Journal of System Management
Vol 5, No. 1 (2019), 061-074

The Mediating Role of Kaizen in the Relationship between Total Quality Management and Organization's Performance

Hassan Soltani
Department of Management, Shiraz Branch,
Islamic Azad University, Shiraz, Iran

Elham Amanat
Department of Management, Marvdasht Branch,
Islamic Azad University, Marvdasht, Iran

Abstract. The present study aims to investigate the mediating role of Kaizen in the relationship between total quality management and organization's performance. The research method is descriptive-survey and the statistical population of the research is the employees of the district of five Shiraz gas transmission operations, which is equal to 138 people. According to the Cochran formula, 102 senior managers, middle and operational managers, as well as directors and active staff of the area have been considered as the sample of the study. Data collection tool is the standard questionnaire of Ang and et al (2016). Its content validity has been approved and its reliability has been approved using Cronbach's alpha. Data analysis has been done using SPSS software and structural equation modeling. The results of this study show that there is a significant relationship between Kaizen principles and organizational performance. There is a significant relationship between total quality management and Kaizen principles. Finally, there is a significant relationship between total quality

management and organizational performance with the mediating role of Kaizen.

Keywords: Kaizen, Total Quality Management, Organizational Performance.

1. Introduction

Given that today every commodity and service cannot be expensive and it should be cheap and high-quality, paying attention to the Kaizen implementation process and developing continuous improvement in the organization is inevitable. Kaizen means continuous improvement, a continuous improvement that involves all people, namely managers, employees and workers. It is based on the philosophy that we do not need to look for explosive or sudden changes to improve the organization, but any kind of improvement or modification, provided that it is continuous, will increase the organizational productivity and performance. The Japanese word Kaizen means improving and searching for continuous improvement. But this meaning is complete when it entails employees' participation. Kaizen is based on the principle that the lifestyle of humans, including occupational life, social life and family life, should be continuously improved. The Kaizen culture and its interaction among different social layers and organizations in Japan has made the factory turn into a university and university turn into a factory. Accordingly, the worker learns from the manager and the manager benefits from the worker's ideas; thereby improving productivity and performance that results in improving the performance of the organization is evident in all public and private institutions. Considering the importance of quality in organizations and increasing attention to it, various attitudes about ways and means of achieving such desirability are presented. Today, total quality management is a system through which organizations can control the products and services, as well as the process of their sale or provision. The effects of this system have been tested on performance and confirmed. Total quality management is a smart, calm and continuous activity that has a significant impact on the organization's goals and ultimately results in customer satisfaction, increased efficiency, and increased ability to compete in the market. Total quality management system is a

systematic structure that emphasizes the continuous improvement of all the activities of an organization. The ultimate goal of total quality management is to improve the quality of products and services by improving human resources, processes and equipment, and in parallel, reducing operating costs. Organization performance management is a process and method that provides a unified approach to business planning, budgeting and forecasting finance, sales, marketing, operations, and human resources. Considering the importance of total quality management and Kaizen in industrial development of organizations and improving their performance, this research seeks to investigate the relationship between total quality management and organization performance considering the mediating role of Kaizen variable in district five of Shiraz gas transmission operations.

2. Literature Reveiw

The familiarity of organizations with concepts related to quality and productivity and its use in the management of production units is one of the measures that can play an effective role in promoting their status and performance in internal and external competition arenas. The surprising progress made by Japan has made everyone think about and control the working culture and management systems of this hard-working people. One of these unique or highly efficient Japanese systems is the Kaizen system, which is the continuous improvement. Kaizen is a two-word combination of a Japanese concept, defined as the change toward betterment or continuous and gradual improvement (Zehir et al., 2016). In recent years, companies with modern attitudes have been subject to countless political, economic, technological and social changes. In the 1980s, the business world was faced with a new concept of quality management. Subsequently, with the expansion of the concept of quality, the total quality management system, which monitors the quality of products at all stages of production, was introduced to the manufacturing companies (Modgil and Sharma, 2016). Total quality management has been accepted as a managerial paradigm by many organizations across the globe. The quality movement began in almost all countries with the quality improvement project in manufacturing sectors (ALHawari and Alryalat, 2015). In addition to its

implementation in manufacturing and industrial companies, total quality management was used in service sectors such as banks and insurance organizations and even some educational organizations (Arostegu et al., 2015). Total quality management system is a vibrant and meaningful body that is purposeful and viable, all of which come from one heart and are living with a living spirit. This set is a model that is on the basis of moving not being stable. In designing its executable model, it should specify the direction of motion and target the permanent completion of the company. In fact, it can be stated that quality management is a school (Sadovaya and Thai, 2015). Just as the behavior, feelings and beliefs of a person with a style are predictable beforehand, the concepts and behavior and management results can be determined in advance in the total quality management model. The philosophy and the goal of total quality management is organization maintenance at the evolution stage of the organization's lifecycle, which has a foundation in Kaizen. It should be noted that Kaizen is like a bridge between science and practice (Myun and Stylianoub, 2014). Kaizen is based on the philosophy that we do not need to look for explosive or sudden changes to improve the organization, but any kind of improvement or modification, provided that it is continuous, will increase the organizational productivity and performance (Bolatan et al., 2016). Kaizen emphasizes the gradual changes in the processes. In comparison to other organizational transformation methods, including reengineering, which takes into account the rapid and general changes, Kaizen is not costly and does not consume considerable resources (time, capital, assets, etc.). However, as it involves the participation of all personnel at all levels of the organization, it brings about dramatic developments. Kaizen is a management system that goes hand in hand with time, and if the management wants to change employees, it must change itself (Kim, 2016). Among the factors that make up total quality management, perhaps attention and focus on the customer is the most important component. It should be noted that the customer and his demands shape the company and its activities. In the initial assessment of the theoretical and empirical evidence of quality management, some researchers have foreseen a border for the development of customer-centric total quality management theory, in a way that management is

based on facts, process orientation and job projects as the most important components (Kim, 2016). The lack of management commitment, fear of transformation, resistance to cultural change, and misunderstanding or failing to implement this attitude are among the major obstacles and the underlying causes of failure to succeed in total quality management that must be addressed (Forza and Flippini, 1998). Total quality management has been accepted as a management paradigm by a large number of companies across the globe. Almost a quality revolution in all countries began with a project to raise the level of quality in manufacturing sectors (Aurel et al., 2015). Total quality management was later used in service areas such as banks, insurance organizations and, in the end, in nonprofit organizations such as hospitals, government, and educational institutions. Creating and improving total quality management turned into a strategy to create a competitive advantage that made the company more efficient and progressive. By constantly pursuing total quality management practices, organizations can maintain their competitive advantage over time by adapting to the needs and demands of customers (Panuwatwanich and Nguyen, 2017). Cutler introduces this issue as "continuous improvement of quality" in company processes, products, and services. This process should be implemented extensively by managers in all parts of the company. The goal of this ongoing effort is to increase customer satisfaction, improve quality, reduce costs, or afford some costs (Vesna et al., 2018). Total quality management revolution began in the manufacturing industry, because measuring quality performance and requiring the production of products with very good quality was easier in this industry. In fact, the manufacturing industry was the origin and place to apply total quality management as the core concept of quality control (Haley, 2014). But it also began to affect service companies in the public sector. Lately, many public sector companies are seeking to adopt management concepts based on customer-orientation thinking and to accept their position. Companies operating in the public sector, such as hospitals, local governments, law enforcement agencies, emergency services, and other government agencies, have also found that delivering service to customers and paying attention to quality are fundamental concepts for today's business (Larina, 2015). The public sector companies

have not been safe from the movement that the private sector has undergone in the 1990s to gain customer satisfaction. In the private sector, customer satisfaction and loyalty are crucial for survival in the long term by providing good quality products at the right price (Topalovic, 2015). On the other hand, organizational performance is one of the most important forms of interest in managerial research and is undoubtedly the main factor in assessing the success of business organizations, but there is no consensus among critics and experts on its components (Costa and Lorente, 2008). In general, the components of organizational performance are divided into two subjective and objective groups. The objective components are components that are completely real and realistic and measured in terms of objective information. Among these components are profitability components such as return on assets, equity returns, return on investment, earnings per share, and stock returns. The subjective components usually include components that are formed on the basis of the judgment of the group benefiting from the company. Examples of these components are the satisfaction of stakeholders, employees and the success of new products (Vesna et al., 2018). Therefore, considering the importance of the fact that total quality management can have a huge impact on improving the level of organization's performance and is the main driver for progress inside and outside the country, the present study attempts to emphasize the Kaizen variable that made great industrial revolution in Japan and brought about the development of the country internationally so as to investigate these two factors affecting the operation of district five of Shiraz gas transmission operations. This is because the development and improvement of such industries that are the main industrial poles of Iran can lead to the development of the country at the international level and make it renown in big world markets. Considering the importance of continuous improvement in the organization and the importance of applying the principles of Kaizen in order to improve the organization's performance and achieve organizational goals, the present study seeks to answer the question of whether there is a relationship between total quality management and the organization's performance with the mediating role of Kaizen in district five of Shiraz gas transmission

operations. According to the research literature, the conceptual model is presented in Fig. 1.

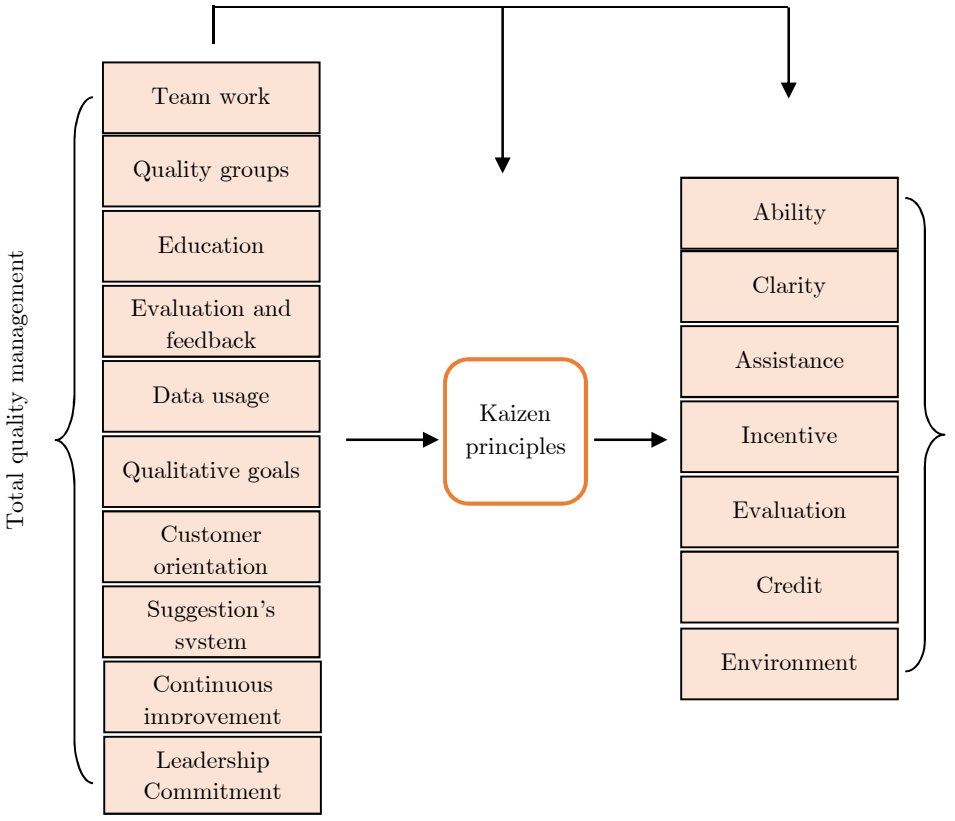

Figure 1: Conceptual model (Ang et al. 2016)

According to research literature and conceptual model, the research hypotheses are as follows:

- ✓ There is a significant relationship between total quality management and Kaizen principles.
- ✓ There is a significant relationship between Kaizen principles and organizational performance.
- ✓ There is a significant relationship between total quality management and organizational performance with the mediating role of Kaizen principles.

3. Method

Since the purpose of this study is to investigate the mediating role of Kaizen in the relationship between total quality management and organizational performance, this research is an applied research. Also, this study is descriptive in terms of data collection. The statistical population of this research includes all managers, middle and operational managers, as well as directors and employees in district 5 of Shiraz gas transmission operations, which is 138 people. According to the Cochran formula, the sample size of the research is 102 people. Also, sampling in this research is done by non-random available sampling method. Data collection has been done through two library and field methods. The standard questionnaire of Ang and et al (2016) has been used to collect the required, which includes all three variables of the research. To determine the validity of the measurement tool, content validity has been used. This means that the tool (questionnaire) is suitable for measuring the measured concepts (research variables). It's significance and their relationship with the research variables is confirmed by the supervisor. Also, Cronbach's alpha coefficient is used to calculate the reliability. In Table 1, the Cronbach's alpha coefficient of the questionnaire is presented for each variable:

Table 1: Cronbach's alpha coefficient

Research variables	Cronbach's alpha
Kaizen	0.967
Organizational performance	0.869
Total quality management	0.945
The whole questionnaire	0.927

In order to analyze the research data, collected data are sorted and classified using Excel software and then analyzed using SPSS software. Then, partial least squares analysis was used to test the hypotheses. Partial least squares analysis is a multivariate technique that estimates hidden variables through different indices and a path analysis between these variables. Partial least squares analysis does not require a normal distribution of data and a large sample size. Also, in cases where structures are measured by developmental indicators, least squares are a

more appropriate method for data analysis. The reason for using the least squares method in this study is the non-normality of variables.

4. Findings

In this section, the how of distributing research variables is investigated based on the most important central indicators (mean) and dispersion indicators (standard deviation).

Table 2: Central indicators, dispersion indicators and distribution of variables

	SD	Mean	Max	Min	Number
Total quality management	0.79230	2.9255	5.00	1.00	102
Kaizen principles	0.59207	3.0501	5.00	1.67	102
Organizational	0.88553	3.0352	5.00	1.00	102

According to the above table, it is clear that the highest mean was related to the Kaizen principles variable and the lowest mean was related to the variable of total quality management.To verify the normality of the data, Kolmogorov-Smirnov test has been used.

Table 3: The result of the Kolmogorov-Smirnov test

Variable	Total quality management	Kaizen principles	Organizational performance
Test statistics	0.160	0.156	0.124
Sig. level	0.117	0.065	0.084
Test result	Normal	Normal	Normal

According to Table 3, given that the significance level of all variables is greater than .05, it is concluded that all variables are normal. Therefore, parametric tests such as linear regression can be used to prove the research hypothesis. Linear regression is used to investigate the effect of the independent variable of total quality management on the dependent variable of Kaizen principles. The following table shows values of correlation and coefficient of determination.

Table 4: Values of correlation and coefficient of determination

Correlation	Coefficient of determination	Adjusted coefficient of determination	SD	Durbin-Watson Statistics
0.643	0.413	0.409	0.679	1.84

The coefficient of determination of the regression model is .431, indicating that this model can explain 41.3% of the variations of Kaizen principles through the independent variable of total quality management. Also, the results show that Durbin-Watson statistics is between 1.5 and 2.5; therefore, there is not a strong autocorrelation between the errors of the regression model. The lack of autocorrelation between errors is accepted as one of the basic assumptions of regression in the fitted model.

Table 5: Results of ANOVA

Model		Sum of squares	Df	Mean of squares	F	Sig.
1	Regression values	51.050	1	51.050	110.500	0.000[b]
	Residuals	72.532	157	0.462		
	Total	123.582	158			

The significance level of the F statistic for the model is less than the error level of the test ($\alpha = .05$). As a result, the first hypothesis is confirmed and the estimated regression is statistically significant. The relationships between the variables of the research are linear. The statistical analysis results for the variable of total quality management are presented in the following table.

Table 6: Values of standard coefficients

Model		Non-standard coefficients		Standard coefficients	T	Sig.
		B	SD	Beta		
1	Fixed value	0.922	0.207		4.457	0.000
	Total quality management	0.721	0.069	0.643	10.512	0.000

According to Table 6, the standard coefficient for the variable of total quality management is .643, and since the level of its significance is less than .05, it is concluded that this effect is significant and this hypothesis is confirmed. Linear regression is used to investigate the effect of the independent variable of Kaizen principles on the dependent variable of organizational performance. The following table shows values of correlation and coefficient of determination.

Table 7: Values of correlation and coefficient of determination

Correlation	Coefficient of determination	Adjusted coefficient of determination	SD	Durbin-Watson Statistics
0.409	0.167	0.162	0.590	1.76

The coefficient of determination of the regression model is .167, indicating that this model can explain 16.7% of the variations of organizational performance through the independent variable of Kaizen principles. Also, the results show that Durbin-Watson statistics is between 1.5 and 2.5; therefore, there is not a strong autocorrelation between the errors of the regression model. The lack of autocorrelation between errors is accepted as one of the basic assumptions of regression in the fitted model.

Table 8: Results of ANOVA

Model		Sum of squares	Df	Mean of squares	F	Sig.
1	Regression values	11.130	1	11.130	31.971	0.000[b]
	Residuals	55.353	159	0.348		
	Total	66.483	160			

The significance level of the F statistic for the model is less than the error level of the test ($\alpha = .05$). As a result, the second hypothesis is confirmed and the estimated regression is statistically significant. The relationships between the variables of the research are linear. The statistical analysis results for the variable of Kaizen principles are presented in the following table.

Table 9: Values of standard coefficients

Model		Non-standard coefficients		Standard coefficients	T	Sig.
		B	SD	Beta		
1	Fixed value	2.562	.178		14.363	.000
	Total quality management	.333	.059	.409	5.654	.000

According to Table 9, the standard coefficient for the variable of Kaizen principles is .409, and since the level of its significance is less than .05, it is concluded that this effect is significant and this hypothesis is confirmed. According to the results of the first and second hypotheses, it is concluded that the Kaizen principle acts as a mediator variable in the relationship between total quality management and organizational performance, and this hypothesis is confirmed.

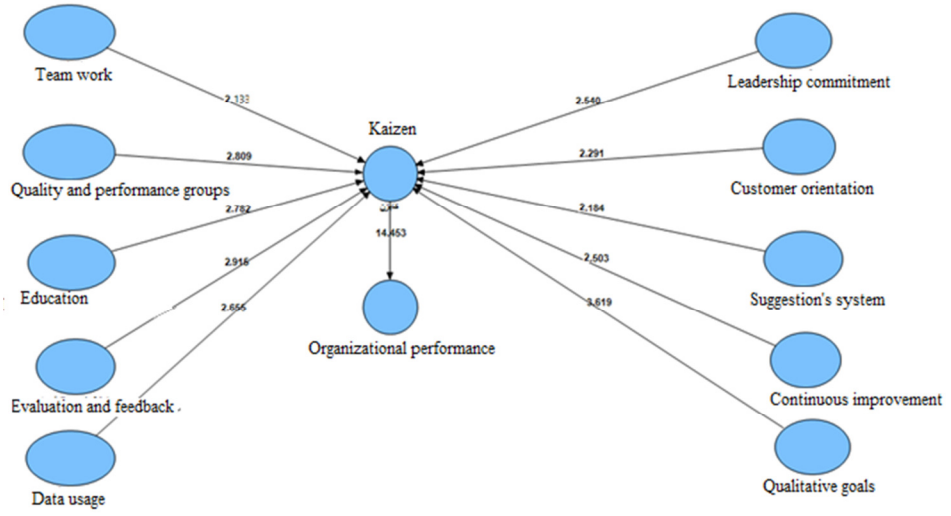

Figure 1: Path analysis in the significance mode

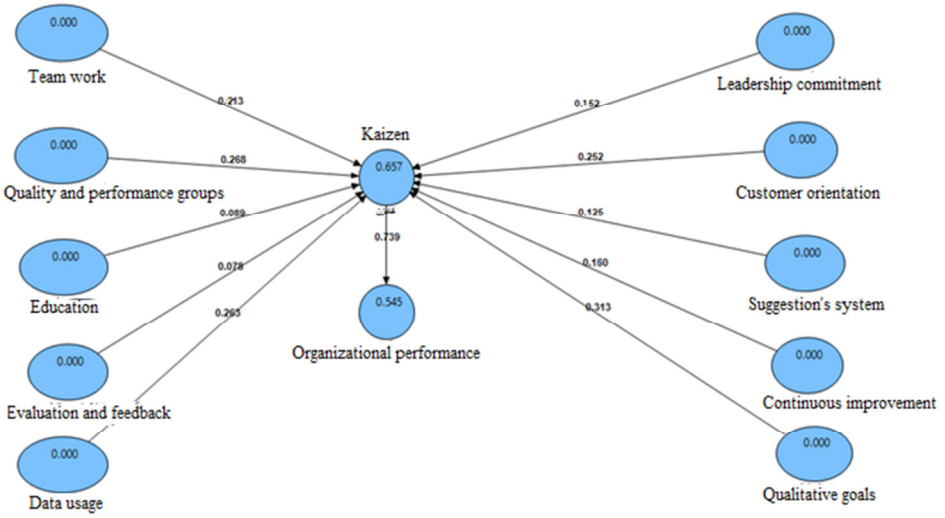

Figure 2: Path analysis in the standard coefficient mode

To test the fit of the model in partial least squares, we use the global quality benchmark presented by Amato et al. in 2004.

$$\text{GOF} = \sqrt{\overline{communality} \times \overline{R^2}}$$

$\overline{communality}$ is the average share of each variable that measures the quality of the external model. $\overline{R^2}$ is the mean of the determination coefficients related to each endogenous hidden variable that measures the quality of the internal model. It is calculated for each endogenous variable according to the hidden variables that explain it. Three values of .01, .25 and .36 are presented as weak, moderate and strong values for GoF.

Table 10: Fit of the internal model

Variable	Communality	R^2
Team work	0.70	
Quality and performance teams	0.69	
Education	0.75	
Evaluation and feedback	0.61	
Data usage	0.55	
Leadership commitment	0.57	

Variable	Communality	R^2
Customer orientation	0.81	
Suggestion's system	0.80	
Continuous improvement	0.67	
Qualitative goals	0.66	
Kaizen	0.71	0.657
Organizational performance	0.52	0.545
Goodness of fit	0.52	

As can be seen in Table 10, the value of goodness of fit is .52, which indicates the general fit of the structural model is above average. That is, the internal model has the power to test the hypotheses and the test results can be statistically reliable by 100%. Also, the R^2 criterion or the coefficient of determination indicates the effect of exogenous variables on an endogenous variable. This criterion is calculated only for endogenous structures, and its value is zero for exogenous structures. The higher the coefficient of determination of a model, the better the fit of the model. Three values of .19, .33 and .67 were introduced as criteria for weak, moderate and strong values.

5. Conclusions

Total quality management is one of the most successful management philosophies that respond to quality issues and the needs and expectations of companies, organizations and society as a whole. This philosophy of management logically connects various techniques and methods with the new motivation. Given that today every commodity and service cannot be expensive and it should be cheap and high-quality, paying attention to the Kaizen implementation process and developing continuous improvement in the organization is inevitable. In fact, Kaizen is a tool for continuously improving the quality and performance of companies, which could increase the satisfaction of the customers of a company and organization. By generating general concepts, total quality management leads to continuous improvement in an organization. The total philosophy emphasizes a systematic, coherent, proven, and macro-based approach to the organization. Total quality management is run in an environment where management tries to continuously improve the overall system and processes. Regarding the presented content and

analysis, the importance of total quality management and Kaizen principles is quite clear; in this study, there is a meaningful relationship between these two variables. Kaizen is an approach based on common sense that makes small, inclusive, and targeted changes through the collective wisdom of employees. Today, many successful organizations and companies owe their productivity and organizational dynamics to the use of recovery systems, including Kaizen. Simplicity and comprehensiveness of the Kaizen model, while also having a tremendous impact on refining processes and improving the work environment, enhance the organization's performance. In fact, Kaizen more emphasizes changing employee attitudes and behaviors in relation to responsibilities, daily activities, and changing work environment. These capabilities can lead to improved organizational performance, and these changes will lead to increased human resource productivity, the human being that is the focus of development, and his productivity will ensure national productivity. The research also emphasizes Kaizen's direct relationship with organizational performance and its impact on furthering organization's goals. Considering the importance of quality in organizations and increasing attention to it, various attitudes about ways and means of achieving such desirability are presented. Today, total quality management is a system through which organizations can control the products and services, as well as the process of their sale or provision. The effects of this system have been tested and confirmed on the performance, and its impact on the promotion of organizational performance can be verified. The current state of Iran in the competitive market and its progressive economy have made the industrial entrepreneurial enterprises improve the quality in the production of their products and services in order to enter the global competitive market. Therefore, they need effective tools to continuously improve their quality, one of which is total quality management. Total quality management is both a culture and a set of strategic principles to provide a basis for continuous improvement in entrepreneurial organizations. An important issue in total quality management is to recognize that quality improvement is thoroughly pursued by all units of the entrepreneur organization and ensure that all entrepreneur individuals work for continuous improvement. Total quality management is a management

system with an approach to creative and innovative people whose goal is to continuously increase customer service and profitability and survival of the organization, coupled with a steady decline in real costs.

References

Alhawari, H., Alryalat, L. (2015). The Relationship of Customer Knowledg, Knowledg Management And Service Quality on Customer Satisfaction: A Sstudy of Retail Islamic Banking. Meliá Hotel Kuala Lumpur, Malaysia, s.n.

Ang, W., Mohd Fauzi , A., Nik Hisyamudin , M. N. (2016). The Mediating Effect of Kaizen Between Total Quality Management (TQM) and Business Performance. International Engineering Research and Innovation Symposium (IRIS), Volume IOP Conf. Series: Materials Science and Engineering 160 (2016) 012012 doi:10.1088/1757-899X/160/1/012012.

Arostegui, M., Sánchez, F. B., Molina, V. (2015). Exploring the Relationship Between Information Technology Competence and Quality Management. BRQ Business Research Quarterly, Volume 18, pp. 4-17.

Aurel, T. M., Simina, A., Stefan , k. (2015). Continuous Quality Improvement in Modern Organizations through Kaizen Management. 9th Research/ Expert Conference with International Participations “Quality ”, p. 27–32.

Bolatan, G., Gozlu, S., Alpkan, L., Zaim, S. (2016). The Impact of Technology Transfer Performance on Total Quality Management and Quality Performance. Social and Behavioral Sciences, Volume 235.

Carnerud, D., Carmen, J., Ingela, B. (2018). Kaizen and Continuous Improvement – Trends and Patterns over 30 Years. The TQM Journal, Issue 2 (1), pp. 211-235.

Cerqueira, M. (2007). A Literature Rreview on the Benefits, Challenges and Trends in Accreditation as a Quality Assurance System, Ministry of Children and Family Development Contact. s.l.:s.n.

Costa, M. M., Lorente, A. R. (2008). Does Quality Management Foster or Hinder Innovation? An Empirical Study of Spanish Companies. Total Quality Management, Volume 19, pp. 209-221.

Desta, A., Asgedom, H. B., Gebresas, A., Asheber, M. (2014). Analysis of Kaizen Implementation in Northern Ethiopia’ s Manufacturing Industries. International Journal of Business and Commerce, Volume 3, p. 39–57.

Forza, C., Flippini, R. (1998). TQM impact on Quality Conformance and Customer Satisfaction: a Causal Model. International Journal of Production Economics, Volume 55, pp. 1-20.

Haley, M. (2014). Information Technology and the Total Quality Management Improvement in Defense Industries. The TQM Journal, 26 (4), pp. 348 - 359.

Idris, S., Wahab, R., Jaapar, A. (2015). Corporate Cultures Integration and Organizational Performance: A Conceptual Model on the Performance of Acquiring Companies. Social and Behavioral Sciences, Volume 172, pp. 591-595.

Kim, G. (2016). Effect OF Total Quality Management On Customer Satisfaction. International Journal Of Engienering Sciences and Researchs Tecnology, 5(6), pp. 507-514.

Larina, L. (2015). Practical Application of Total Quality Management System to Education of International Students. Social and Behavioral Sciences, Volume 215.

Modgil, S., Sharma, S. (2016). Total Productive Maintenance, Total Quality Management and Operational Performance. Journal of Quality in Maintenance Engineering, 22(4), pp. 353-377.

Myun, J., Stylianoub, A. (2014). Total Quality Management for Information Systems : An Empirical Investigation. Journal of Global Information Technology Management, 4(4), pp. 32-52.

Odoh, M. (2015). Application of Management Information Technology in Total Quality Management. Journal of Software Engineering and Simulation, 2 (8), pp. 9-15.

Panuwatwanich, K., Nguyen, T. (2017). Influence of Total Quality Management on Performance of Vietnamese Construction Firms. Procedia Engineering, Volume 182, p. 548–555.

Rahmanian, F., Rahmatinejad, Z. (2013). Impact of Kaizen Implementation on Performance of Manufacturing Companies ' Staff European. Journal of Natural and Social Sciences, Volume 2, pp. 193-203.

Sadikoglu, E., Olcay, H. (2014). The Effects of Total Quality Management Practices on Performance and the Reasons of and the Barriers to TQM Practices in Turkey. Advances in Decision Sciences, pp. 20-37.

Sadovaya, E., Thai, V. (2015). Impacts of Implementation of the Effective Maritime Security Management Model (EMSMM) on Organizational Performance of Shipping Companies. The Asian Journal of Shipping and Logistics, 31(2), pp. 195-215.

Saleem, M., Nawar, K. (2012). An Analysis of Relationship Between Total Quality Management and Kaizen. Life Science Journal, Volume 9(3), pp. 31-40.

Sheikholeslam, N., Emamian, S. (2016). TQM and Customer Satisfaction Towards Business. International Journal of Learning Management Systems, 4(1), pp. 35-42.

Srour, D. (2014). Impact of Management Information Technology on Total Quality Management. Information Technology of Ccis, 11(01), pp. 16-19.

Suwandej, N. (2015). Factors Influencing Total Quality Management. Procedia - Social and Behavioral Sciences, Volume 197, p. 2215–2222.

Topalovic, S. (2015). The Implementation of Total Quality Management In Order to Improve Production Performance and Enhancing the Level of Customer Satisfaction. 8th International Conference Interdisciplinarity In Engineering, October, Volume 19, pp. 1016-1022.

Vento , M., Macías, A. M., Loya , V. M. (2016). The Impact of Managerial Commitment and Kaizen Benefits on Companies. Journal of Manufacturing Technology Management, Volume Vol. 27 Issue: 5, pp. 692-712.

Vesna, J., Todorović, M., Domanović, V. (2018). Tqm And Kaizen For Continious Quality Management. Journal of Operations Management, Volume Vol. 15, No 1.

Zehir, C., Ertosunb, O. G., Zehir, S., Müceldilli, D. (2012). Total Quality Management Practices Effects on Quality. Social and Behavioral Sciences, Volume 41, pp. 273-280.