality Management (EFQM) model. The validity was confirmed by professors and experts' opinion and its reliability was confirmed by Cronbach's alpha. To analyze data collection, AHP was used. According to the model's criteria weight, the results indicated that the highest rank is related to strategy and policy-making, and the lowest one is related to business results at Bank Shahr.

Keywords: assessment, organizational excellence, Bank Shahr, AHP, EFQM

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1- Introduction

In the last few decades, the business environment and customer services have become so competitive that organizations, for their survival, have to look at environmental changes rather than focus on the components of the organization, evaluate and compare themselves with successful organizations. Organizational excellence models have become increasingly important as a framework for evaluating performance and measuring the success of organizations in deploying new management systems and total quality management. These models, as a common language, are used to compare performance and the success of organizations, and in this regard, they are the basis for designing awards that are granted to top organizations in advanced industrialized and developing countries. These models, as a comprehensive tool with an all-inclusive approach to all angles of organizations, help managers to realize their organizations more accurately. These models enable an organization to assess their success rate in executing their programs at different times (Hemsworth, 2016).

Transcendental organizations, through the application of organizational excellence criteria, move towards excellence as a framework for managing their organizations, which covers all aspects, and emphasizes the central concepts of organizational excellence in a space that is based on the principles of the value of organizational excellence.

According to these organizations, achievement to sustainable goals depends on implementing approaches that are integrated and continuously improved within the framework of organizational excellence criteria. The expansion of the culture of organizational excellence, and

managers' interest in continuous improvement have led to an increase in demand for the deployment of excellence systems (Najmi, 2010).

Achieving organizational excellence requires the use and implementation of a model and a suitable method for excellence and the creation of a mechanism and its evaluation.

An organization that wants to achieve world-class production should adopt an assessment method that enables it to understand its position than other organizations (competitors), in addition to recognize the status quo, because the presumption of competition in the global arena is to find out the organization with its differences and distances compared to its rivals (Farahi Yazdi, 2009).

One of the important criteria in evaluating organizational excellence models is organizational managers. In fact, the leaders of the organization try to move towards excellence in an integrated system with goals consistent with their strategic goals, defining and implementing the appropriate approaches and processes.

According to the stated issues, the present study seeks to evaluate Bank Shahr organizational excellence based on EFQM model with Analytical Hierarchical Model. In this regard, the following research questions are raised:

1. What is the ranking of the nine EFQM criteria in Bank Shahr, according to the views of Tehran branch managers?
2. What is the ranking of each of the EFQM sub-criteria separately in Bank Shahr, according to the views of Tehran branch managers?

2- Literature Review

Zakirshahrak & Abazari (2012) in a study entitled "Performance Evaluation of

Institute for the Intellectual Development of Children and Young Adults in Iran, using EFQM Model and the proposed model for the creation of the International Children's and Young Adults' Library" found that Institute for the Intellectual Development of Children and Young Adults earned a score of 278.15 out of a total of 1,000 points. By providing the necessary measures, there is the possibility of establishing an international children's and adolescent library in Iran.

Abdollahi & Ansari Jaber (2013) in a research entitled "Evaluation of the Center for Teacher Training and Professional and Technical Research Based on the Excellence Model of the European Quality Management Foundation (EFQM)" stated that all of the criteria of enablers were estimated at the desired level, and the total score of the training center's instructor, out of 500 points in the enabled field, was equal to 252.17.

Moeller & Sonntag (2001) in a study entitled "Assessing American Health Services Organizations" reported the results of performance evaluation as follows: leadership 58%, policymaking 45%, staff 40%, resources 69%, processes 44%, customer results 55%, staff results 46%, community results 63%, and key performance results 35%.

Zárraga-Rodríguez & Álvarez (2014) in a study entitled "Does the EFQM model identify and enhance the capabilities of using information in an organization?" concluded that the quality of information is directly affected by the results and a company can rely on the quality of information that has the capacity and ability to use information. The deployment of the TQM¹ model and, in addition, the

EFQM model in an organization can strengthen the capacity to use organizational information.

Cartmell et al., (2011) in a study entitled "The Transformational Leadership Division (how can EFQM excellence model be used effectively in education?") concluded that there is a positive relationship between the use of the EFQM model in the education sector and the improvement of the financial situation. The use of the model has led to a balance of stakeholder expectations and improved processes.

Calvo-Mora et al., (2015), in a study entitled "Improving Knowledge Management and Key Business Results through the EFQM Excellence Model" said that the use of process methodology and intervention by suppliers and partners are among the key factors for deploying knowledge management and have a significant impact on key business results.

3- Theoretical Framework

Excellence, in words; means getting up and becoming superior and organizational excellence means organizational commitment to sustained and continuous development of the organization for customer satisfaction and continuously increase the profitability of the organization in a comprehensive and supportive national environment (Nakhaejad, 2006). Many models have been introduced to assess organizational excellence that among them, the following models are more important and more useful than other models:

- Deming Excellence Model (Japanese model)
- Malcolm Baldridge Excellence Model (American Model)
- Excellence Model of European Foundation Quality Management (EFQM) (European model)

¹- Total Quality Management

The European Foundation Quality Management (EFQM) Excellence Model is an organizational excellence assessment framework and model that directs continuous improvement activities in the organization and it is an approach to deploy a Total Quality Management (Asgher et al., 2015). This model is a key tool that can successfully be used to improve the quality in organizations (Abdollahi and Ansari Jaber, 2013). One of the approaches that are used to meet customer expectations and it transfer to the design process or presenting services is extension the function of service quality and move toward excellence (Chen & Kom, 2008).

The fundamental concepts of the EFQM 2014 model are:

Adding Value for Customers: Excellent organizations consistently add value for customers by understanding, anticipating and fulfilling needs, expectations and opportunities.

Creating a Sustainable Future: Excellent organizations have a positive impact on the world around them by enhancing their performance whilst simultaneously advancing the economic, environmental and social conditions within the communities they touch.

Developing Organizational Capability: Excellent organizations enhance their capabilities by effectively managing change within and beyond the organizational boundaries.

Harnessing Creativity & Innovation: Excellent organizations generate increased value and levels of performance through continual improvement and systematic innovation by harnessing the creativity of their stakeholders.

Leading with Vision, Inspiration & Integrity: Excellent organizations have leaders who shape the future and make it

happen, acting as role models for its values and ethics.

Managing With Agility: Excellent organizations are widely recognized for their ability to identify and respond effectively and efficiently to opportunities and threats.

Succeeding Through the Talent of People: Excellent organizations value their people and create a culture of empowerment for the achievement of both organizational and personal goals.

Sustaining Outstanding Results: Excellent organizations achieve sustained outstanding results that meet both the short and long term needs of all their stakeholders, within the context of their operating environment (Ezzabadi et al., 2015).

The philosophy of the EFQM Excellence model is based on the eight-dimensional concepts of universal quality management, which are:

1- Result- oriented 2- Customer-oriented 3- Leadership and consistency in the destination 4- Process-based management and reality 5- Employee development and participation 6- Learning, innovation and continuous improvement 7- Partnerships development 8- Social responsibility (Cartmell et al. 2011).

The EFQM model consists of nine domains that five areas are related to the approaches that create the company's capabilities and they are called enablers and four other areas are related to examining the results of using enablers in organizations that refer to the results. The field of leadership has four criteria and each of the areas of policy, staffing, resources and processes has five criteria, and each of the areas of customer results, employee results, community results, and business results has two criteria. That means thirty-two criteria. In addition, in

each of these criteria, the points to be considered are well-defined (Hakes, 2007).

The following table shows the EFQM's nine criteria and each of its sub-criteria:

Table1. EFQM Ninth criteria and each of its sub-criteria

Row	Main Criteria	Sub-criteria
1	Leadership	Providing the values that create the culture of organizational excellence
2		Management's participation
3		Motivating support and identity for organization staff
4		Identifying organizational changes and their leadership
5	Strategy	Establishing the basic policy of the current and future needs of the organization's stakeholders
6		Creating a policy based on performance measurement, research, learning, creativity
7		Review and update policy and strategy continually
8		Applying policy and strategy within the framework of key processes
9		Applying policy and strategy and their relevance
10	People	Planning, managing and improving human resources
11		Defining skills and competencies of employee and developing and maintaining them
12		Participation and Enhancement employee
13		Dialogue and bilateral relationship between organization and strategy employee
14		Paying attention to staff and rewarding them
15	Process	Systematic management of process design
16		Improve processes if needed and innovate for complete satisfaction and increase the value added of customers
17		Design and development of products and services based on customer needs and expectations
18		Transportation and service of the company's products and services
19		Customers relationships management and strengthening them
20	Partnerships & Resources	Managing external partnerships
21		Financial resources management
22		Management of buildings, equipment and materials
23		Technology management
24		Information and knowledge management
25	Customer Results	Perceptual Scales (Organizational Image, Communication, Recognition, Flexibility, etc.)
26		Performance indicators (loyalty and integrity, competitiveness, complaints handling, response rates, etc.).
27	People Results	Performance indicators (loyalty and integrity, competitiveness, complaints handling, response rates, etc.).
28		Performance measurement indicators related to achievements, motivation and participation, satisfaction, and services provided for the personnel of the organization
29	Society Results	Perceived Scales (Effect on Economics, Participation in Education, etc).
30		Performance Indicators as a responsible citizen, partnership with local communities and groups, reducing or preventing damage caused by processes or product life cycle, declaring environmental activities and maintaining resources
31	Business Results	Key performance achievements in relation to financial, non-financial achievements
32		Performance measurement indicators related to processes, external resources and partnerships, financial, buildings, equipment and materials, technology and information

4- Research Method

The present study is descriptive, field-cross-sectional, and applied that studies the evaluation of organizational excellence in Bank Shahr from the point of Tehran city branch managers in 2014. The research population is 139 managers of Bank Shahr branches in 2014. 100

people were selected randomly by using Cochran's formula. To collect data, a researcher-made questionnaire was used based on AHP. The questionnaire is provided in 10 parts, which 9 parts are related to the pair comparison of the sub criteria of each EFQM criteria and its last part, the pair own comparison is the EFQM's

nine criteria with each other. For example, about the leadership criterion, that includes four sub-criteria, six questions for the paired comparison of the subcategories have been developed. In this method, for each n , there is $n(n-1)/2$

is compared. Expert Choice software was also used to perform calculations.

For example, we design question one as follows:

In your opinion, in the leadership criterion, which of its sub-criteria is more important than the other sub-criteria?

Table 2. Paired Comparison of Leadership's sub criteria

Providing the values that create the culture of organizational excellence	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Management participation
Providing the values that create the culture of organizational excellence	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Providing the values that create the culture of organizational excellence
Providing the values that create the culture of organizational excellence	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Identifying organizational changes and their leadership
Management participation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Motivating support and identifying organization staff
Management participation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Identifying organizational changes and their leadership
Motivating support and identifying organization staff	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Identifying organizational changes and their leadership

In this table, numbers 1 to 9 are as follows:

1	2	3	4	5	6	7	8	9
The same preference	The same to fairly preferred	Fairly preferred	Fairly to strongly preferred	Strongly preferred	Strongly to very strongly preferred	Very strongly preferred	Very strongly to infinite preferred	Infinite preferred

5-Research Findings

Measuring the Importance (Weight) of the EFQM Criteria

To assess organizational excellence in each of the criteria, it is based on the AHP structure. At first, the importance

(weight) of the criteria for excellence is determined. This action will be done, by comparing detailed factors in each criterion to excellence criteria at a higher level in a pair, on an hourly basis and hierarchical. Managers who are responsible

for comparisons must have the specialized and empirical competencies and with understanding and mastering organizational goals and strategies, and they have the

ability to recognize the instances of these goals in the determined criteria.

The hierarchy tree that evaluates determined competencies will be in Fig. 1:

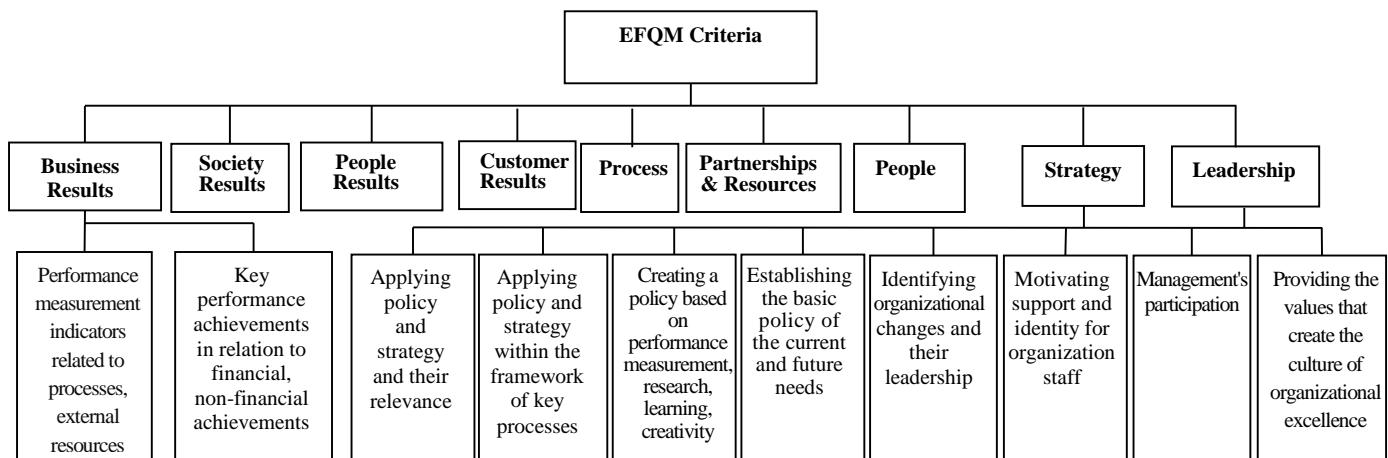


Fig.1. Hierarchy tree for evaluation of the ninth EFQM criteria

At the lowest level of the graph, first, the degree (weight) of importance of each of subsets of excellence criteria is determined. For this purpose, a pairwise matrix is constructed for each of the higher-level criteria and evaluators are asked to

determine the relative priority of the subsets of the criteria in the spectrum of the clock. Examples of the paired comparison matrix of the subsets of the leadership criterion are listed in Table 3:

Table3. The Matrix of Paired Comparison of the Sub-Sets of Leadership Criteria in the AHP Method

Factors	Providing the values that create the culture of organizational excellence	Management participation	Motivating support and identity for organization staff	Identifying organizational changes and their leadership
Providing the values that create the culture of organizational excellence	1	5	7	8
Management's participation	0.20	1	4	5
Motivating support and identity for organization staff	0.14	0.25	1	6
Identifying organizational changes and their leadership	0.125	0.20	0.17	1

In Table 3, number 5 that is at the intersection of the row providing the values and creating the culture of organizational

excellence and the column of the management participation, shows that the sub criteria of providing the values that create the

culture of organizational excellence is five times more than management participation from the point of the managers of Bank Shahr branches. Hence, mutually, the priority of the management participation in the provision of providing the values that create the culture of organizational excellence is 1.5, i.e. 0.20.

To normalize the matrix, each of the elements in the paired matrix columns are divided by the sum of that column or by the maximal number in that column that the result of this action in the sample matrix presented in Table 4 is given by dividing each column into the sum of that column.

Table4. AHP Normal Matrix for Subsidiary Leadership Criteria

Factors	Providing the values that create the culture of organizational excellence	Management participation	Motivating support and identity for organization staff	Identifying organizational changes and their leadership
Providing the values that create the culture of organizational excellence	0.683	0.775	0.575	0.4
Management participation	0.137	0.155	0.329	0.25
Motivating support and identifying for organization staff	0.096	0.039	0.082	0.3
Identifying organizational changes and their leadership	0.085	0.031	0.014	0.05

Now, if the rows of normal matrix are averaged, the numbers obtained represent the weights of the rows (the factors studied in the pairwise matrix).

The calculated weights for the leadership criteria are as Table 5:

Table5. Calculated weights for sub criteria of leadership

Sub criteria	Weight
Providing the values that create the culture of organizational excellence	$(0.4+0.575+0.775)/3=0.683$
Management participation	0.218
Motivating support and identity for organization staff	0.129
Identifying organizational changes and their leadership	0.045
Total	1

Similarly, we perform the above operations for the following sub criteria of each of the EFQM criteria: strategy, staff, resources and partners, processes, customer

results, employee results, community results and business results and we obtain the weight of each of the sub-criteria.

The results are presented in Table 6:

Table6. Calculated weights for all EFQM sub criteria

Main Criteria	Sub-criteria	Weight
Strategy	Establishing the basic policy of the current and future needs of the organization's stakeholders	0.192
	Creating a policy based on performance measurement, research, learning, creativity	0.342
	Review and update policy and strategy continually	0.307
	Applying policy and strategy within the framework of key processes	0.109
	Applying policy and strategy and their relevance	0.05
People	Planning, managing and improving human resources	0.442
	Defining skills and competencies of employee and developing and maintaining them	0.207
	Participation and Enhancement employee	0.105
	Dialogue and bilateral relationship between organization and strategy employee	0.156
	Paying attention to staff and rewarding them	0.09
Process	Systematic management of process design	0.265
	Improving processes if needed and innovate for complete satisfaction and increase the value added of customers	0.205
	Designing and development of products and services based on customer needs and expectations	0.188
	Transportation and service of the company's products and services	0.133
	customers relationships management and strengthening them	0.209
Partnerships & Resources	Manage external partnerships	0.147
	Financial resources management	0.102
	Management of buildings, equipment and materials	0.196
	Technology management	0.257
	Information and knowledge management	0.298
Customer Results	Perceptual Scales (Organizational Image, Communication, Recognition, Flexibility, etc.)	0.322
	Performance indicators (loyalty and integrity, competitiveness, complaints handling, response rates, etc).	0.678
People Results	Performance indicators (loyalty and integrity, competitiveness, complaints handling, response rates, etc).	0.608
	Performance measurement indicators related to achievements, motivation and participation, satisfaction, and services provided for the personnel of the organization	0.392
Society Results	Perceived Scales (Effect on Economics, Participation in Education, etc).	0.567
	Performance Indicators as a responsible citizen, partnership with local communities and groups, reducing or preventing damage caused by processes or product life cycle, declaring environmental activities and maintaining resources	0.433
Business Results	Key performance achievements in relation to financial, non-financial achievements	0.597
	Performance measurement indicators related to processes, external resources and partnerships, financial, buildings, equipment and materials, technology and information	0.403

Then, at a higher level, the criteria of excellence are compared in pairs and weighed. This action has been taken for

nine EFQM criteria and the result of the paired comparison is presented in Table 7:

Table 7. Pair Comparison Matrix of the EFQM Ninth Criteria from the Viewpoint of Bank Shahr Branch Managers

Criteria	Leadership	Strategy	People	Partnerships & Resources	Processes	Customer Results	People Results	Society Results	Business Results
Leadership	1	0.5	4	6	3	5	7	9	8
Strategy	2	1	5	7	4	6	8	9	9
People	0.25	0.2	1	5	0.33	4	1	6	6
Partnerships & Resources	0.17	0.14	0.2	1	0.2	0.33	2	3	2
Processes	0.33	0.25	3	5	1	4	6	8	7
Customer Results	0.2	0.17	0.25	3	0.25	1	2	3	3
People Results	0.14	0.125	1	0.5	0.17	0.5	1	2	2
Society Results	0.11	0.11	0.17	0.33	0.125	0.33	0.5	1	2
Business Results	0.125	0.11	0.17	0.5	0.14	0.33	0.5	0.5	1

After gaining assurance of the compatibility of the pairwise comparisons, and in order to extract the weights the

normal matrix is obtained associated with the pairwise matrix, as previously described.

Table 8. Normal matrix and final weights of EFQM criteria

Criteria	Leadership	Strategy	People	Partnerships & Resources	Processes	Customer Results	People Results	Society Results	Business Results	Total Weight
Leadership	0.23	0.19	0.27	0.21	0.33	0.23	0.25	0.21	0.21	0.24
Strategy	0.46	0.38	0.34	0.25	0.43	0.28	0.29	0.21	0.23	0.32
People	0.06	0.08	0.07	0.18	0.04	0.19	0.04	0.14	0.16	0.11
Partnerships & Resources	0.04	0.05	0.01	0.04	0.02	0.02	0.07	0.07	0.05	0.04
Processes	0.08	0.10	0.20	0.18	0.11	0.19	0.21	0.19	0.18	0.16
Customer Results	0.05	0.07	0.02	0.11	0.03	0.05	0.07	0.07	0.08	0.09
People Results	0.03	0.05	0.07	0.02	0.02	0.02	0.04	0.05	0.05	0.04
Society Results	0.03	0.04	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03
Business Results	0.03	0.04	0.01	0.02	0.02	0.02	0.02	0.05	0.01	0.02

Considering the weights obtained in Table 8, the assessment of Bank Shahr organizational excellence in each of the

ninth EFQM criteria, from the viewpoint of its managers in priority order, is presented in Table 9:

Table9. Prioritizing the Ninth EFQM Criteria from the Viewpoint of Tehran City Branch Managers

Priority	Criteria	Weight
1	Strategy	0.32
2	Leadership	0.24
3	Processes	0.16
4	People	0.11
5	Customer Results	0.09
6	Partnerships & Resources	0.04
7	People Results	0.04
8	Society Results	0.03
9	Business Results	0.02

6- Conclusion and Discussion

According to the findings of the research, it can be concluded that among the nine criteria of EFQM, Bank Shahr should focus more on business results and pay more attention to its results. In other words, the bank should pay more attention to performance indicators related to processes, external resources and partnerships, finance, buildings, equipment and materials, technology and information.

According to the findings of the research, among the nine criteria of the EFQM, the indicators of policy and strategy are at the highest level, which is in line with the findings of Iqbal et.al. (2009). It represents that Bank Shahr has determined its strategy based on the needs and organization's present and future expectations, and information derived from measuring performance. Moreover, reviewing and updating policies and strategies continually, and applying them are done in key processes of the bank. Leadership criterion ranked the second in Bank Shahr. According to the prioritization, it was specified that respectively providing and developing the values that create the

culture of organizational excellence in Bank Shahr, leadership participation in strategy formulation, motivating support and identity for organization staff, and identifying organizational changes and their leadership be done by Bank's senior managers.

In this regard, the actions taken by Bank Shahr in viewpoint of the managers of the branches and the results of the research are:

- Bank Shahr uses extensive and appropriate data and inputs to formulate its strategy and these inputs include performance of internal processes, suppliers' performance, requirements, and customer satisfaction.

- The Bank's strategic goals and values are fully supported by policies, plans, intentions and resource allocation and high-level organizational goals and objectives are feasible, reasonable and realistic.

- Bank Shahr has the ability to recognize the timing of changing the strategies, policies and proposals.

- Given the results, it is clear that Shahr Bank is more concerned with the

infrastructure of the enablers area than the field of results.

Finally, in order to achieve a better quality, the following measures are recommended:

- Staff surveys to measure employee satisfaction with organizational performance
- Much attention to skills, abilities, needs and demands of human resources
- Much attention to the maintenance of human resources and efforts to convert them into human capital
- Much attention to the organization's welfare for employees
- Much attention to providing conditions for employee creativity and deployment of creativity management
- Evaluation of organizational activities based on comparison of actual performance with planned performance
- Evaluating employee performance continuously
- Much attention to the existence of justice and equality among employees
- Much attention to providing conditions attention to staff training and improvement
- Much attention to the management of staff order and deployment according to their skills and competencies
- Much attention to talent management in the organization
- Much attention to the use of knowledge management in the organization
- Conducting ongoing training need-assessment for staff for their continuous improvement
- Supporting and emphasizing senior managers through their deeds and practical actions, towards organizational values
- Familiarizing employees with organizational goals related to their activities

- Developing a strategy based on the participation of all employees in continuous improvement

- Creating a common method to assure developing the use of alternative and new technologies by staff

- Continuous improvement of processes based on the identification of opportunities and needs through the analysis of operational data and benchmark organizations

7- References

Abdollahi, B., & Ansari Jaberi, M. (2013). Evaluation of the training center for technical and professional instructors based on the organizational excellence model of the European Quality Management Foundation (EFQM). *Quarterly Journal of Teaching. Technical Education Organization*, 1(3), 53-67.

Amblard, M. (2013). *EFQM Excellence Awards 2013*. EFQM Recognition Book 2013.

Asgher, U., Leba, M., Ionică, A., Moraru, R.I., & Ahmad, R. (2015). Human factors in the context of excellence models: European Foundation for Quality Management (EFQM) excellence software model and cross-cultural analysis. *Procedia Manufacturing*, 3, 3948-3954.

Calvo-Mora, A., Navarro-García, A., & Periañez-Cristobal, R. (2015). Project to improve knowledge management and key business results through the EFQM excellence model. *International Journal of Project Management*, 33(8), 1638-1651.

Cartmell, J., Binsardi, B., & McLean, A. (2011). Sector-wide transformational leadership—how effectively is the EFQM Excellence Model used in the UK FE sector?. *Research in Post-Compulsory Education*, 16(2), 189-214.

Chen, L.H., & Kom, W.C. (2008). Fuzzy linear programming models for new product design using QFD with FMEA, *Applied Mathematical Modeling*, 31(5), 46-58.

Ezzabadi, J.H., Saryazdi, M.D &, Mostafaeipour, A. (2015). Implementing Fuzzy Logic

and AHP into the EFQM model for performance improvement: A case study. *Applied Soft Computing*, 36, 165-176.

Farahi Yazdi, F. (2009). Excellence Model: An Organizational Measurement Tool. *Exploration and Production Monthly*, No. 66.

Faraj Pahloo, A., & Alashchik, S. S. (2009). Assessing the quality of library management in Shahid Chamran University of Ahvaz using the EFQM model. *Library and Information Science*, No. 45. 31- 48.

Faraji, R., & Poursalatani, H. (2011). Evaluation of the performance of all physical education departments of Iranian provinces based on the EFQM model. *Sports Management Studies Journal*, 8(9), 177- 192.

FathiVajargah, K., Mohammad Hadi, F. (2013). *Principles of Quality Management in Education and Human Resource Improvement*. Tehran: Aijizh Publishing.

Fathi, M., Hosseini Quidditch, S. A., Kazemini, N., & Yousefian, Sh. (2013). Assessing the performance of the Deputy Directorate for Management Development and Resources (Support) of the Iranian Medical Sciences Universities based on the EFQM Model, *Medicine and Cultivation*, 22(1), 17 - 24.

Fisher ,Matt. (2011). *Introducing the EFQM Excellence Model*. Publisher: Kindle. 10-100.

Hakes, C. (2007). *The EFQM Excellence model for assessing organizational performance*. Van Haren.

Hemsworth, D. (2016). An Empirical Assessment Of The EFQM Excellence Model In Purchasing. *The International Business & Economics Research Journal*, 15(4), 127.

Moeller, J., & Sonntag, A. K. (2001). Evaluation of health services organisations-German experiences with the EFQM excellence approach in healthcare. *The TQM Magazine*, 13(5), 361-367.

Najmi, M. (2010). *EFQM Award Model 2010*, Second Edition, Tehran: Saramad Publication.

Nikhinejad, M. (2006). An overview of the concepts and ways of organizational excellence in the police force. *Monthly Police Human Development*. No. 12.

Zakershahrak, M., & Abazari, Z. (2012). Evaluating the Performance of the Center for Intellectual Development of Children and Adolescents in Iran using the European Quality Foundation (EFQM) and proposing a model for the creation of the International Children's and Young Libraries. *Academic Library and Information Research*, 59(2), 129-149.

Zárraga-Rodríguez, M., & Álvarez, M. J. (2014). Does the EFQM model identify and reinforce information capability?. *Procedia-Social and Behavioral Sciences*, vol.109, 716-721.