

## The Role of Total Quality Management on enhancing labor productivity (Power Plant of Jahrom)

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**Abstract:** This study is a descriptive study which it examines the relationship between Total Quality Management establishment and improving Labor productivity In the Power Plant of Jahrom. The employees of this power plant have been the statistical population. Their number has been 120 people and the sample size were selected 68 individuals based on random sampling. Statistical analysis was performed by Pearson correlation coefficient and multiple regression analysis and Spss software for data analysis. Two types of questionnaires were used in this study. A questionnaire was used to measure levels of productivity derived from the study of Jahed and the questionnaire has been used to measure Total Quality Management prepared by the researcher. The Reliability of the questionnaires has been calculated respectively 0.884 and 0.875 by Cronbach's Alpha. The results show that there is a positive correlation between the dimensions of total quality management (employee involvement, employee empowerment and continuous improvement) and labor productivity. As a result implementing of total quality management leads to productivity growth of labor and organizational productivity.

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**Key words:** total quality management, labor productivity, Employee participation, employee empowerment, continuous improvement

### Introduction:

The main characteristics of today's world are extensive changes, increasing complexity and competition. Modern organizations are operating in a complex environment and dynamic yet. The enormous and continuing developments are the characteristics the business environment. Organizations are trying to increase their productivity in a modern and dynamic competitive environment. The Productivity has been proposed as a key issue for organizations in recent years. Productivity assists the organization to achieve its objectives by two values namely, management and the labor force. Human resources are effective in increasing productivity by its important role in the organization; In this regard, organizations will need to enhance employee productivity to achieve organizational efficiency; therefore, should provide the conditions of these objectives by implementation system of total quality management; since Total quality management is considered in the growing organization as a prerequisite for organizational efficiency; In this regard, One of the important objectives of total quality management is improving employee productivity That will enhance the process of the organization activities. Total quality management is looking Continuous improvement of the organizational processes by all employees and managers; the affecting Factors of total quality management include: Involvement of employee, and continuous improvement, Empowerment of employee

and consequently will increase customer satisfaction (internal and external) and increasing organizational productivity.

### Definitions of total quality management

Since of total quality management has been proposed as one of the most prominent theories of management and has the particular importance for growth and excellence in organizations. Edward Deming, of quality scientists, defines total quality management such this: set of Systematic activities that helps with the organization achieve an effect of the organization in supplying their goals and also providing or desirable quality Service that provides Customer satisfaction at the desired time and reasonable price. Total Quality Management is defined as a philosophy as well as a set of principles which provides access to the continuous improvement of the organization this program is not a cross-sectional (Tsikriktsis, N. 2007). Total Quality Management is a systematic approach to quality management and its objective is to continually increase customer satisfaction through continuous improvement of procedures and the organizational processes; In other words, Total Quality Management is a management philosophy is considering a plan to improve customer satisfaction by using national continuous improvement and the Better use of available opportunities and the available resources (Zeithaml, V.A. 2000). Total Quality Management is

a management philosophy that by using continuous improvement of methods. It tries to optimize the use of available opportunities and has been focusing beneficiary Satisfaction Of service to enhance the quality (Soteriou, A., S.A. Zenios. 1999). Total Quality Management is a philosophy of continuous improvement which is able to provide a set of tools and techniques to fulfill the current and future of requirements, demands and expectations of each organization. Total Quality Management of the model provides different method the attitudes into management style and develops a participatory culture in which the each employee to participate directly in related fields of their work and decision making in this case. This model is organized by quality of cycles and creates positive attitudes and creates positive attitudes among employees toward the quality and organization and employees can provide with respect to each other an extremely attractive environment for itself (Saari, S. (2006a)) Total Quality Management is a philosophy that is expressed The same commitment of quality is promoted The organizational culture all areas of an organization And thus Provide Customers' expectations of quality(shayan1384).

#### **The importance and necessity of quality management for the organization**

Nowadays the use of modern methods of management has become a necessity for the economic entities and organizations and the quality management has been able to assist as the most important and comprehensive methods by providing appropriate methods and models for this organization in the providing products and services with better quality and lower cost. Consequently, it is characterized by the necessity to applying these methods. Now the importance and status of quality have become the dominant attitude in organizations and communities has been proposed Quality management as necessary for the survival of organizations in today's competitive severe conditions (riahi1384). In the evolution of the industry, Standards and quality control explore and evaluate internal and external structures Industrial production units; although economic factors, technology and policy can play a direct role in the change of their structure. But the standard of culture and quality control When was felt in many communities, particularly in industrial societies that There was a balance level supply in the market supply and demand. The key to achieving this balance was mass production that was followed automation in order to maintain uniformity and reducing the manpower, to avoid increasing wages; this was synchronized by the implementation of standards and quality control, reduced cost and increased product offerings of desired quality; In other words, the

individuals had a further ability to purchase standardized goods and the other hand producers were forced to improve the quality of goods for The presence and supply goods In the a competitive market. Thus, The movement of the wheel of industrial revision and continuously improve Qualitative characteristics in the horizontal common. This movement has progressed as far as today is no longer enough to ensure the quality of the finished product, but to ensure continued product quality and timely delivery and facilitation of international trade should be approved the quality system of manufacturing or service facilities. In terms of quality, it should be noted that Satisfaction and utility is effective in development and growth and is not limited to the particular circumstances of time and place and every day will be added to the scope and degree of and its severity. So customer satisfaction depends on Quality of products and services. If can provide quality based on customer satisfaction are achieved profit, after quality gives satisfaction in all aspects and Depends on the needs and expectations of consumers for goods and services. Consequently, the quality is: meeting the needs and the reasonable expectations of consumers of goods and services (Sobel, M.E. 1982).

#### **Characteristics Total Quality Management**

The following key factors are considered characteristics of Total Quality Management:

- Prevention of violations Instead of later discovered it
- Focus on production processes and services
- Involvement and commitment to continuous improvement
- Involvement and commitment to innovation and new products
- The applicability of it to make it or do anything.

#### **The reasons for the establishment of a quality management system**

The Opinions of some managers of major international corporations which Nowadays is considered, each one of the world's economic giants are expressed in terms of the need to establish a quality management system.

1. The quality management is a critical element for the long-term survival.
2. To identify and fulfill the needs and demands of customer is necessary to establish a quality management system.
3. The Quality is same as customer satisfaction and Customer satisfaction means more sales and more revenue.
4. The quality means that if the customer was dissatisfied with the product could be return it.
5. The product on delivery is possible by defining quality by customer
6. Decreases production risk and waste

7. Improving the flow of information through documentation
8. The quality is associated with behavior management
9. The quality causes increase the motivation of human resources
10. Increasing ability to compete in world markets.
11. Confirm of the Competence of quality management system

#### **Total Quality Management of Benefits for the organization**

The organization which has been established Total Quality Management on them that they have the following properties:

1. Have Special attention Customers and meet their needs and wants therefore Able to react quickly the needs of customers, and they can concentrate their limited resources on activities that lead to customer satisfaction.
2. The continuous improvement of the processes is caused which leads to higher quality products and services; In fact, continuous improvement is a step by step improvement of components so to get to market more quickly and by using of experiences gained, continue to achieve continuous improvement of quality in higher sequentially.
3. They are looking Comprehensive participation of employees in other words, are used to achieve customer satisfaction and continual improvement of the capabilities of all employees.
4. Take part in social learning up to avoid re-inventing the way and provide quickly Quality of execution procedures and the quality of culture.

#### **The concept of productivity**

The Productivity is the concept which is used to display the Output of an individual, unit and organizational. If the organization of productivity is more, it would be lower unit labor cost. In today's competitive world, if we want to increase the productivity of our work with less manpower less time, less space and generally fewer resources we should be have more production. The productivity of an organization depends more than anything on Knowledge, skills, abilities, attitudes and behavior of its employees.

Productivity is always a dynamic word which is always exposed to evolution and change, if we consider the productivity as culture of optimum use of available facilities; obviously, we have a responsibility versus all of God's blessings. In fact, in this concept is which the future generations also by modeling make foundations of their life (Ton, Z., A. Raman. 2008).

#### **The importance of productivity and the necessity of its improvement**

In the today, the productivity is called a procedure, the concept and an attitude about work and life. Actually, View to it as a culture and a worldwide, the productivity can be involved in the all affairs, Work and personal life and social. The most important objectives are following governments and institutions are Sustainable productivity, change, innovation, and quality of life. The productivity of measuring is a part of the improving process and increasing productivity. The measuring is accompanied with ups and downs of the performance, the diagnosis of productivity of requirements, required location for assistance and also when is effective the assistance that all are important factors and powerful changes increasing of productivity or contribute to productivity improvement programs, Knowledge of planning and design models and the skills and Demands implementation of Techniques for Measuring of productivity. The improve productivity is required Comprehensive and planning Efforts of the people and authorities that is needed to improve of labor conditions and change of stimulants, methods of employee motivation, improving of systems and rules, Directives, Instructions(Ton, Z., R.S. Huckman. 2008).

#### **Effective factors in increasing and improving of productivity**

In order to better utilize of the labor, should be consistent to make the necessary training of Coordination and sympathy among employees and their objectives consistent with organizational goals. The performance management, is caused to align employees by creating a collaborative environment and expression organizational goals to employees and the ways of achieving them and also developing an evaluation meeting and employees Guidance and the use of performance-related pay system; Thereby, increased labor productivity. In such a system, the employees are more dependent to organization. Satisfactory performances of the employees cause to improve the overall performance of the organization; therefore is caused by an interactive obligation among employees and the organization that The result is not anything but improve performance the efficiency and productivity organization. In productivity is caused a type of coordination between employee objectives and organizational goals which should attempt even more employees to achieve organizational goals and most of their goals will be achieved that is the coalescence of compensative activities and greater respect and On the other hand, The organization earned more revenue by increasing productivity in the competitive

environment and will provide Compensative payments and better facilities available to human resources.

### Productivity and Total Quality Management

The productivity, long time has been considered as a key issue for organizations. The role of productivity is unmatched in the way of economic development social and cultural organizations. The productivity assists the organization to achieve its mission and goals through associated with two valuable factors i.e. the labor and management and with the participation of them. The most efficient organizations are committed to improving the quality of working life, participation, Continuous improvement of processes, staff training and education, Satisfy customer expectations and improve efficiency and effectiveness in its organizational environment. In this regard, total quality management, which includes the above mentioned principles, it will be important tools for achieving to the quality of labor and to its adherence of Human resources and organizational productivity. The Organizations need to achieve organizational productivity should be increase the productivity of their employees; so should provide the conditions for the implementation of TQM because it is considered in a growing organization as a prerequisite for organizational

productivity. One of the important aims of Total Quality Management is enhancing employee productivity that will cause improvement of the organization's activities. The effective factors on Total Quality Management include employee involvement, employee empowerment, and continuous improvement. If these elements are identified and evaluated carefully, they will follow the success of TQM objectives and consequently will cause to increase customer satisfaction (internal and external) and increasing organizational productivity. Quality management promotes productivity the practical in production and industrial organizations. The purpose of the use of quality management is to empower all employees to maximize efficiency. The use of total quality management system provides the focal until employees can offer their capabilities, experience and knowledge with participation. The use of quality management, are trying all the employees until their organization is the best organizations competition with other organizations (Huselid, Mark, 1995). This subject leads to the growth of production Improve quality for the customer and lower cost for the manufacturer. As a result, the productivity influences on the level of productivity and finally profit amount of organization. Figure 1 shows the relationship between productivity, quality and profitability.

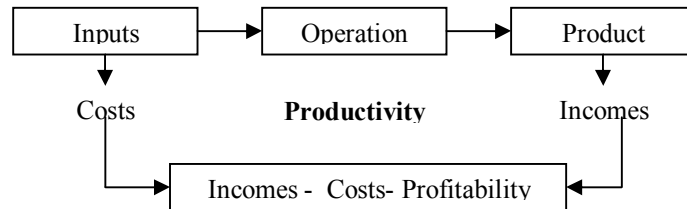


Figure 1. The relationship between productivity, quality and profitability

### Total quality management and productivity of the Jahrom's Power Plant

The high price of energy, uncontrolled growth of industrialization of societies and their growing demand for energy have caused that the Countries carry out policies entitled "Energy Productivity policies" to prevent uncontrolled and inefficient energy consumption and decrease production costs. The ministry of Energy has also approved applications to promote efficiency in the electricity industry in 2010 and has put on its agenda. This application has been defined in various fields such as industry, power generation, transmission and distribution of electrical energy but it is clear that these programs do not have the same executive Priority and the same impact on improving productivity in the electricity industry. The electricity industry is dynamic and effective due to the

fundamental role and Close connection with effective factors in economic and industrial growth and has extremely important to increase its efficiency and productivity. Economic and industrial activities of each country are dependent on the electricity industry that in the absence of it is imported substantial damage on the body of the country's production and in this respect has always been considered (Loveman, G. 1998). The Ministry of Energy has an effective role in social welfare and economic growth by promoting the productivity and utilization of new technologies, environmentally friendly and compatible with current and future infrastructure and development of Participation and professional and creative human resource of productivity as the most valuable asset.

### The research hypotheses

#### A) The main hypothesis

There is a significant relationship between total quality management and employee productivity Of Jahrom's power plant.

### B) Sub-hypotheses

1. There is a significant relationship between employee participation and productivity of human resources at the power plant Of Jahrom.

2. There is a significant relationship between employee empowerment and productivity of human resources at the power plant Of Jahrom.

3. There is a significant relationship between the continuous improvements in productivity of the manpower in power plant Of Jahrom.

### Materials and Methods

The research methodology is a collection of rules, tools, and a reliable and systematic way to investigation of facts, discovering of unknown and achieve to the solution. The Selection of method and manner of doing any work is considered as the basis of its performance. The statistical population is Staff at the power plant Of Jahrom Which includes employees and contract personnel of technical and service sectors and according to statistics of the organization, the staff includes 130 employees excluding managers. In the applied research is matter how closely the sample size to the number of community members, the research would be more validity and reliability and the results can be more reliable. The sample size was selected using equation (1) from the total population of 120 people on staff and the research was based on 68 randomly. By the initial sample of 30 employees, was obtained from the variance of 0.2. By replacement of this value in equation (1) the final sample size was obtained 68 by confidence level 0.95. Since, typically some of the questionnaires is not returned, The 70 questionnaires were distributed and eventually only 68 questionnaires were completed and was used as the basis.

### Sampling (The error of standard deviation 5%):

### .Equation 1

$$n = \frac{N \times Z_{\frac{\alpha}{2}}^2 \times S^2}{\epsilon^2 (N - 1) + Z_{\frac{\alpha}{2}}^2 \times S^2}$$

n: The sample size

N :The population size

S<sup>2</sup>: The estimation of variances

$$Z_{\frac{\alpha}{2}}$$

One of the most common methods of data collection is the questionnaire method that it makes possible data collection of large-scale. The outstanding point of this method is a data collection on large-scale by extremely low cost (hafeznia). By using a questionnaire can be assessed knowledge, interests, attitudes and opinions of the individual, realized in His previous experience and became aware what is currently done (sarmad). In the survey research to collect the required information has been used questionnaire method to confirm or refute the research hypotheses. In this study has been used to achieve the desired data from the two types of questionnaires. The questionnaire of productivity is included manpower and the questionnaire management is involved quality.

### Questionnaire of labor productivity

According to the research questions and hypotheses have been used in labor productivity of the questionnaire included 41 questions prepared by Hussein Ali Jahed (1385). After assessing the efficacy questionnaire, some of the repetitive questions were removed and 33 questions were selected. Each of these expressions has been adjusted in a range of five point Likert questionnaires, from very high to very low, which has been entitled to score of the responses from the score of 5 to 1 with consideration of the rating responses. Table 1 shows a score of 5 to 1 considering the grading response of measured parameters in the questionnaire.

**Table 1:** measured parameters in the questionnaire of productivity

The questions	parameters
1,2,3	Power
4,5,6	recognizing of Job
7,8,9,10,11	Organizational support
12,13,14	Motivation
15,1,17,18	The feedback and Performance
19,20,21	Credibility of decisions
22,23,24	Employees compatibility with the natural factors
25,26,27,28,29	Participation
30,31,32,33	Education



### Total Quality Management questionnaire

According to the hypotheses and research questions, the researcher has designed questionnaire that includes Total Quality Management of the stated dimensions in the hypothesis including participation, employee empowerment and continuous improvement. To adjust the questionnaire, the researcher studied the questionnaire of Total Quality Management and after survey, questionnaire was designed in the form of 24 questions and three types of scales have been used in this questionnaire.

A) Measure the distance: This measure examines Weaknesses and intensities of traits. The respondents express their opinion as completely agrees to completely disagree. The expressions of attitudes are considered as interval.

B) Ordinal scale: for example educational level and educational level

C) The nominal scale of measurement: such as gender (male or female).

### Reliability

Reliability is the concept that a measurement tool Show the same results if it is applied to the same conditions and at another time and place. there are several methods for assessing Credibility of such measurement tools that can be pointed to Running again (test-retest), Parallel method (peer), Classification methods (split-half), kuder richardson methods and Cronbach's alpha coefficient (Sarmad). Cronbach's Alpha is used to calculate internal coordination of measurement instruments such as questionnaires or tests that measure different attributes. For the calculation of Cronbach's alpha, must be calculated variance of scores and the total variance for each sub-question of the questionnaire; Then, by using of equation 2 Can be calculated the Cronbach's alpha coefficient.

**Equation2.** Calculation of the Cronbach's alpha coefficient

$$\alpha = \frac{k}{k-1} \left[ 1 - \frac{\sum_{i=1}^k S_i^2}{S^2} \right]$$

In this equation  $\alpha$  is Test validity,  $k$ : The number of testing questions;  $S_j^2$ : Variance of subset  $j$  and  $S^2$ : The total variance ( sarmad) Nanli (1987) recommends that Cronbach alpha of the tool is greater than the minimum 0.7, it has adequate aspect of validity. In this study, using the software Spss, has

been prepared Cronbach alpha coefficients for each of the questionnaire that were expressed in Table 2.

Table 2. Cronbach alpha coefficients for Variables

Cronbach alpha coefficient	questionnaire
0/884	labor productivity
0/875	Total Quality Management

According to the obtained coefficients we found that the reliability and Credibility of the research's questionnaire are higher than the standard 0.7 and thus have good reliability and validity.

### The conceptual model and the flowchart of steps

A) The conceptual model consists of independent variables (Total Quality Management) and the dependent variable (productivity of human resources). Aspects of Total Quality Management systems include: employee participation, employee empowerment and continuous improvement.

H<sub>1</sub>: The main hypothesis of this study

H<sub>2</sub>: The first sub-hypothesis of this study

H<sub>3</sub>: The second sub-hypothesis of this study

H<sub>4</sub>: The third sub-hypothesis of this study

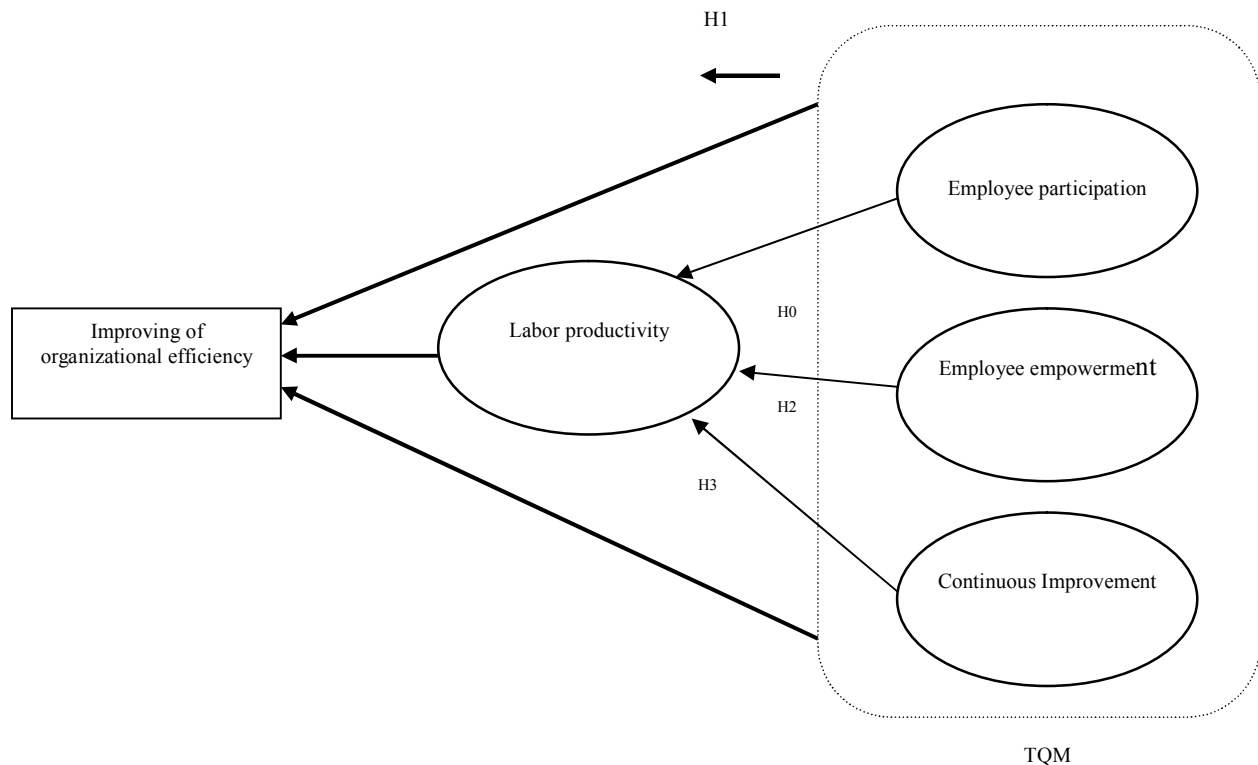
### The first sub-hypothesis

There is a relationship between employee participation and labor productivity in the power plant of Jahrom.

H<sub>0</sub>: There is no relationship between employee participation and labor productivity in the power plant of Jahrom.

H<sub>1</sub>. There is a relationship between employee participation and labor productivity in the power plant of Jahrom.

In this section is presented to investigate the relationship between employee participation and the labor productivity. Table 3 shows the correlation coefficients of the variables, employee participation and the manpower productivity. It Can be seen in the above test was achieved the level of significance much smaller than the level of error (p-value=0.000<0.05). Thus, the null hypothesis was rejected; therefore, between two variables a significant linear relationship, thus, by increasing employee participation in the organization will increase labor productivity.



**Figure 2.** The conceptual model

**Table 3.** Pearson correlation coefficients between employee participation and labor productivity in the organization

Result	Significant level	The correlation coefficient	Number	Factor
Rejection of $H_0$	$P < 0.05$	0.707	68	employee participation

### The second sub-hypothesis testing

There is a relationship between employee empowerment and labor productivity in the power plant of Jahrom:

$H_0$ : There is no relationship between employee empowerment and labor productivity in the power plant of Jahrom.

$H_1$ : There is a relationship between employee empowerment and labor productivity in the power plant of Jahrom.

In this section is presented to investigate the relationship between employee empowerment and the labor productivity. Table 4 shows the correlation coefficients of the variables, employee empowerment and the manpower productivity. It can be seen in the above test was achieved the level of significance much smaller than the level of error ( $p\text{-value} = 0.000 < 0.05$ ). Thus, the null hypothesis was rejected; therefore, between two variables a significant linear relationship, thus, by increasing employee empowerment in the organization will increase labor productivity

**Table 4.** Pearson correlation coefficients between employee empowerment and labor productivity in the organization

Result	Significant level	The correlation coefficient	Number	Factor
Rejection of $H_0$	$P < 0.05$	0.863	68	employee empowerment

### The third sub-hypothesis testing

There is a relationship between Continuous Improvement and labor productivity in the power plant of Jahrom:

$H_0$ : There is no relationship between Continuous Improvement and labor productivity in the power plant of Jahrom.

$H_1$ : There is a relationship between Continuous Improvement and labor productivity in the power plant of Jahrom.

In this section is presented to investigate the relationship between Continuous Improvement and the labor productivity. Table 5 shows the correlation coefficients of the variables, Continuous Improvement and the labor productivity. It can be seen in the above test was achieved the level of significance much smaller than the level of error ( $p\text{-value}=0.000<0.05$ ). Thus, the null hypothesis was rejected; therefore, between two variables a significant linear relationship, thus, by increasing Continuous Improvement in the organization will increase labor productivity.

**Table5.** Pearson correlation coefficients between Continuous Improvement and labor productivity in the organization

Result	Significant level	The correlation coefficient	Number	Factor
Rejection of $H_0$	$P<0.05$	0/809	68	Continuous Improvement

### Total quality of management

There is a significant relationship between implementation of Total quality of management and labor productivity in the power plant of Jahrom

$H_0$ : There is no relationship between implementation of Total quality of management and labor productivity in the power plant of Jahrom.

$H_1$ . There is a relationship between implementation of Total quality of management and labor productivity in the power plant of Jahrom.

In this section is presented to investigate the relationship between implementation of Total quality of management and the labor productivity. Table 6 shows the correlation coefficients of the variables, implementation of Total quality of management and the labor productivity. It can be seen in the above test was achieved the level of significance much smaller than the level of error ( $p\text{-value}=0.000<0.05$ ). Thus, the null hypothesis was rejected; therefore, between two variables a significant linear relationship, thus, by increasing implementation of Total quality of management in the organization will increase labor productivity.

**Table 6.** Pearson correlation coefficients between implementation of Total quality management (independent variable) of and labor productivity

Result	Significant level	The correlation coefficient	Number	Factor
Rejection of $H_0$	$P<0.05$	0/954	68	Total quality management

### Multiple regression analysis

In this case we consider the labor productivity as the dependent variable and dimensions of Total quality management system as independent variables. The results are given in Tables 7 and 8. In Table 7 were shown multiple correlation coefficients, coefficient of determination, adjusted coefficient of determination and standard errors.

Table7. Analysis of Variance

correlation coefficients	coefficient of determination	adjusted coefficient of determination	standard errors
0.959	0.920	0.917	0.13459

In Table 8 and in column B has been proposed respectively, regression coefficients and constant value. Column B; b: The standardized coefficients indicate that there is the little change in the dependent variable per one standard deviation change in the independent variable that the absolute value is the bigger, There is a stronger relationship between the independent and dependent variables. T statistics and significance levels are provided to test the hypothesis of equality of coefficients in each column of B by a value of zero. Since this study is denied Significance level of the test of equality of regression coefficients and the constant value with a zero value and there is no need to remove them from regression equation; In other words, the three independent variables and the constant value are effective on the dependent variable. To compare the effects of three independent variables on the dependent variable in the regression model, is only used the standardized coefficients. Column standardized coefficients indicate that Continuous improvement is the most effective because per unit change in the variable is created the rate of 0.464, in the variable labor productivity.



**Table 8.** Regression coefficients

B	Not standardized coefficients		Standardized coefficients	T-statistics	The level of significance
	Regression coefficients	standard error of The coefficients	$\beta$		
Constant value	-0.075	0.127	0.386	-0.598	0.558
participation	0.313	0.035	0.316	8.927	0.000
Empowerment	0.265	0.049	0.464	5.383	0.000
Continuous Improvement	0.467	0.051		9.100	0.000

Then by using of the Pearson correlation test was examined in research hypotheses and all hypotheses were confirmed. Table 9 shows the results of the correlation of each independent variable on the dependent variable (productivity). Then used to determine the coefficients of the variables and their impact of multiple regression tests and was obtained the regression equation as follows:

**Table 9.** Results of correlation test for variables

result	Significant level	correlation coefficients	Sample size	variable
Rejection of H0	P<0.05	0.707	68	participation
Rejection of H0	P<0.05	0.863	68	empowerment
Rejection of H0	P<0.05	0.809	68	Continuous Improvement
Rejection of H0	P<0.05	0.954	68	Total quality management

The equation of regression of independent and dependent variable

$$y = a + b_1x_1 + b_2x_2 + b_3x_3$$

y: dependent variable (labor productivity)

a: constant value = 0.075

b<sub>1</sub>: coefficients of variable of employee participation (x<sub>1</sub>: 0.313)

b<sub>2</sub>: coefficients of variable of employee empowerment (x<sub>2</sub>: 0.265.)

b<sub>3</sub>: coefficients of variable of Continuous improvement x<sub>3</sub>: 0.467)

$$Y = -0.075 + 0.313x_1 + 0.265x_2 + 0.467x_3$$

## Conclusion

The first sub-hypothesis research based on that there is the relationship between employee participation and labor productivity in the power plant of Jahrum can be accepted. According to the results in Table 3, because the correlation is a positive number (0.707) thereby by increasing employee participation of independent variable, will increase dependent variable of labor productivity and due to proximity of significant level to zero, It can be concluded that The correlation coefficient is significant. The second sub-hypothesis research based on that there is the relationship between employee empowerment and labor productivity in the power plant of Jahrum can be accepted. According to the results in Table 4, because the correlation is a positive number (0.863) thereby by increasing employee empowerment of independent variable, will increase dependent variable of labor productivity and due to proximity of significant level to zero, It can be concluded that The correlation coefficient is significant. The third sub-hypothesis research based on that there is the relationship between Continuous Improvement and labor

productivity in power plant of Jahrum can be accepted. According to the results in Table 5, because the correlation is a positive number (0.809) thereby by increasing Continuous Improvement of independent variable, will increase dependent variable of labor productivity and due to proximity of significant level to zero, it can be concluded that the correlation coefficient is significant. The main of hypothesis research based on that there is the relationship between Total quality management and labor productivity in power plant of Jahrum can be accepted. According to the results in Table 6, because the correlation is a positive number (0.954) thereby by the increasing Total quality management of independent variable, will increase dependent variable of labor productivity and due to proximity of significant level to zero, it can be concluded that the correlation coefficient is significant. In order to examine Simultaneous impact of independent variables on the dependent variable (productivity) was used of the regression equation. By using Table 8, was related to regression equation and according to the column of significance level, the positive coefficients

of variables in the obtained regression equation Can concluded that is significantly the effect of three independent variables, namely Participation, empowerment and continuous improvement on the dependent variable( labor productivity). It should be mentioned that according to Table 7 the modified Determination coefficient (0.917) indicates a proper understanding of the model.

Multiple regression equation: Continuous  
Improvement 0.4678+ Empowerment 0.265+  
Participation 0.313 +Total quality  
management=productivity

The results of the Pearson correlation test show that there is a high correlation between the independent variables, namely participation, empowerment and continuous improvement and labor productivity as the dependent variable. The significant relationship between these variables indicates that there is a direct and positive relationship between

them. Therefore, the results indicate that more attention should be paid to these factors in their organization, increasing labor productivity and the contrary; these factors are considered less would be a reduction in labor productivity; also The correct and efficient implementation of a total quality management system and considering its massive aspects especially are considered those aspects of human resources will improve the productivity of labor. Results of research show Employee participation by using of the cooperative management system and recommendation system, Empowering employees By using appropriate and useful of training systems, Increasing discretion of employees and also Continuous improvement of processes and methods, The use of modern equipment that All this is considered the result of correct implementation of a total quality management system.

#### **Reference**

Not available in this paper.

12/1/2013