THE EFFECT OF LEADERS AND MANAGERS TO THE TOTAL QUALITY IN PETROLEUM INDUSTRY

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ÖZET: Bu makalede lider veya yöneticilerin petrol işletmelerdeki toplam kalite yönetimi üzerindeki etkisi anket yöntemi kulanılarak incenlenmiştir. Araştırma modeli olarak betimsel analiz modeli uygulanmıştır. Üç farklı bölgede ve ülkede, altı uluslararası petrol şirketinde çalışan çoğunluğunu petrol mühendislerinin oluşturduğu 139 kişi üzerinde, anketler yapılarak uygulanmıştır. Elde edilen bulgular incelendiğinde petrol işletmelerinde liderliğin Toplam Kalite Yönetimini sağlamada en etkili faktörden biri olduğu ve katılımcıların organizasyonlarında bulunan liderlerin yönetim stratejilerini destekledikleri ortaya çıkmışır.

Anahtar Kelimeler: ToplamKaliteYönetimi (TKY), Liderlik, Yönetici, Petrol sanayi

ABSTRACT: In this article, the effect of leaders and managers on the total quality was analyzed by means of questionnaires. Descriptive model has been applied as the survey model. 139 participants, mostly petroleum engineers working in three different regions and countries, were interviewed. After the analysis of the information gained from participants, it was found out that leadership was one of the most effective factors and all participants supported their managers' management strategies.

Key words: Total quality management (TQM), Leadership, Manager, Petroleum industry.

INTRODUCTION AND LITERATURE ANALYSIS

Quality usually refers to the excellence of a product or service. Although concepts such as quality of personnel, quality of management, quality of a system, quality of process, and quality of hardware should be remembered. (Aktan, 1999).Ozevren defined quality is as "measurable management values" and related with quality of management (Ozevren, 2000).

In 1950 and 1960s, globalization period, researches and ideas contributed by researchers such as Philip Crosby, Edward Demings, Arnord Feigebaum, Joseph Juran, Kaoru Ishikawa, Genichi Taguchi and so on effected the quality to be the idea which directs all organizational activities (Bumin and Erkutlu, 2002, p83).

Leadership concept began to be used in 1400s. Researchers defined leadership mostly according to their own perspectives and factors which they thought to be important. In 1950s, a lot of researches carried out related with leadership and according to this researches leadership was also defined in various ways. Some of these definitions are summarized below.

Leadership is sum of the all behaviors for focusing all the activities to a common aim. Leadership is to move the organization and to make the organization continue this movement by means of common thoughts and mutual behaviors. Leadership is the role which co-ordinates the people according to the condition and replies the questions to achieve aims. Leadership is to effect behaviors, and organized group to achieve the goals. As it can be seen all the definitions come to same point. Common criteria in them are particular goal, particular group.

Moreover, this work in petroleum organizations is to define the approaches such as whether the chief does his own duty completely, whether the chief is fair, whether the chief is reliable, whether the chief informs the workers about hindrances, and problems in his own work, whether the chief is interested in the problems, and assists in solving them, whether it is allowed to talk to the chief directly. It is expected that this study will be guide to the further studies in this area. Firstly, in this frame, conceptual and theoretical frames were put forward. Then the questionnaires interviewing 139 workers, most of whom were engineers, working in three different regions, and three different countries, six petroleum organizations were analyzed. In conclusion theoretical knowledge and application results were evaluated together.

Total quality management (tqm)

A process designed to focus on customer expectations, the prevention of problems, building commitment to continuous improvement in everyone and the promotion of participative management (Turner, G.R., Hadfield, R.P.,1994)

Quite a number of definitions for quality can be found the extant literature. It is not an easy task defining the term, as most writers, practitioners, and academics on this subject have their own definition, by and large devising it to suit their own beliefs, prejudices and business and academic experiences. For example, Garvin (1984,1988)suggested five co–existing definitions that emerge from certain point of views(Dahlagaard et al., 1998). They are:

1. transcendent (excellence)
2. product- based (amount of desirable attribute)
3. user-based (fitness for use) (similar to Juran)
4. manufacturing- based (conformance to specification) (similar to Crosby)

Total quality management (TQM) nowadays is used by every organization which means that every person working in that organization is responsible for the quality. Despite the fact that responsibilities varies according to the ranks, the goal is to obtain the quality with minimum cost and taking customer into consideration. There must be continuously streamlining In TQM and all the personnel must be involved in that activity. TQM contains quality for the product, quality of the work, and quality of the personnel. The goal of the TQM is continuously streamlining, organizational work, full participation, satisfaction of the customers, systematically approaching (Bayrak, 1997).

The main philosophy under the total quality management is defining the quality requirements of customers, producing with zero malfunctions, and attempting continuously to improve the quality (Yıldız and Ardıç, 1999, p.75).

Chronological history of the quality can be divided into three steps. The first step: control, in this first step, control was introduced to the industry. The main goal of this step is not to supply customers with defected products. The second step: statistical quality control, in 1920s, control was extended to intermediate control sanded trance controls. The third step: qualityassurance. This came up during the Second World War. Since accepting and rejecting the products during the war were too risky, it was important that all of the products are acceptable. This had caused the quality assurance to come up. The Fourth step: total quality. In 1980s the period with “competition by means of quality superiority” started. And in 1987 ISO 9000 series by ISO caused quality reliability to come up (Efil, 2006).

Edward Deming, who is known as founder of modern quality movement, recommended managers to know the difference between special causes and general causes as his fundamental idea. Joseph M. Juran started his career in the well-know experiments carried out in the Hawthorne factory of the Western Electric company between the years (1927-1932). Juran also gave importance to the continuously streamlining, like Deming, but his idea was to do it in the long period together with the total corporation planning. Feigenbaum is the founder of the total quality control. His first book with the same name had been pressed when he was working on the thesis of his doctorate. In 1950s his ideas were discovered by Japanese, at this time Joseph Juran was also in Japan.

Feigenbaum worked in the General Electric as the chief of quality control department and worked with the companies Hitachi and Toshiba. Ishikova, which is one of the most important quality organizations of Japan, gave importance to the usage of statistics in quality control. It uses the diagrams such as Pareto diagrams and fishbone diagrams. Cause and effect relations are regarded to be the important assistant techniques in improving quality and quality control circles. Crosby started his career in “Crosely Corporation”, but then he worked in other corporations. Generally he was well-known as a counselor. Crosby worked on problem of removing the malfunctions (Çetin,et. al, 2001).

Leadership and TQM

Concept of leadership means “method” or “way”. Its origin is Anglo-Saxon. Leadership is “hegemon” in Greek, and “dux” Romans with the meanings of x“way” or “journey”. The word leader was firstly defined as “captain,

commander, person who goes in front" in the dictionary which was prepared by Samuel Johnson in 1755. And the word leadership was firstly defined in Webster American dictionary in 1828 and its definition was given as "state of the leader and its conditions (İbicioğlu, et., 2009: 1).

It was seen that works done about leadership increased after the industrial revolution. Till nowadays, a lot of researches were carried out, results were analyzed, and a lot of theories were contributed related with leadership. Varying management concepts brought new leader and manager styles with it. In fact leadership is the period in which common vision and common goals are accepted and required contribution is done to achieve these goals. A person who can understand this period and manage it comes in front and shows his/her ability to solve problems (Bulut&Uygun, 2010).

Leader's role in TQM is twofold: first leader has to create the climate to set the goals and second he/she has to lead the organization to achieve these goals. Total Quality is dependent on the leadership. And the duties of the leader are listed below are as follows: leader has to organize a process through which common, aligned objectives are created and understood by every member of the organization; after objectives are understood, process has to allow everybody to know how each person has to achieve these. And the last one is to inform everybody of the achievements (George, etc.,1998)

Measurement is the leader's powerful tool to accelerate this process. After the objectives are set, quantified measurements communicate the direction of movement and provide immediate feedback whether the movement is towards us or not (Symonds, 1994)

It has been found that structured approach Mission, Vision, Values and Quantitative Objects is the fastest and the most efficient way to achieve the breakthroughs. Mission is about where the organization is and the reason why it exists. When every member understands the mission, the organization has the excellent chance of being successful within its current paradigm. However, if paradigm shifts without warning, everybody goes to zero. The best way to ensure your organization is to continually think outside the current paradigm or current set of rules which make you successful. (Symonds, 1994)

Vision is used by the leader to communicate the direction, specifically, the direction that their organization will pursue into the future. During the periods of rapid change, especially during the periods where paradigms shift, visions are essential, and frequently make the difference between success and failure.

Values are underpinnings of vision and direction. In creating and periodically revalidating visions and in pursuing objectives on a day-to-day basis, it is important to define what is believed in. Once defined, values also guide direction, investment and daily work.

Quantitative objects are the last step in creating breakthrough goals. In this step it is moved from generalities to specifics, from concepts to action, and from evolutionary implementation to revolutionary breakthroughs. Despite the power of measurement to accelerate the change, this tool can and should only be applied after the framework for positive change has been established. (George, etc.,1998, Symonds, 1994)

Charismatic leaders give also responsibilities and authority together with duties. And they encourage them to use their own methods. Leaders, following news and new technologies, trying to improve his company to the global level, letting his/her employees move freely, are known as successful leaders. Leader of TQM is a democratic type of leaders sustaining the maximum participation, minimizing resistance, motivating others in risky conditions, motivating and making others be in a good mood as a cause of consumer satisfaction, leading the personnel, and creating synergy (Demirkaya, 2001).

When managers project, organize, and control, they draw their frames with laws and procedures. Leaders are free. They discover other people's skills by concentrating on them, define their strategies and apply (Maxwell, 1999: 101).

Companies in the competitive environment have many problems. One of them is problem of charismatic leader. Problem of managing personnel and scarcity of leader is the main problem for these companies.

Main responsibility for TQM in the organization belongs to the management. Usually steps shown below are applied to carry out TQM (Demirkaya, 2001).

1. To decide to apply TQM
2. To make goals
3. To create vision
4. To define politics
5. To define slogan

Managers are required to use material and inspirational resources rationally which were given to them to make the organization achieve its own goals. To use resources efficiently some periods should be followed by the manager (İlhan, 2006). They are;

1. Leader should be charismatic
2. Every leader should be able to take decisions on the required time
3. Leader should be able to take risks
4. Leader should be able to predict the future
5. Leader should be able to plan well
6. Leader should be a good organizer
7. Leader should direct the people below him/her equally
8. Leader should counsel the people below him/her
9. Leader should be able to control and follow the people below him/her by considering the idea 'everybody's work is nobody's work'
10. Leader should be fair and honest
11. Leader should be interested in the problems and should take place in the solution.
12. Leader should let his personnel say their ideas and speak directly
13. To be a good leader, management periods and functions should be carried out

The main goal of the leader behavior is to affect the activities of organization participants. Affected activities will reflex to the personnel behavior which will lead the organization to its goals. Role behavior of the leader, strategy and tactics which are being followed affect the values, confidence and behaviors of spectators together with the achievement of the goals and accord (Arslantaş, 2008). Creating the honest working conditions, being fair and reliable and showing interest to the workers of the leader makes him/her the role model that the workers model themselves on (Brown et.al., 2005).

Leadership of the upper management forms the most important part of the TQM. The last responsibility in TQM belongs to the upper management and according to this condition, 85% of the problems related with TQM is because of upper management and only 15% comes from workers. (Rossiter, 1998). So it is very difficult to pass from existing system to TQM without leadership and support of the managers. According to Alptekin (1995), managers that have accepted this way of progress should explain this method and its possible results to the personnel obviously and they have to support them in this period.

The international perspectives on the role of leadership in TQM are studied by Mustafa and Bob (2012). This meta analysis study was focused on service sectors in Malaysia. This study accepts the lack of the studies in leadership and TQM therefore there are few arguments about how this role are important TQM practices (Mustafa and Bob, 2012).

The results shown below were found at the end of researches in petroleum companies.

IMPORTANCE AND AIM OF THIS RESEARCH

This article, which is the part of a larger research, concentrates only on leadership and management. First of all it gives information about the importance of researches done in this subject. Leadership and management, whether it is in service sector or in manufacturing sector, makes this research important. Factors of leadership and management listed make this research important.

The most important factor affecting leadership and management, influence of the leader (manager) on the workers, were asked to the participants along with other questions: in petroleum companies; whether the chief does his/her duties completely, whether the chief is honest, whether the chief is fair, whether the chief gives information about the problems in hiswork or he/she doesn't, whether the chief is interested in the problems and takes part in solving that problem, whether the worker has rights to talk to the chief directly and tell him his/her ideas.

The main goal of this research is to know the influence of the leadership factor on TQM. Then this research has been detailed with sub goals.

Methodology of the research

Model and hypothesis of the research

Research was carried out in November and December in 2011, in the international companies that have activities defined in four different categories. The data was collected by means of questionnaires. Descriptive model has been selected as a research model.

In this research, factors shown below were used as fundamental factors. They are markets, money, management, motivation, materials, machine and mechanization, modern information methods, mounting product requirements (Şimşek, 2007). Leadership and management were taken into consideration parallel to them.

Leader does his/her duties completely, is interested in my problems, and helps me to solve my problems which are effective factor in petroleum companies.

In petroleum companies, it is effective that the leader is honest, fair, able to talk directly, give his opinions, and gives information about the problems immediately.

Population and Sample

The population of this research consists of 145 workers working in three different regions, three different countries, and six different international companies. And the sample consists of 139 participants who were available and gave valid answers in these companies. The sample was selected by using the method random sampling.

People working in six international companies using TQM; as petroleum engineers are 19, in well completion 20, in drilling 6, in wire-line 5, in oilfield 2, as engineers 4, in project management 4, as construction engineer 1, in quality control 1, in exploration 2, in supply chain management 2, in finance 2, in business development planning 2, in health safety and environment 1, in human resource management 1, in toxic gas alarm 1, in geology 1, in increasing high pressure pump manufacture 1, in border gateway protocol 16, Artificial lift 40, in Reservoir Monitoring and Control (RMC) 3, in marketing 2.

COLLECTING DATA

In this study, questionnaires were used as the data collecting method. The questionnaires were applied by means of interview method. After the questionnaire had been scrutinized by the expert teaching stuff, and specialists working in the educational field and executives, it was revised and applied on the employees for pilot study. First of all the literature related with the survey was analyzed and questions on it were listed. Some additions were done.

Later specific group, on which the survey was going to be done, and the sample of it - containing 3 people , which is pilot group, were defined. Questions of the questionnaire were arranged again by analyzing the answers and ideas of members of the pilot group. Complexity and obviousness of the questions were defined by this way. Thus, the validity and elasticity of the questionnaire were tried to hold high. Then, the questionnaire was explained to at least one person from every company as representative. These representatives were asked to meet with participants face-to-face and ask them to submit the survey by means of mail or e-mail. The questionnaires were filled in one by one.

Participants were supplied with conditions which are comfortable, allowing them to give their ideas, experiences without any pressure and independent and it lasted for 30 minutes. On the other hand, for the upper managers, the questionnaires were applied by interviewing method. The results of that are reviewed as the subtitle.

Questions prepared to measure personnel satisfaction were in the Likert scale type of 5 value measurement. Participants have 5 choices to express their ideas. They are fully disagree, disagree, no idea, agree, fully agree, no answer. Points of choices were 5,4,3,2, and 1 respectively. 5 points were given to the choice fully agree, where 1 point was given to the choice fully disagree. Satisfaction levels of the participants were defined by the points given to the choices. Later all the data obtained was analyzed on SPSS16.0. The analyses were done in descriptive and comparative ways.

Analyses of survey data

Firstly, all the data was transferred to the SPSS 16.0 program, then it was transferred to excel and was controlled one by one for errors which were corrected. After that it was controlled by another teaching member for incorrect entries. Incorrect entries were corrected. Calculations of analyses were done by SPSS 16.0.

FINDINGS

It was observed that 92% of the participants was male and 8% of them was female. It was seen from this result that the petroleum industry is the choice of male because harsh working conditions and having to be work in fields. These are presented in table 1.

Most of the participants70%are young people between ages 20 and 30. After that middle age comes, ages between 31-40, which is 22%,4% of them is between ages 41-50, and 2%is above 50. 2% of the participants decided not to indicate their ages. Since participating to this survey was on volunteering, it was seen that some of the participants left this question part blank.

Table 1: Gender

Gender	Frequency N	Percentage k %
Male	128	92
Female	11	8.0
Total	139	100.0

Table 2: Ages of the participants

Range of the ages	Frequency N	Percentage k %
20-30	98	70
31-40	31	22
41-50	5	4
Above 50	2	2
Absent data	3	2
Total	139	100.0

Most of the participants 70%, as seen in the table 3, have bachelor degree. 1% elementary school, 5%has master and 23%of them is others.

Table 3: Education levels of the participants

Education levels	Frequency N	Percentage %
Primary	1	1
College	2	1
Bachelor	97	70
Master	7	5
Others	32	23
Total	139	100

At the quality control methods, it is required to know in what ratios are they involved in that work. So the ranks of participants in their work were given at the table 4 with details.

Table 4: Ranks of participants at their work

Ranks in their work	Frequency N	Percentage k%
Worker	61	44
Middle level administrator	7	5
High level administrator	1	1
Manager	37	27
Other	28	20
Temporary workers	2	1
Missing	3	2
Total	139	100.0

According to the table 4, among the participants 44% of them were worker, 5% of them were Middle level administrator, and 1% of them were High level administrators. The results also shows that 27% of the participants were managers 1% of them Temporary workers. There is a 2% percentage for the missing data.

Table 5: Table of age versus rank

Rank	Age				Total
	20-30	31-40	41-50	50 and above	
Worker	38	21	1	0	60
Middle level administrator	3	0	2	2	7
High level administrator	0	0	1	0	1
Manager	31	4	0	0	35
Other	23	4	1	0	28
Temporary workers	2	0	0	0	2
	97	29	5	2	133

As it can be seen from the table (table 5), most of the managers at the petroleum industry are above 41 and above.

Table 6: Departments where participants work

Departments where participants work	Frequency N	Percentage k%
Petroleum engineer	19	14
Well completions	20	14
Drilling	6	4
Wireline	5	4
Oilfield	2	1
Engineering	4	3
Project management	4	3
Construction engineering	1	1
Quality Control	1	1
Petroleum exploration	2	2
Supply chain management	2	1
Finance	2	1
Business Development planning	2	1
Health safety and environment	1	1
Human resource management	1	1
ToxicGas Alarm (TGA)	1	1
Geology	1	1
Increasing pressurized pump production	1	1
Border gateway protocol (BGP)	16	11
Artificial lift	40	29
Reservoir monitoring and control (RMC)	3	2
Marketing	2	1
Absent data	3	2
Total	139	100.0

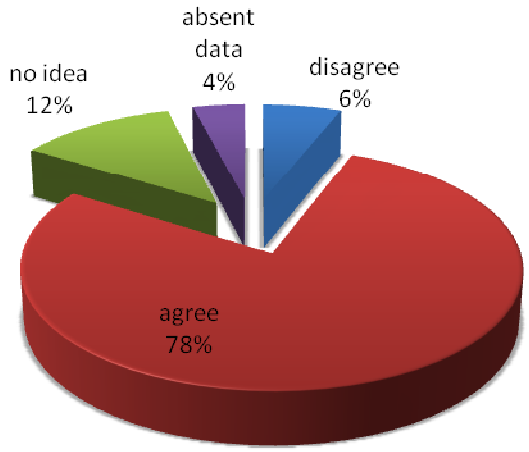
As itis shown on table 6, the employees work in engineering, in supply chain management, in finance, in business development planning, in health safety and environment, and in border gateway protocol departments. Middle rank managers; petroleum engineers and engineers work in drilling, in project management, in business development planning departments. Upper rank managers work in project management and specialists work in artificial lift department.

Leadership

Management is the main factor which specifies whether TQM can be successfully applied or not. At the table 7, answers to the questions, I think my chief does his duty and his responsibilities fully, I think that my chief is fair, I think my chief is honest, my chief gives information about the faults in my work, my chief is interested in my problems and helps to solve them, I have possibilities to talk to my chief directly and tell him/her my opinions, are given.

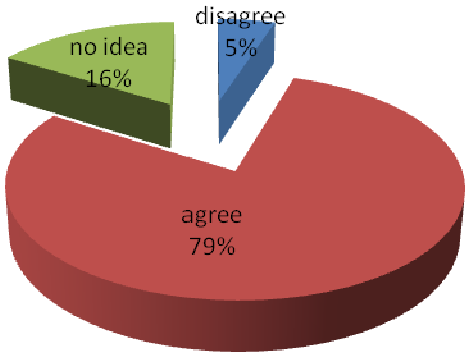
Responses		my chief does his duty and his responsibilities fully	I think that my chief is fair	I think my chief is honest	my chief gives information about the faults in my work	my chief is interested in my problems and helps to solve them	I have possibilities to talk to my chief directly and tell him/her my opinions
Fully disagree	%	2	3	4	6	5	3
	f	3	4	5	9	7	4
Disagree	%	4	2	1	0	4	2
	f	6	3	2	0	5	3
No idea	%	12	16	14	13	14	7
	f	16	22	20	18	19	10
Agree	%	50	49	46	54	51	42
	f	69	69	64	75	71	59
Fully agree	%	28	30	35	27	27	43
	f	39	42	48	37	38	60
missing data	%	4	0	0	0	0	2
	f	6	0	0	0	0	3

At it is displayed on table 7, 78% of the participants gave the positive answer and 7% of them gave negative answer. 12% of them indicated that they had no idea about the questions and 4% wanted not to give answers.



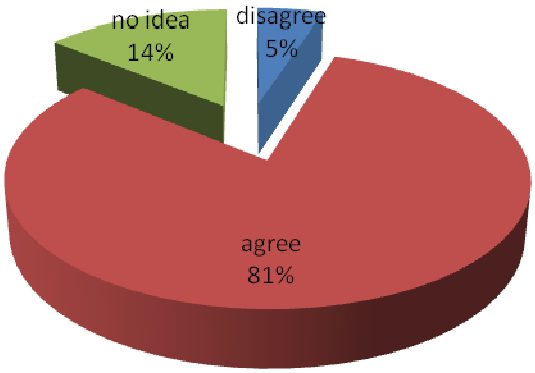
Graph 1: I think my chief does his/her duty fully

5% of the answers to the question 'I think my chief is fair'was negative, 79% was positive and 16% had no idea as it can be observed.



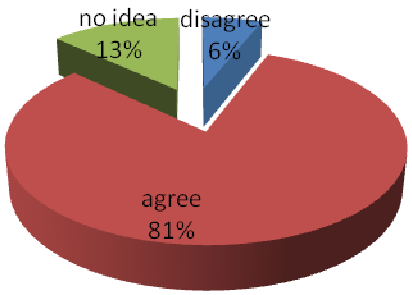
Graph 2: I think my chief is fair

5% of the answers to the question 'I think my chief is honest' was negative and 81% gave positive answers and 14% said that they had no idea as it can be seen at the graph 3.



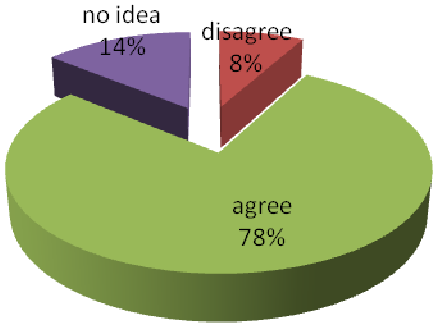
Graph 3: I think my chief is honest

6% of the participants gave negative answers to the question 'my chief gives information about the faults in my work', 81% gave positive answers and 13% didn't express their ideas. It can be seen from graph 4.



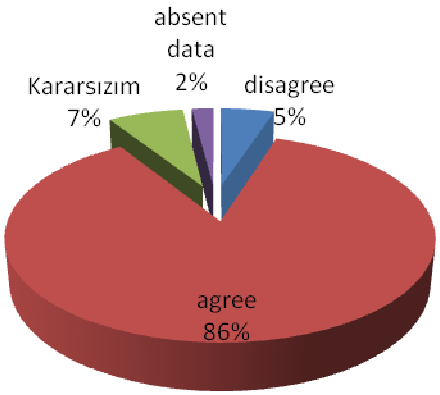
Graph 4: My chief gives information about the faults in my work

8% of the participants said that their chief wasn't interested in their work, while 78% said that theirs was interested. 14% of them had no ideas. This can be seen from the graph 5.



Graph 5: My chief is interested in my work.

5% of all answers to the question 'I have possibilities to talk to my chief directly and tell him/her my opinions' was negative and 86% said that they could tell their opinions and talk to them directly. Participants who had no ideas were 7%.2% of them gave no answer. This information is also given at the graph 6.



Graph 6: I have possibilities to talk to my chief directly and tell him/her my opinions.

Arithmetic mean of the management

The questions asked to participants were listed below with their responses are calculated for arithmetic mean. The calculations were based on the likert scale grading were responses were graded from 1 to 5. 1 was the lowest and 5 was the highest agreement to the statements.

Table 8: Arithmetic mean of the management

Leader	N	Arithmetic mean
S1: I think my chief does his/her duty fully	133	4.01
S2: I think my chief is fair	139	4.01
S3: I think my chief is honest	139	4.06
S4: My chief gives information about the faults in my work	139	3.94
S5: My chief is interested in my work	139	3.90
S6: I have possibilities to talk to my chief directly and tell him/her my opinions	136	4.24

When arithmetic mean (a.m.:4,03) of the answers to the questions related with leadership were revised, it was found out that the personnel working at the petroleum companies were satisfied with the approaches of leaders. Employees think that their chief does his/her duty fully (a.m.: 4.01). They also said that their chiefs are honest and fair (a.m.: 4,01ve 4,06). They had possibilities to talk their chiefs directly and tell their ideas (am.: 4.24). My chief gives information about the problems with my work (a.m.: 3,94), is interested in my work and helps me to solve them (a.o.: 3,90).

It can be easily observed that employees are satisfied with the approaches of the leaders. It can be observed from the answers that they have possibilities to talk to their leaders directly and tell him/her their ideas, their chiefs are honest and fair, their chiefs are interested in the problems, help their employees and tell the problems related with the employees. In this situation employees and managers are both in the same conditions. It can be seen from the table 8. Thus, based on the participants' responses, workers who work with leaders have continues communication with their leaders.

Correlation findings

In order to find whether there is relation between the statements, a correlation analysis was done. The statements which were listed above are shortened as S1, S2, S3, S4, S5, and S6.

Reliability analyses were applied in order to know the relationship between the matters that forms factors and the factors which matters belong to. At the table 9 results of the reliability analyses are given. In those analyses reliability coefficients are between values 0,422 and 0,767. This values state that these scales are reliable (İnce, 2007).

Table 9: Correlation analysis between each statement.

Correlation							
Sub dimensions		S1	S2	S3	S4	S5	S6
S1	Pearson r	1	.767**	.673**	.644**	.649**	.555**
	Meaningfulness		.000	.000	.000	.000	.000
S2	Pearson r	.767**	1	.731**	.618**	.694**	.507**
	Meaningfulness	.000		.000	.000	.000	.000
S3	Pearson r	.673**	.731**	1	.575**	.612**	.422**
	Meaningfulness	.000	.000		.000	.000	.000
S4	Pearson r	.644**	.618**	.575**	1	.756**	.570**
	Meaningfulness	.000	.000	.000		.000	.000
S5	Pearson r	.649**	.694**	.612**	.756**	1	.511**
	Meaningfulness	.000	.000	.000	.000		.000
S6	Pearson r	.555**	.507**	.422**	.570**	.511**	1
	Meaningfulness	.000	.000	.000	.000	.000	

Correlation coefficient of 1.00 shows perfect positive relationship; -1.00 shows perfect negative relationship and 0.00 shows that there is no relationship (Büyüköztürk, 2002). If the correlation coefficient is positive (r>0), the data belongs to one variable increases when the data belonging to another increases or it decreases when the other one decreases. On the other hand if the correlation coefficient is negative (r<0), there is opposite proportion between variables (Ural/Kılıç, 2006:247).

According to the information given at the table 9, there is a meaningful relationship between all the variables. Generally all the variables are between the values (r:,0,422-r:,0,767, p<,05) and they are all in meaningful relationship. The interval of [0.70-1.00] of correlation coefficient is defined as relationship of high level, [0.70-0.30] is medium level, and [0.30-0.00] is low level.

DISCUSSION AND RESULT

In this survey leaders and managers, whether they do their duties fully, whether they are honest and fair, whether are interested in the problems of their employees, whether they help their employees to solve their problems and whether the employees can talk their chief directly and tell their ideas were researched and it was found out that employees and leaders work in harmony.

As the result of the research, carried out in three different regions, in three different countries and in 6 petroleum companies, it was seen that leadership has direct on the TQM. This study shows that characteristic properties of the leaders such as fairness, honesty, reliability, etc. are important for reliance of the employees. It shows the influence of the leaders' positive behaviors that the employees can take example.

Giving value to the employees of the leaders, and letting them use initiatives and giving information about the problems they have in their work increases the chances of employees to make decisions on their own. Giving the chance of talking to chiefs directly and telling one's ideas directly is important for employees to put all their potentials into their work and to improve themselves. Being interested in the employees' works, giving the employees information about their work, explaining the causes of their decisions of leaders and managers, motivates by helping them to take right decisions. Also they help the company achieve its organizational goals. So leadership and management is effective factor in TQM.

It is hoped that this experimental research will be helpful to researchers who will do studies in this field. Arithmetic mean of the effect of the leadership was (a.m:4.03) which is high. This result confirms the theories. It can be said that in the leadership companies leadership is the main factor that affects the TQM. Researchers, who are going to research the effect on socio-cultural behaviors which comes from working in different regions, should take into account the different sectors and should learn the differences between workers working in different countries and local workers. This will help improve this subject.

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