

The Effect of Quality Management and Participative Decision-Making on Individual Performance

Ali Nazeri¹⁺, Dr. Habibollah Javanmard², Sadra Rashidi³, Ali Abbas Tohidi⁴

¹Department of Industrial Engineering, Damavand Branch, Islamic Azad University, Dmavand, Iran

²Department of Management, Arak Branch, Islamic Azad University, Arak, Iran

³Department of Industry, Scientific Applied University, Ilam Center NO.1, Ilam, Iran

⁴Department of Management, Bakhtar Institute of Higher Education, Ilam, Iran

Abstract. The major objective of the study is to analyze the effects of quality management (QM) on improvement efforts and individual performance. Employees' response to quality management (QM) and their participation in decision-making (PDM) are considered the major factors affecting employee's improvement efforts. The improvement effort factors are expected to influence employee's performance. Subjects are 100 employees in three Iranian industrial organizations applying QM. Three casual models are suggested and tested by means of structural equation modeling using LISREL. The results are supporting the proposed model. The findings reveal that the influence of PDM on improvement efforts is considerably higher than that of QM. This finding suggests that PDM is the most important component of the QM process that affects improvement efforts and individual performance.

Keywords: Quality management, Participative decision-making, Improvement effort, Individual performance.

1. Introduction

Quality management is one of the most important issues in operation management which has been considered in many international scientific communities. Moreover, lots of studies have been carried out on quality management and its effect on financial and commercial function of different companies [4]. The positive effect of quality management techniques on different aspect of organizations' functions is obvious to all. The increasing statistic of quality certificates and paying attention to modern process controlling techniques, new methods of decision making, and the need for having good relationship with the customers and the suppliers are the indications of applying quality management to the organizations' function. However, from another point of view of the quality management importance, this survey evaluated the effect of quality management and partnership in decision-making on the individual performance in some organizations [7].

1.1. The Expression of the Issue

Today, even small industrial or service companies deal with the quality management concept. The quality management and its related technique are widespread through the world [7]. Quality and partnership management in decision-making and the impact of their related factors on the individual performance in the organization is a new topic in the optimal use of resources and capacities of organizations, which finally result in higher performance of an organization. Today, confirming the situation is used commonly to improve the companies' performance in Iran, and managers believe that performance improvement through confirming the situation helps them to take advantage of the organizations' outside environment, as well as using foreign technologies rapidly. Providing the employees the chance to participate, empowering them,

and involving them in the process of decision making provides a new chance for continuous improvement of the process [1].

1.2. Research Background

Some studies have been carried out to analyze the effect of quality management on different aspects of organizations' performance, as well as the impact of quality management on competitive merits of different organizations [3]. In recent years, some studies also have been fulfilled to evaluate the effects of some quality management aspects and participation in the individual decision-making. In the current study, we investigated quality management and participation in decision-making in correlation with the effort for development and its impact on the individual performance has been investigated.

1.3. Purposes of Research

1.3.1. Scientific Objectives

By testing some theories, the present study we are trying to determine the effect rate of each major element of the quality management on individual performance and organizational performance. So, scientific objectives of the present research are as follows:

- 1) The effect of each element of quality management on individual performance.
- 2) The effect of participation in decision-making on individual performance.

Also, in order to compare our countries' quality management with other countries, we made a comparison between the results obtained and those of a similar research in Spain.

1.3.2. Theories of Research

- 1) Quality management has positive effect on improvement efforts and individual performance.
- 2) Participation in decision-making has positive impact on improvement effort and individual performance.
- 3) Quality management and participation in decision-making together have positive effect on improvement effort and individual performance.

1.3.3. Theoretical Framework of Research

The theoretical framework of the research has been established on the basis of the effect of participation on decision-making and quality management on individual performance. Hence, according to the framework, quality management and participation in decision-making will lead to efforts for improvement, which in turn will affect the individual performance in the organization.

In this theoretical framework, the quality management and participation in decision-making are examined as independent variables; the effort for improvement as a balancing variable, and the individual performance as a dependant variable.

1.4. Literature Review

1.4.1. Quality Management and Individual Performance

Improvement of employees' performance is the major goal of an organizational development program. Organizations are always relying on the Stewards' assessment as a scale for the employees' performance [11].

Most empirical studies have found that quality management has positive effect on organizational performance. However, some studies on applying quality management have not been successful, it can be concluded that when a quality management works properly, it can be helpful in organizational improvement [9].

1.4.2. Participating in Decision-making and Performance

The effect of PDM on performance has being studied since 1940s. However, the findings of meta-analyses were vague. Some indicate almost no impact for PDM, while other studies state the effects are substantially satisfying [10]. In different studies, the combination of PDM with other programs yielded higher effects than applying PDM only[4]. The present survey investigates the effect of PDM on performance in quality improvement program [2].

1.4.3. Performance Improvement Efforts

Sustained improvement effort is one of the most important objectives of quality management. It seems that the effort for constant improvement leads to job performance improvement. The improvement efforts are carried out to enhance the individuals' abilities for doing works and specifying one's feeling about a job. Thus, the improvement effort consists of consciousness sustained effort by an individual to perform the tasks in the best possible way [12].

2. Methodology

Today, by using statistical methods, many solutions have been obtained for analysis of the data that helps the researchers to prove their findings. Here the methodology, data gathering tools, statistical society, and sample have been examined that are the basis for the statistical analysis [6]. In the current study, the effect of quality management and participative decision-making on individuals' performance variable is evaluated. This is a causative survey that analyzed the effect of quality management and participation in decision-making on individuals' performance, based on structural equity technique. The statistical population of the present study was the managers and employees of some Iranian industrial companies. The samples were randomly selected, and the sample size was determined by the following equation [5]. Sample size = the number of variables \times (10 to 15)

Thus, the sample size was determined as 60.

Meanwhile according to [9] considering 15 as each variable in the structural equity technique seems reasonable and the researchers are allowed to reduce it up to 5 cases.

However in the LISREL software the more the number of the samples the better the fitting of the model, as a result the sample capacity of the present research equals 100 that include the managers and the employees. The present research is a field research, and a questionnaire was used to gather the data. The gathered data was analyzed to evaluate whether the objectives of the study were achieved or not. Information analysis as a process is a basic principle of any research all data gathered in the study undergo to obtain the results of the study. In this step, the researcher performs the analysis in order to find the answer of research questions, or accepting / rejecting the theories of the research. The research data was gathered using the questionnaire, whose validity was confirmed. Then, the information was analyzed making use of LISREL software. In the current study, after drawing the model by path diagram program considering the indexes, the model fit was measured using PRELIS software. Then, by obtaining the measuring models, the theories were investigated using t-tests and β . χ^2 index is the first index for testing and fitting a model, whose value for the present model equals 33 and indicates a favorable coordination between model and existing data. Other indexes are as follows: Among the mentioned indexes, the two indexes RMSEA and GFI are of more significance. The former index should be lower than 0.05 and the more it is close to zero the better the model is fitted. Also, the latter index by approaching 1 indicates suitable fit of model. In the next stage, Figs. 1 and 2 demonstrate the results of β -test and t-test for the mentioned model, respectively.

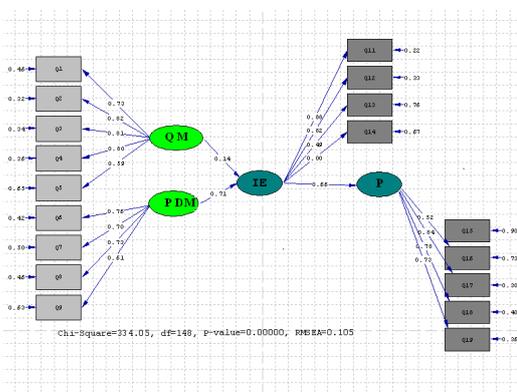


Fig.1

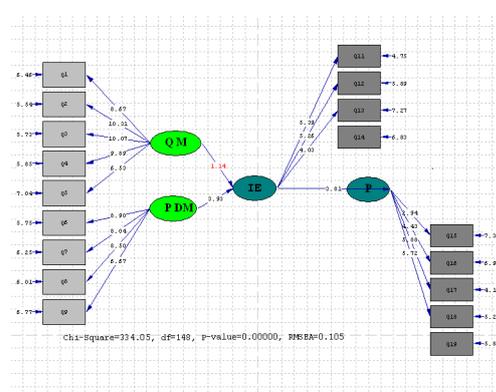


Fig.2

2.1. Testing the Hypotheses

- Testing the first hypothesis (H_1): In equation 2, the value of correlation between quality management and effort for improvement is 0.14, which according to t-test ($t = 1.14$) was rejected at 0.05 level of significance. So this hypothesis is not confirmed.

- Testing the second hypothesis (H_2): In equation 2, the value of correlation between cooperation in decision making and effort for improvement is 0.71, which according to t-test ($t = 3.93$) was confirmed at 0.05 level of significance. So this hypothesis is confirmed.

- Testing the third hypothesis (H_3): In equation 1, the value of correlation between personal efficiency and effort for improvement is 0.17, which according to t-test ($t = 3.81$) was confirmed at 0.05 level of significance.

3. Results

In this section, the results obtained from study hypotheses are expressed based upon model of structural equations. Furthermore, useful suggestions are provided for managers and finally the limitations of the research as well as suggestions for future studies are stated. As was mentioned, the present research has studied the influence of quality management and cooperation in decision making on effort for improvement and personal efficiency. According to the findings acquired from model of structural equation and attained coefficients, the following results were obtained for the hypotheses: Analysis of the results belonging to the first hypothesis (H_1): According to the test results ($\beta = 0.14$ and $t = 1.14$), the first hypothesis was not confirmed at 0.05 level of significance, i.e. quality management does not influence the effort for improvement. Analysis of the results belonging to the second hypothesis (H_2): According to the test results ($\beta = 0.71$ and $t = 3.93$), the second hypothesis was confirmed at 0.05 level of significance, i.e. staffs' cooperation in decision making positively influences the effort for improvement. Analysis of the results belonging to the third hypothesis (H_3): According to the test results ($\beta = 0.66$ and $t = 3.81$), the third hypothesis was confirmed at 0.05 level of significance, i.e. the effort for improvement positively influences the personal efficiency.

4. Suggestions

Considering β value and t-test results obtained from analysis, H_1 hypothesis is rejected while the hypotheses H_2 and H_3 are confirmed. Therefore, suggestions for the mentioned hypotheses are as follows:

4.1. First Hypothesis:

1. Training the staffs based on knowledge of quality management subsets and their effect on efficiency;
2. Employing the factors of quality management, such as statistical process control, ISO, and 6 Sigma;
3. Not only acquiring different certificates of quality management, but also implementing them in all sections and processes in the organization.

4.2. Second Hypothesis:

1. Using different effective teams and staffs' cooperation in decision making;
2. Resignation of decision making right to staffs;
3. Taking advantage of reward systems for constructive decisions and motivation of staffs;
4. Training the managers about associative management;
5. The organization should engage the staffs in design and development of company products.

4.3. Third Hypothesis:

1. Making personal goals in concordance with the organization's goals;
2. Motivating the staffs and making use of different reward systems;
3. Use of assessment indexes of personal efficiency.

5. References

- [1] Berman, SL, Down, J, Hill, C .W, 2002. Tacit Knowledge as a Source of Competitive advantage in the National Basketball Association Academy of Management Journal 45, 13- 31.
- [2] Berker, C.W, 2002, *the State of the notional: Knowledge Management in practice*. California Management Review 40, 1998.p.80.
- [3] Chiles, t .H, Choi, TY, 2000. *Theorizing TQM: an Austrian and evolutionary economics in perpetration*. Journals of Management Studies 37 (2), 185-212.
- [4] Filipini, R, 1997. *Operation Management research: Some reflections on evolution Models and empirical Studies in OM*, international Journal of operation and production Management 17(7), 655-670.
- [5] Hansen, M. T., 2002. Knowledge net work: Explaining Effective Knowledge Sharing in Multiunit Companies Organization Science 13(3) 232-248.
- [6] Koe, N .L. (2001). An empirical Study of the effect of Knowledge Management Process cat in dividable, group, Decision Sciences 34, p. 225.
- [7] Louis, Molina. (2006). *the effect of Total Quality Management on Organization Per for manse*. Journal of Business 61(3), 254-607.
- [8] Reheats, M, 2000. *Knowledge Management: an Organizational Capabilities Perspective*, Journal of Management information System 18, 2000, p. 5.
- [9] Stevens, (1996). *Applied Multivariate Statistics for the social Sciences*. Mahwa NJ:Lawrence Erlbaum Associates.
- [10] Szulanski, G., 1994. *Intra – firm Transfer of Best Practices Project*. American Productivity and quality Center, Houston, TX.
- [11] Terrace, H., 1985, *Statistical Methods for Quality Improvement*. Tokyo, Japan, J. H. Loftustrans.
- [12] Wang, G., Niemeyer. R. H. 2002. *The effect of Job autonomy Customer Demandingness and Trait Competitiveness on Salesperson Learning, Self-efficacy, and performance*, Journal of the Academy of Marketing Sciences 30 (3) 217 – 228.