

STUDYING PERFORMANCE OF WATER AND WASTEWATER COMPANY USING THE APPROACH OF EFQM EXCELLENCE MODEL IN GUILAN PROVINCE-IRAN

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Abstract

Models of excellence focusing on quality of production (goods and services) and the participation of all members of the organization can gain customer satisfaction and provide stakeholder interests and at the same time encouraging and promoting individual and organizational learning by relying on creativity and innovation. This study is investigated descriptively and data collection is done through field and questionnaire is used as data gathering tool. The statistical population, an urban water and sewage company employee in Guilan- Iran, who served on the company or uses its services and sample size is obtained 174 persons. Pearson correlation and regression is used to analyze hypotheses using software SPSS. The results of the analysis in part of enablers showed that there is a positive correlation between the leadership criterion and company performance. Also there is relatively high positive correlation between criteria of human resources and strategy with company performance. There is middle positive correlation between criteria of partnerships and resources and company performance. Also there is middle positive correlation between process criteria and company performance. Also in part of results is approved that there is middle positive correlation between criterion of customer results and company performance. There is middle positive correlation between criteria of human resources results and company performance. There is high positive correlation between criteria of society results and company performance. There is high positive correlation between criteria of key results and company performance.

Keywords: Global Trade, Wealth, Self-Assessment, EFQM, Organizational Excellence, Excellence Organization, Excellence Model, Excellence Model, Quality Award

1- Introduction

Managing organization and management was introduced in primary form when human began a group life to obtain food by hunting and also the provision of housing and defend against enemies. Establishment of the pyramids in ancient Egypt, which is one of the wonders of the universe, is a sign of management, planning, organizing and controlling. Ancient Iranians also have considered the management and organization. Achaemenid king Cyrus considered the great importance for planning. Romans managed wide realm of Great Britain to Syria and much of Europe and all of North Africa. With all meanwhile in ancient times management has been in stage of experience by trial and error and not complying with the special theory.

Meanwhile first, there's just the idea of management, however has been unprocessed (Irannejad Parizi & Sasangohar, 2003:27-29).

Executive management can be providing the latest and the most acceptable methods in the management of executive organizations and services and organizations connected with trade. This organization can be a very small collection or a company very wide and long. Today's prime need of family of six billion people on earth is air, water. Given the limited resources of fresh, water may one day be more valuable than gold. Interestingly, only 2.5% percent of earth's water is fresh water that 68.9% of it is as bulk ice in the polar refrigerators and permanent snow cover in mountainous areas and 30.8% of them are very deep groundwater and flows less than 3.0% in freshwater lakes, rivers, streams and other surface. Means earthlings can drink the vital fluid around themselves after performing various functions and saving cost a lot (Unesloo, 2009:2-3).

2. Statement of Problem

Performance evaluation system of companies is one of the main pillars of the planning process in order to improve activities. (Gilaninia & et al, 2011) Design and management of performance measurement and evaluation system is one of the main concerns of company strategic planning. For main companies, specialization is necessary that constantly monitor and control performance of their subsidiary companies to find which companies are properly following the improvement activities?

In recent years, total quality management (TQM) is adopted and used as new thinking in the management of many companies in the country. In most cases, ministry of energy, along with some of the ministries, industries such as steel industry, the oil industry and ... has been a pioneer in utilizing these new methods of management (Gilaninia & et al, 2012a). Since the concepts and principles of total quality management as well as other management thinking has some ambiguities in relation to the operation of these principles, experts and various companies tried to prepare and submit these concepts and principles in such a way that deploy, measure and evaluate to easily. (Gilaninia ,2012b) In this way, it can cite to tries of Edward Deming in Japanese companies and Malcolm Baldrige in US companies. All of these individuals and companies try to implement the principles and concepts of TQM in their companies and this is beginning for (Business Excellence Models) of organizations (Najmi & Hosseini, 2003:12). European companies in order to emulate the Japanese and American companies in 1991 provided a model for excellence of companies and industry organizations. This model was presented by executive directors of 14 excellences Company in Europeans as a model for implementation of total quality management (TQM) and with title of European Foundation for Quality Management (EFQM). EFQM model due to the comprehensiveness and simplicity in understanding the principles of total quality management was accepted in speed in many European and non-European companies. In this way the EFQM (based on TQM) addresses all the aspects of an organization and both parts of the organization and as a whole (Asgher & et al, 2015). In Iran, this model was introduced after acting institute of productivity and human resources in 2004 as a model for implementing the concepts and principles of total quality management by the ministry of industry and mine at the national level (National Productivity Award and Organizational Excellence) (Najmi & Hosseini,2003:8). To correct assessment, and due to the lack of efficacy evaluation scheme used, ministry of energy also decided to implement a quality system establishment and continuation of Business Excellence Model (EFQM) in subsidiaries and affiliates (urban and rural water and sanitation and...).

3. EFQM Model

The nine EFQM model criteria are analyzed below based on international literature (Anastasiadou & et al, 2015); five criteria have been named as "Enabler" (criteria of leadership, policy and strategy, people, partnership and resources and processes) and four criteria "results" (criteria of customer results, people results, society results and key results of performance). Enabler criteria indicate how act of organizations and results criteria focus on organizational results and how measuring and goal setting them.

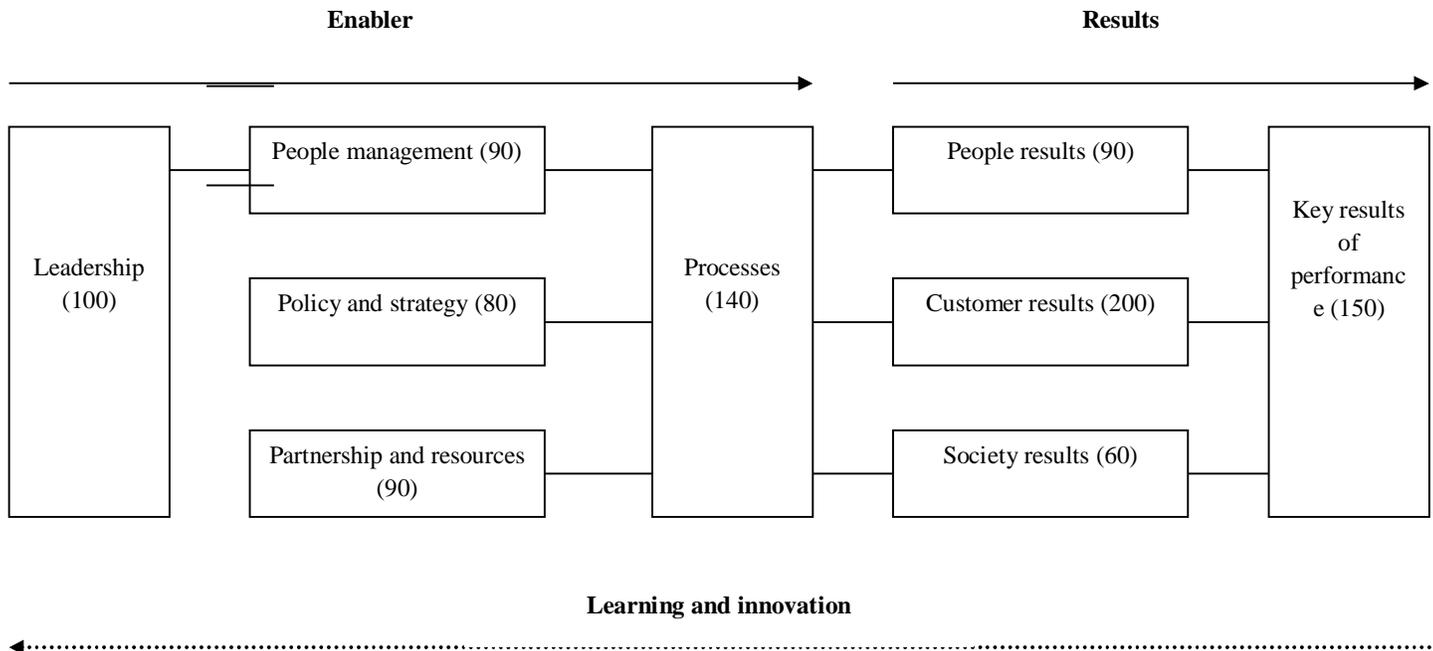


Figure 1. EFQM model view

Require to a model for organizational excellence: organizational excellence models are a tool to help organizations to measure having on the path of the organizational excellence and balanced growth. These models help organizations identify differences by comparing their desired and current situation and then based on these differences (effects) and to explore their causes explain solutions optimizing current situation and implement them (Amirian, 2004).

4. Research Hypotheses

4-1. Enabler

- 4-1-1. there is a relationship between the leadership criterion and company performance.
- 4-1-2. there is a relationship between the strategy criteria and company performance.
- 4-1-3. there is a relationship between criteria of human resources and company performance.
- 4-1-4. there is a relationship between partnerships criteria and resources with company performance.
- 4-1-5. there is a relationship between process criteria and company performance.

4-2-Results

- 4-2-1. there is a relationship between criteria of customer results and company performance.

4-2-2. there is a relationship between criteria of human resources results and company performance.

4-2-3. there is a relationship between criteria of society results and company performance.

4-2-4. there is a relationship between criteria of key results and company performance.

5. Research Methodology

This study in term of objective is applied and its method is descriptive. Data collection is done through field and questionnaire is used as data gathering tool. The statistical population, an urban water and sewage company employee in Guilan- Iran, who served on the company or uses its services. Sampling method has been cluster and random sampling. Sample size is obtained 174 persons. Pearson correlation and regression is used to analyze hypotheses using software spss.

6. Data Analysis

6.1. Enabler hypotheses:

First hypothesis: There is a relationship between the leadership criterion and company performance.

Table 1: Correlation between the leadership criterion and company performance

Variables	Number	Pearson's correlation coefficient	Sig
leadership criterion and company performance	174	0.503	0.000

It can be said with 99% confidence that there is a positive correlation between the leadership criterion and company performance.

Second hypothesis: There is a relationship between the strategy criteria and company performance.

Table 2: Correlation between the strategy criteria and company performance

Variables	Number	Pearson's correlation coefficient	Sig
strategy criteria and company performance	174	0.641	0.000

It can be said with 99% confidence that there is relatively high positive correlation between the strategy criteria and company performance.

Third hypothesis: There is a relationship between criteria of human resources and company performance.

Table 3: Correlation between criteria of human resources and company performance

Variables	Number	Pearson's correlation coefficient	Sig
criteria of human resources and company performance	174	0.599	0.000

It can be said with 99% confidence that there is relatively high positive correlation between criteria of human resources and company performance.

Fourth hypothesis: There is a relationship between criteria of partnerships and resources with company performance.

Table 4: Correlation between criteria of partnerships and resources with company performance

Variables	Number	Pearson's correlation coefficient	Sig
criteria of Partnerships and resources and company performance	174	0.576	0.000

It can be said with 99% confidence that there is middle positive correlation between criteria of partnerships and resources and company performance.

Fifth hypothesis- There is a relationship between process criteria and company performance.

Table 5: Correlation between process criteria and company performance

Variables	Number	Pearson's correlation coefficient	Sig
process criteria and company performance	174	0.565	0.000

It can be said with 99% confidence that there is middle positive correlation between process criteria and company performance.

Multiple regression of enabler measures with company performance

Table 6: Descriptive indicators of multiple correlation coefficients

Equation	R	R ²	Adjusted R Square	Standard error of the estimate
1	0.641 ^a	0.410	0.407	0.5195
2	0.666 ^b	0.444	0.437	0.5061
3	0.678 ^c	0.459	0.450	0.5003

In multiple regression equation, enabler's criteria sets can predict in about 46% of changes in company performance.

Table 7: The results of analysis of variance Fisher (F) multiple correlation coefficient

Equation		sum of squares	df	Mean square	F	sig
1	regression	32.321	1	32.321	119.743	0.000 ^a
	Residual	46.426	172	0.270		
	total	78.747	173			
2	regression	34.955	2	17.477	68.245	0.000 ^b
	Residual	43.793	171	0.256		
	total	78.747	173			
3	regression	36.174	3	12.058	48.149	0.000 ^c
	Residual	42.573	170	0.250		
	total	78.747	173			

ANOVA test showed that the multi- R^2 is significant and there is a linear relationship between the variables.

Table 8: Correlation coefficient of standard and nonstandard for variables

Equation		Unstandardized Coefficients		Standardized Coefficients	t	sig
		B	standard error	Beta		
1	Constant	0.802	0.152		5.261	0.000
	Strategy Criteria	0.818	0.075	0.641	10.943	0.000
2	Constant	0.643	0.156		4.111	0.000
	Strategy Criteria	0.558	0.109	0.437	5.115	0.000
	Human resource Criteria	0.347	0.108	0.274	3.207	0.002
3	Constant	0.577	0.158		3.663	0.000
	Strategy Criteria	0.422	0.124	0.330	3.395	0.001
	Human resource Criteria	0.298	0.109	0.235	2.730	0.007
	Criteria of partnerships and resources	0.207	0.094	0.186	2.207	0.029

Strategy criterion, human resources criterion, criterion of partnerships and resources remain in the final model predicted based on multiple regression equation, among criterions of enablers.

6-2. Results Hypotheses:

First hypothesis: there is a relationship between criteria of customer results and company performance.

Table 9: Correlation between criterion of customer results and company performance

Variables	Number	Pearson's correlation coefficient	Sig
Criterion of customer results and company performance	174	0.451	0.000

It can be said with 99% confidence that there is middle positive correlation between criterion of customer results and company performance.

Second Hypothesis: there is a relationship between criteria of human resources results and company performance.

Table 10: Correlation between criteria of human resources results and company performance

Variables	Number	Pearson's correlation coefficient	Sig
criteria of Human Resources Results and company performance	174	0.540	0.000

It can be said with 99% confidence that there is middle positive correlation between criteria of human resources results and company performance.

Third Hypothesis: there is a relationship between criteria of society results and company performance.

Table 11: Correlation between criteria of Society results and company performance

Variables	Number	Pearson's correlation coefficient	Sig
criteria of society results and company performance	174	0.632	0.000

It can be said with 99% confidence that there is high positive correlation between criteria of Society results and company performance.

Fourth Hypothesis: there is a relationship between criteria of key results and company performance.

Table 12: Correlation between criteria of key results and company performance

Variables	Number	Pearson's correlation coefficient	Sig
criteria of Key Results and company performance	174	0.639	0.000

It can be said with 99% confidence that there is high positive correlation between criteria of key results and company performance.

Multiple Regression of Results Measures with Company Performance

Table 13: Descriptive indicators of multiple correlation coefficients

Equation	R	R ²	Adjusted R Square	Standard error of the estimate
1	0.642 ^a	0.413	0.409	0.5195
2	0.674 ^b	0.454	0.448	0.5022

In multiple regression equation, criteria sets of key results and society results can predict in about 45% of changes in company performance.

Table 14: The results of analysis of variance Fisher (F) multiple correlation coefficient

Equation		sum of squares	df	Mean square	F	sig
1	regression	32.421	1	32.421	120.119	0.000 ^a
	Residual	46.155	171	0.270		
	total	78.576	172			
2	regression	35.702	2	17.851	70.782	0.000 ^b
	Residual	42.874	170	0.252		
	total	78.576	172			
3	regression	32.421	1	32.421	120.119	0.000 ^c
	Residual	46.155	171	0.270		
	total	78.576	172			

ANOVA test showed that the multi- R² is significant and also there is a linear relationship between the variables.

Table 15: Correlation coefficient of standard and nonstandard for variables

Equation		Unstandardized Coefficients		Standardized Coefficients	t	sig
		B	standard error	Beta		
1	Constant	0.711	0.160		4.432	0.000
	Key results Criteria of performance	0.822	0.075	0.642	10.960	0.000
2	Constant	0.454	0.171		2.661	0.009
	Key results Criteria of performance	0.478	0.120	0.373	3.989	0.000
	Criteria of society results	0.430	0.119	0.338	3.607	0.000

Based on multiple regression equation, among criterions of results remain two variables of key results criteria of performance and criteria of society results in equation and in the final model is better predictor.

7. Conclusion and Recommendations

In this study, the result of testing hypotheses according to the EFQM model in parts of enablers that consists of five criteria was confirmed:

1. There is positive correlation between leadership criterion and company performance that this implies a top role of leadership in the company.
2. There is a relatively high positive correlation between policy and strategy and company performance that this shows the importance of policy and strategy and creating long-term plans for the company's goals.
3. There is a relatively high positive correlation between human resources and company performance that Shows important role of employees.
4. There is a moderate positive correlation between companies and resources and company performance that suggests that with accurate and comprehensive planning should provide more willing for investor companies in projects of water and wastewater.
5. There is a moderate positive correlation between processes and company performance that shows the important role of depicting the process which must is done great efforts in developing and drawing main processes, management and support of company.

And also in part of results is approved that:

1. There is middle positive correlation between criterion of customer results and company performance.
2. There is middle positive correlation between criteria of human resources results and company performance.
3. There is high positive correlation between criteria of society results and company performance.
4. There is high positive correlation between criteria of key results and company performance.

Thus According to results obtained the following recommendations are offered:

- It is necessary in the field of leadership and performance of company units; company executives use new ways to encourage employees to do their jobs with the desire and willingness.
- In connection with the development and designing and awareness is done strategy of long-term, medium-term and operational policies of deeper studies because these strategies be exactly in line with the philosophy of Guilan Water and Sewage Company.
- Addressing human resource issues such as attracting, recruiting talent, training and improvement of existing human resources, physical, mental health and safety work environment and motivating them should be regulated and implemented programs fully coherent and integrated with scientific methods.
- Given the high correlation between the criterion of partnerships, human resources and company performance is proposed that using the appropriate method optimized use of critical resources in the enterprise without damaging the product quality and services and established good communication with donors and financial resources, human and other.
- Given the correlation between two variables, processes, resources and performance of company recommended that with the implementation of re-engineering techniques if possible, processes prevented from lean thinking principles of parallel measures, additional in organizational processes and by reforming and improving processes increase the efficiency of this part of the strategic dimensions in organization in order to improve the performance.

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