The impact of Total Quality Management on organizational performance Case of Jordan Oil Petroleum Company

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Abstract

This study aimed to examine the impact of TQM implementation on organizational performance. The study was conducted in Jordan Petroleum Refinery Company (JPRC), the study sample size was (103) managers from different levels. The researcher depended on primary and secondary data. The results show that TQM has positive impact on organizational performance. In light of these findings, the study provided a set of recommendations.

Keywords: TQM practices, organizational performance, Jordan Petroleum Refinery Company

1. Introduction

Globalization, intense worldwide competition and ever-changing customer demands have dramatically changed the business environment during the past few decades. In response to the above mentioned changes. Jordanian organizations have adopted different quality management standards such as ISO9000, Total Quality Management (TQM), etc. On the other hand, the emphasis on TQM as a new way of managing companies to improve competitiveness has increased considerably over the past few years. Different Studies showed the positive impact of total quality implementation on organizational performance.

The case study was conducted in Jordan Petroleum Refinery Company (JPRC). Jordan Petroleum Refinery Company (JPRC) is the sole petroleum refinery in Jordan. The Refinery site is located in the city of Zarqa around 35 km east of the Capital Amman. The company's Headquarters are in the capital Amman **.**The company also owns Lube oil blending facility, three LPG bottling stations and LPG storage facilities, located in the Amman, Zaraq, & Irbid **.** The company also owns and operates its only oil terminal and storage facilities in the city of Aqaba. The total number of employees by the end of 2011 was (3372) (56th Annual Report For the Year Ended 2011). JPRC understands the importance of 'Total Quality Management'. Quality assurance is observed throughout the different phases of the production, namely: blending, filling and loading. Comprehensive program in implementing the quality system as per the guidelines of ISO 9001: 2000 was undertaken from the beginning. JPRC has maintained its certification in compliance with ISO since June Aug 2007. (JPRC web site). The above mentioned has prompted the researcher to examine the extent to which quality management principles are implemented at Jordan Petroleum Refinery Company and its impact on organizational performance.

1.1 Objectives of the study

This empirical study aims to achieve the following objectives:-

1. To determine the extent to which the principles of TQM are implemented at Jordan Petroleum Refinery Company.
2. To view the impact of Total Quality management (TQM) principles on the performance of Jordan Oil Petroleum Company

1.2. Problem statement and its elements

To date, and despite the fact that many Jordanian firms began to adopt TQM principles in the last two decades, the literature on TQM practices and its impact on Jordanian performance is still limited especially ones in oil industry. Therefore, this motivates the researcher to investigate the impact of total quality management practices on organizational performance at Jordan oil Petroleum Company

1.3 The research questions that guided this study are:-

1. To what extent the principles of TQM are implemented at Jordan Petroleum Refinery Company?
2. What is the impact of TQM implementation on organizational performance?
3. What is the impact of TQM implementation on operation efficiency?
4. What is the impact of TQM implementation on employee satisfaction?

1.4 Research hypothesis

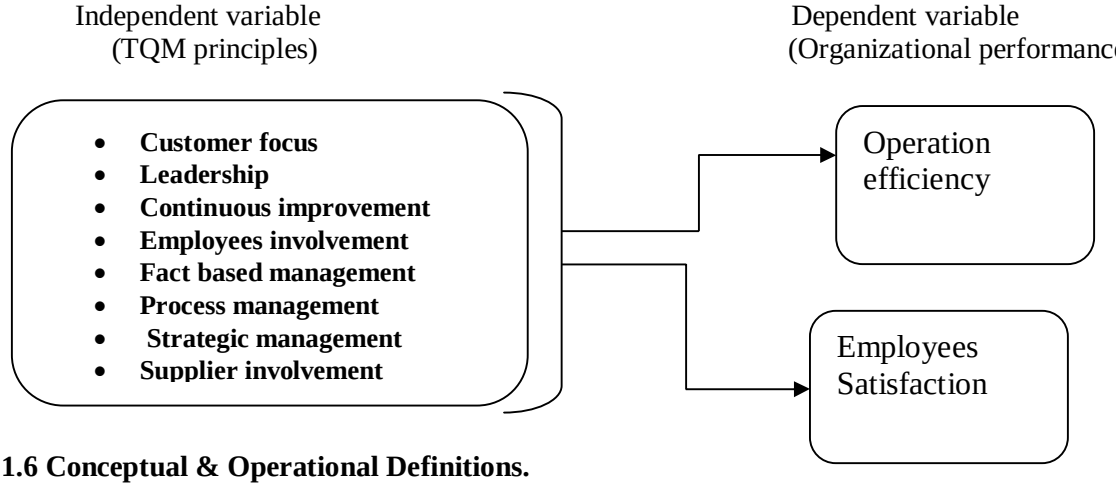
Main hypothesis (H01): There is no statistically significant impact at ($\alpha \leq 0.05$).of TQM principles on organizational performance

Sub-hypotheses: H01.1: There is no statistically significant impact at ($\alpha \leq 0.05$).of TQM principles on operation efficiency

H01.2: There is no statistically significant impact at ($\alpha \leq 0.05$).of TQM principles on employees' satisfaction

1.5 Research model

This model was developed by the researcher based on the following studies:- , Flynn et al. (1994), Powell. (1995), Zhang, (2000), Evans., and W.Dean ((2003) ,Das et al. (2006) , Munizu. (2013), and Olcay (2014). The research framework can be seen below;-



1.6 Conceptual & Operational Definitions.

Total quality Management

A culture adopted by the organization and deployed to all employees in the organization, in order to achieve the customer satisfaction.

Customer focus

The degree of an organization toward serving its clients' needs and expectations. By determining the customer's needs, as well as to receive feedback on the extent to which those needs are being met., and through involving the customer in the product design and development process, and focusing in achieving greater customer satisfaction.

Leadership

It is the degree of acceptance of quality responsibility by top management, and participation in quality improvement efforts and monitoring this application. Including, identifying culture for quality, commitment for quality improvement, guiding and affecting the company in setting quality strategy direction and sustaining effective leadership through the organization. They set policy, plan strategy and launch tactics for staff to execute.

Employee Involvement

Involvement of employees in quality enhancement activities such as: teamwork, employee suggestions, and employee commitment.
– Process management

The effective and efficient process's design, management and improvement that fully satisfy, and generate increasing value for, customers and other stakeholders.

- Strategic Quality Planning: - a systematic approach to defining long-term business goals, including goals to improve quality and plans to achieve them. It includes:-Analysis of external and internal environmental, strategy development, strategy deployment, and evaluation and control
– Continuous improvement

A continues effort to find new ways and techniques in producing better quality products and services. Production, be more competitive, as well as exceed customer expectations.
-Supplier quality Management
The set of supplier-related quality management practices for improving suppliers' quality of products and services. This is exemplified by firm-supplier partnership, product quality as the criterion for supplier selection, participation in suppliers, communication with suppliers, understanding of supplier performance, and supplier quality audit (Zhang, 2000).

Fact based management

Effective decisions are based on data and information analysis. This is achieved by taking measurements and collecting data and information related to the purpose, and to ensure the accuracy and validity of the data, information, and easy access to, and analysis of data and information methods, and realize the importance of using appropriate statistical techniques, and decision-making builds on the results of logical analysis.

Organizational Performance: - A set of financial and nonfinancial indicators which offer information on the degree of achievement of objectives and results (kaplin and Norton,1992).

2. Literature review

The impact of QM practices on firm performance has been the subject of constant interest and challenge among researchers. In this study, the reviewed literature is organized and classified along three main themes: Total Quality Management, TQM principles, organizational performance and relationship between TQM –performance.

2.1 Total Quality Management

The subject quality management is broad, many of researchers who defined the concept. . The Chartered Quality Institute defines TQM as organizational management philosophy which enables it to meet stakeholder needs and expectations efficiently and effectively, without compromising ethical values. The American Society for Quality looks to TQM as a management approach to long-term success through customer satisfaction. Kaluzny see TQM a s systematic approach to planning and implementing continues organizational improvement process focusing on customer satisfaction, building commitment and promoting open decisions.

Al Ali (2008) looks at TQM as the interaction of input including individuals, methods, policies and instruments to achieve high quality output. It is a management philosophy with a comprehensive set of tools and approaches to the purposes of implementation.

2.2 Total Quality Management Principles

There is a consensus view that companies should follow a number of principles in an integrated way for successful TQM implementation .Furthermore, to determine critical factors of total quality management, various studies have been carried out and different instruments were developed by individual researchers, Such as Flynn *et al*. (1994), Black and Porter (1996) , Ahire *et al*. (1996). Sun (2000), Motwani (2001) , and Zhang et al (2000), and institutions such as Malcolm Baldrige Award, EFQM (European Foundation For Quality Management), Deming Prize Criteria. ISO 900 and the Jordan business excellence model (JEBEM). Based on previous studies and models as seen in table (1) , the researcher chose the following eight TQ principles: - customer focus, leadership, continuous improvement, employee involvement, fact based management, process management, strategic quality management, and supplier involvement.

Customer focus

Organizations rely on their customers, so they must understand the current and future needs, and achieve their needs, and work to exceed their expectations. This is achieved through research and understand all the needs and expectations of the customer in terms of products, services and delivery date, price and reliability, and to link the goals established with the needs and expectations of the client, and follow the way of ensuring a balance between the needs and expectations of customers and other stakeholders (owners, employees, suppliers and the community), and inform all levels in the facility this needs and expectations, and measure customer satisfaction and act according to the results, customer relationship management to achieve the common interest.

Leadership

Total Quality philosophy derives its strength from the commitment of senior management in the application of total quality management in various organized activities. Leadership should play a key role in the establishment of a clear future vision of the facility, the development t of common values , justice and models of moral principles at all levels of the facility and maintain them, build trust and eliminate fear, and support personnel with the necessary resources and adequate training motivate employees and encourage the spirit of enthusiasm in them and appreciate the positive efforts, encouraging open communication, and improve awareness, education ,training of workers, and exhibit their commitment to quality by example.

Strategic Quality Planning: - Organizations today face a continuous barrage of requests to improve quality. Strategic Quality Planning is a process that quality departments, quality managers and quality professionals undertake in their organizations to identify the "right" quality initiatives to best manage quality today and on into the future. It includes following criteria: external and internal environmental analysis, development of quality mission, development of quality policy, development of quality strategic objectives, development of strategic quality plan, implementation of quality strategy and monitoring and evaluation of quality strategy.

Employee involvement: - Employee involvement is necessary for the success of quality programs. This can be achieved through using of work teams, looking for opportunities to raise the level of employee's competence, sharing information and experiences between the teams and groups and focusing on employee's motivation and loyalty. Research focused on the following quality enhancement activities such as: education, training, teamwork, employee suggestions and employee commitment.

Process management

Desired outcome achieved more effectively and efficiently when resources and activities are managed as a process-related. This is achieved by: identifying the activities needed to achieve the desired result, and measure the inputs and outputs of the process, and to identify the communication channels of main activities of the business, and the risk assessment results and the potential impacts of operations on customers, suppliers and other stakeholders, define clearly the responsibilities and authorities of the of the management of main activities. The focus should be on how best design, manage and improve processes in order to fully satisfy, and generate increasing value for, customers and other stakeholders.

Continuous improvement

A major component of TQM is continual improvement. Continual improvement leads to improved and higher quality processes. The term continues refers to both incremental and breakthrough improvement. Continual improvement ensures companies find new ways and techniques in producing better quality products, production, be more competitive, as well as exceed customer expectations. Continues improvement is designed to ensure efficient and effective utilization of the resources of the organization and to achieve a quality driven culture.

Fact-Based management

Organizations of all sizes and types will often succeed or fail on the quality of their decision-making; we need to adopt a fact-based decision-making approach. Fact-based decision making involves putting considerable initial emphasis on the gathering of facts, figures, data and evidence. Effective decisions are based on data and information analysis. This is achieved by taking measurements and collecting data and information related to the purpose, and to ensure the accuracy and validity of the data, information, and easy access to, and analysis of data and information methods, and realize the importance of using appropriate statistical techniques, and decision-making builds on the results of logical analysis.

Supplier management

An organization and its suppliers are independent and working together in partnering environment, and strive toward the same goal which is satisfying the end user. This is exemplified by firm-supplier partnership, product quality as the criterion for supplier selection, participation in suppliers, communication with suppliers, understanding of supplier performance, and supplier quality audit (Zhang, 2000). Benefits gained from successful relationship such as: Increase ability to create value for parties, long term commitment, mutual trust, flexibility and speed of joint responses to changing market or customer needs and expectations and optimization of costs and resources.

2.3 Organizational performance

Performance measurement is critical for the organizational effectiveness. Organizational performance comprises the actual output or results of an organization as measured against its intended outputs (or goals and objectives).Organizational performance involves the recurring activities to establish organizational goals, monitor progress toward the goals, and make adjustments to achieve those goals more effectively and efficiently. While examining the relationship between quality principles and practices and performance scholars have used different performance types such as financial, innovative, operational and quality performance. In this study two performance variables will be used to measure organizational performances which are the satisfaction level which will be measured by employee satisfaction, and operational performance results which will be measured by operational efficiency. A brief description of each measure:-

-Operational Efficiency: - It is the Company converts inputs into outputs in the form of products and services more valuable than the value of the inputs through the conversion processing. In this research operational efficiency will be measured by following indicators: - unit cost, quality, delivery, flexibility, and speed of new product introduction.

Employee satisfaction: is a measure of how workers are pleased with their job and working environment. Different factors influencing employee satisfaction such as: working condition, job safety and security, rewards system and career development.

2.4 Relationship between TQM and Organization Performance

There are many articles, studies, and surveys that describe the roles of quality in improving the organizational performance. It's quite evident that manufacturing and service industries business performances are impacted by TQM.

Das *et al*., (2006) found a positive association between TQM implementation and organizational performance and five of TQM principles, customer focus, continuous improvement, top management commitment, employee involvement, and product innovation have a significantly positive effect on product quality, recommending the use of reward and recognition for involving employees in TQM efforts.

Salaheldin (2008) revealed that the implementation of TQM has a positive effect on both the operational and the organizational performance. The results show that customer focus, continuous improvement, top management commitment, employee involvement and product innovation are significantly and positively related to product quality. Sadikoglu and Olcay (2014) found that different TQM practices significantly affect different performance outcomes and the main obstacles were lack of employee involvement, awareness and commitment of the employees, inappropriate firm structure, and lack of the resources. Abuzaid, (2015) indicated that the Jordanian private hospitals applying the total quality management practices with high degree. The highest focus of private hospitals within total quality management practices is on customer orientation, supplier management, high support from top management to the quality efforts and a concern from the target hospitals in participation of employees in quality management activities.

3. Research Methodology

The case study was conducted in Jordan Petroleum Refinery Company (JPRC) .The researcher used two sources for data collection and they are: - secondary sources by referring to text books, periodical journals, etc. and primary sources in which the researcher used the questionnaire technique to collect data required for the research. Respondents were managers from different levels including: executive managers, departments' managers, and heads of divisions. Questionnaires were distributed to 128 managers: - 4 executive managers, 39 departments' managers, and 85 heads of divisions. 106 were collected back, and 103 questionnaires were approved.

The percentage of questionnaires used in the statistical analysis to the excluded questionnaires was (80%). The questionnaire was in three parts. Part A included personal information about the sample, such as information regarding, their organizational, tenure, education, gender, age, and position. Part B included information on independent variable (leadership, quality strategic planning, customer focus, process management, supplier management, employee involvement, Fact based management and continuous improvement).

Part C included questions regarding organizational performance, respectively (operation efficiency & employees satisfaction)). Sample answered questions on a five point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The elements in this study were applied from different studies such as : ISO 9004:2009 and different researchers for example, Flynn *et al*. (1994) , Black and Porter (1996) , Ahire *et al*. (1996). Sun (2000) , Motwani (2001) , and Zhang et al (2000). An interval class was developed to analyse results of the study as follows: (1) Low; 1-2.33, (2) medium; 2.34 to 3.66 , (3) High (3) 3.67 to 5.00. The instrument was validated through a panel of referees; academic and professional experts with high professional background.

Regarding reliability of the questionnaire, a Cronbach Alpha for each dimension was computed to check internal consistency. As shown in Table (2), Cronbach Alpha in this study ranged from (0.72-0.95),It is obvious that all values of alpha are high, this indicates, that for each measure of variable, the items are highly correlated, and hence highly consistent.

4. Results Analysis

Respondents of this study have quite diverse characteristics .The personal data taken from the respondents including gender, age, experience, position and qualification. As seen in table (2), it seems that majority of the respondents who took part in this research was male gender (95.1**%)**, between ages 41 -50 years (54.4**%**). having experience 16-20 years (43.7%), having position within the company as a heads of division (73.8**%)**, and having level of education bachelor degree (91.3**%**).

4.1 Descriptive Results

Data was analyzed using descriptive statistical methods. An interval class was developed as follows: (1) Low; 1-2.33, (2) medium; 2.34 to 3.66, (3) High (3) 3.67 to 5.00. Table (3), shows the mean and standard deviation values of TQM principles and company's performance. According to table (3), respondents' have perceived TQM practices as medium category (3.641).The average value of the respondents' perception about the extent of implementation of TQM principles were ranging from 3.592 to 3.**975**, with standard deviation that ranges from 0.721to 0.554. The results for Process management focus indicated highest category (Mean = 3.975, Standard Deviation = 0.721); and Continuous improvement indicated lowest category with (Mean = 3.86, Standard Deviation = (0.721). where variable of organization performance was in high category (4.148), employees satisfaction the highest result (Mean = **4.708**, Standard Deviation = **0.275**), and operation efficiency as lowest result (Mean = 3.369, Standard Deviation =0.569)

4.2 Analytical results

Data was analyzed through following analytical statistical methods: - multiple regression, step wise multiple regression, and Pearson correlation coefficient, The Main Hypothesis (H01): There is no statistically significant impact at ($\alpha \leq 0.05$) of TQM principles(customer focus, process management, supplier management, employee involvement, fact based management , leadership , strategic planning and continuous improvement on organizational performance (operation efficiency and employee satisfaction).

As shown in table (4) The ANOVA table shows that the F-statistic was (7.703) and a significance level of (0.000). Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted, proving that there is an impact of TQM on the organizational performance. Based on the multiple regression models, three predictor variables were found to be significant in explaining organization performance. They are Continuous improvement ($\beta 1$=.413), fact based ($\beta 1$=.246), and process management ($\beta 1$=.215). The R-squared of (0. 596) ^{means} that the 59.6 % of the variation in organizational performance was explained by three variables.

4.2.2 Impact of TQM principles on operation efficiency

The multiple linear regression results in table (5) indicating support for first sub hypotheses (H1.1) with F value was (3.94) and a statistical significance of (0.000).Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted. It can be concluded that there is an impact of TQM on operation efficiency.

The regression results show that three predictor variables were found to be significant in explaining operation efficiency. They are continuous improvement (β1=.326), process management (β1=.237), and fact based (β1=.206), The R-squared of (.462) means 46.2 % of the variation in operation efficiency was explained by three variables .

4.2.3 Impact of TQM principles on employee satisfaction

The regression analysis results in table (6) are indicating support for second sub hypotheses (H1.2), with significance level of (0.000). Therefore, the null hypothesis is rejected. The alternative hypothesis is accepted, proving that there is a statistically significant impact of TQM on employee satisfaction. Multiple regression results show that only two predictor variables were found to be significant in explaining employees' satisfaction. They are Customer focus (β1=0.288), supplier management (β1=0.283). The R-squared of (**0.317**) indicated that the two predictor variables explained 31.7 % of the variation in employee satisfaction.

5. Conclusion and Recommendation

The aim of this study was to test the impact of TQM practices on organizational performance at Jordan Oil refinery Company. Major conclusions have been obtained from this research as follow:- First, the tool used for measuring TQM implementation and organizational performance are reliable and valid. Second, many conclusions have been taken o from testing the three hypotheses, as follows: (1) TQM has impact on organizational performance; (2) TQM implementation has an impact on operation efficiency; (3) TQM implementation has an impact employees' satisfaction. Overall, results are supported by most of the previous studies, such as: Zhang, (2000), Powell (2009) , Munizu. (2013), Awan and et al, (2009), Ware (2014) &Abuzaid (2015).

Recommendations

The researcher comes up with the following recommendations:-

- Top management in Jordan Oil Company should continue their effort in considering total quality management as a priority for their company in the future and involving the company to TQM implementation at all levels.
- It is recommended that the company should continue its look into ways to increase its employee's empowerment and participation. Continuous improvement is an important factor in TQM. The company should give this more attention in regards to the value of its implementation.
- The tool used for measuring TQM implementation and organizational performance is reliable and valid. The researcher suggests that Jordan Oil refinery Company can adapt this model to enhance its TQM efforts. The researcher suggests other researches to study TQM implementation from different viewpoint such as: customers, suppliers etc.

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Annexes

Table 1: The elements of TQM proposed in literature

Main reference	TQM factors
ISO 9004:2009	Customer focus, Leadership, Involvement of people, Process approach, System approach to management, Continual improvement Continual improvement of the organization's overall performance should be a permanent objective of the organization., Factual approach to decision making, Mutually beneficial supplier relationships
Flyyn et al. (1994);	Top management support, quality information, process management, product design, workforce management, supplier involvement, and customer involvement.
Black and Porter (1996)	Corporate quality culture, strategic quality management, quality improvement measurement systems, people and customer management, operational quality planning, external interface management, supplier partnerships, teamwork structures, customer satisfaction orientation, and communication of improvement information.
Ahire *et al*. (1996)	supplier quality management, supplier performance, customer focus, statistical process control usage, benchmarking, internal quality information usage, employee involvement, employee training, design quality management, employee empowerment, product quality, and top management commitment.
Sun(2000) , Motwani (2001)	leadership, strategic planning, customer focus, information and analysis, people management, process management, and supplier management
Al-Damen (2009)	(JBEAM). It contained the six major excellence criteria including: - (1) leadership, (2) strategic management, (3) resources (human resources, information, financial, and materials), (4) process, (5) customer & market focus, (6) and finally the business results

Source: Munizu, 2013, and li et al, 2002, and ISO900, aldamnen(2009)

Table 2: Characteristics of the survey respondents

Variable	Frequency	percentage
Gender		
Male	98	95.1%
Female	5	4.9 %
Age		
31- 40	3	2.9 %
41- 50	56	54.4%
51 and more	44	42.7%
Experience		
Less than 10	2	1.9 %
11-15	13	12.6%
16-20	45	43.7%
More than 20	43	41.7%
Qualification		
Diploma	4	3.9%
Bachelor	94	91.3%
Master degree	5	4.9%
Position		
Executive manager	1	1.0 %
Head of Department	26	25.2%
Head of division	76	73.8%

Table 3: Mean, Standard Deviation of Research Variables

No	Variable	Mean	S.D.	Rank	Importance
1.	**TQM practices (x)**	**3.641**	**0.491**		**Medium**
	Customer Focus	3.749	0.554	1	High
	Process management	3.975	0.721	2	High
	Supplier management	3.689	0.674	3	High
	Employee Involvement	3.683	0.620	4	High
	Fact Based Management	3.671	0.678	5	High
	Leadership	3.611	0.586	6	Medium
	Strategic planning	3.592	0.588	7	Medium
	Continuous improvement	3.592	0.721	8	Medium
2.	**Organizational performance (y)**	4.148	0.318		**High**
	Employee satisfaction	4.708	0.275		High
	Operation efficiency	3.588	0.569		Medium

Table 4: Impact of TQM principles on organizational performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.629[a]	.596	.345	.53363

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.548	9	2.193	7.703	.000[a]
	Residual	26.768	94	.285		
	Total	44.316	103			

a. Predictors: (Constant), customer focus, process management , supplier management, employee involvement, fact based management, leadership , strategic planning and continuous improvement

b. Dependent variable: performance

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	**(Constant)**	**1.157**	**.400**		**2.892**	**.005**		
	Customer Focus	**.093**	**.113**	**.091**	**.824**	**.412**	**.474**	**2.112**
	Leadership	**-.162-**	**.137**	**-.167-**	**-1.176-**	**.243**	**.285**	**3.504**
	strategic	**-.144-**	**.112**	**-.149-**	**-1.290-**	**.200**	**.430**	**2.324**
	Involvement	**.098**	**.109**	**.106**	**.899**	**.371**	**.408**	**2.450**
	Factual approach	**.206**	**.102**	**.246**	**2.022**	**.046**	**.387**	**2.582**
	Process	**.237**	**.104**	**.215**	**2.286**	**.025**	**.648**	**1.544**
	supplier	**.007**	**.079**	**.008**	**.090**	**.928**	**.654**	**1.529**
	Improvement	**.326**	**.078**	**.413**	**4.163**	**.000**	**.581**	**1.722**
a. Dependent Variable: performance								

Table 5: Regression Analysis of TQM Principles on operation efficiency

Model Summary

Coefficients								
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**	**Collinearity Statistics**	
		B	**Std. Error**	**Beta**			**Tolerance**	**VIF**
1	**(Constant)**	**1.157**	**.400**		**2.892**	**.005**		
	Customer F	**.093**	**.113**	**.091**	**.824**	**.412**	**.474**	**2.112**
	Leadership	**-.162-**	**.137**	**-.167-**	**-1.176-**	**.243**	**.285**	**3.504**
	strategic	**-.144-**	**.112**	**-.149-**	**-1.290-**	**.200**	**.430**	**2.324**
	Involvement	**.098**	**.109**	**.106**	**.899**	**.371**	**.408**	**2.450**
	Factual approach	**.206**	**.102**	**.246**	**2.022**	**.046**	**.387**	**2.582**
	Process	**.237**	**.104**	**.215**	**2.286**	**.025**	**.648**	**1.544**
	supplier	**.007**	**.079**	**.008**	**.090**	**.928**	**.654**	**1.529**
	Improvement	**.326**	**.078**	**.413**	**4.163**	**.000**	**.581**	**1.722**

Table (6) Regression Analysis of TQM Principles on employee satisfaction-Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	**.680[a]**	**.317**	**.563**	**.43524**

a. Predictors: (Constant), improvement , Process, customer focus, supplier, strategic, participation, factual approach , Leadership

ANOVA

Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	**Regression**	**12.192**	**8**	**1.524**	**5.454**	**.000[a]**
	Residual	**26.267**	**94**	**.279**		
	Total	**38.459**	**102**			

predictors: (Constant), Improvement , Process, customer focus, supplier, strategic, participation, Fact based management, Leadership