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# The Impact of the Implementation of the ISO 9000 Quality Management System upon the Perception of the Performance of the Organization's Worker

By Dr. Omer Abdel Aziz El Tigani

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*Keywords* : Quality, Performance, Workers, ISO 9000 Quality Management System, Organization.

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# The Impact of the Implementation of the ISO 9000 Quality Management System upon the Perception of the Performance of the Organization's Worker

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## 1. INTRODUCTION

Quality is to produce products or present services that fulfill the requirements of the customer, standard technical specifications, and/or technical specification issued by the organization. This is one of the hundreds definitions of the word *Quality*. However, at all cases, *Quality* is the key word that all societies, organizations, individuals, are looking for and aiming to reach. ISO 9000 establishes a basic set of quality system requirements necessary to ensure that the process is capable of consistently producing products that meet the customer's expectations. Products and services are the result of activities or processes that transform inputs into outputs and the quality of products and services is directly related to the quality of the process that produces them. Therefore, product quality improvement necessitates process quality improvement. There are so many specifications related to ISO 9000. In 1999, all these specifications had been merged together to issue the two standard

specifications ISO 9001: 2000 and ISO 9004: 2000. The ISO 9000 series of standards are not static documents but will continue to be revised and amended.

The ISO International Standard requires that the adoption of a quality management system should to be a strategic decision of the organization. The design and implementation of an organization's quality management system is influenced by varying needs, particularly, objectives, the products provided, the processes employed and the size and structure of the organization. It is not the intent of the International Standards to imply uniformity in the structure of quality management systems or uniformity of documentation. The ISO International Standard consists of eight clauses which precisely describe its requirements.

Like a pillars to a building, there are eight Principles that the ISO 900 Quality Management System is based on. Those eight Principals are important for any successful ISO 9000 QMS, which are: 1) Customer Focus, 2) Leadership, 3) Involvement of People, 4) Process Approach, 5) System Approach to Management, 6) Continual Improvement, 7) Factual Approach to Decision Making, and 8) Mutually Beneficial Supplier Relationships.

### a) *Research Problem*

The workforce is considered as the backbone for organizations, societies, and for countries as the whole and nobody denies the importance of the workforce for the role that it plays in building the civilizations and developing the countries. In addition to that, involving workers and gaining their satisfaction is the key success factor for the implementation of any new management system.

Although the implementation of the ISO 9000 Quality Management System internationally proved its effectiveness and positive impacts on the overall performance of the organizations, BUT, the impacts of its implementation in the area of study remains questionable. Therefore, this research study will assess the impacts of the implementation of the ISO 9000 Quality Management System on the performance of the organizations' workers.

Self-motivation of the organization's workers is the corner stone in a successful implementation process. Unfortunately, most of the organizations in the area of study do not consider the satisfaction of their workers prior, during and following the implementation of the ISO 9000 Quality Management. As a result of that, organizations may succeed to obtain the required approvals for ISO 9000 certificate, BUT, unfortunately, without the actual and effective implementation on the ground.

#### b) *Research Objectives*

Assess the impact of the implementation of the ISO 9000 Quality Management System upon the workers' performance.

#### c) *Research Questions*

The research questions that guided this study are:

- 1) To what extent does the implementation of the ISO 9000 Quality Management System affect the workers' performance in their organizations?
- 2) Is the ISO 9000 Quality Management System a suitable management framework to be used to improve the workers' performance?

#### d) *Research Design*

This correlational research was conducted to establish the presence of a relationship among variables and not causality among variables. In this research study, the independent variable was the Quality Management System implemented in the organizations, which is complying with the ISO 9000 requirements, while the dependent variable is the performance of the workers of the organizations.

The dependent variable (i.e. the performance of the organization's workers) was studied by examining the effectiveness and the usage of the ISO 9000 Quality Management System by utilizing selected independent variables: (a) The Effectiveness of the ISO 9000 QMS =  $f \{(\text{Workers' Productivity}) + (\text{Communication Processes}) + (\text{Work Environment}) + (\text{Customer Satisfaction})\}$ ; and (b) The Usage of the ISO 9000 QMS =  $f \{(\text{Workers Satisfaction on ISO 9000 QMS}) + (\text{ISO QMS Suitability}) + (\text{ISO 9000 QMS Benefits for the Organization}) + (\text{ISO 9000 QMS Applicability})\}$

In the data collection instrument, for more confidence, each one of the independent variables was studied by asking the respondents several different questions. Then the information and data obtained from respondents were statistically analyzed in order to pursue the research objectives, solve the research problem and answer the research questions.

## II. RESEARCH METHOD

In order to conduct the study, a mixed methodology was used. The data for the study were

collected from both the secondary and primary sources. The study encompasses qualitative as well as quantitative research. In the first phase *literature* was obtained from the available secondary sources, books, newsletters, journal, internet, and so forth. In the second phase a quantitative *statistical survey* is conducted among about 150 workers operating in about 20 organizations in the governmental, private, and mixed (governmental + private) sectors in the State of Qatar in order to collect their opinions, thoughts and experiences regarding the implementation of the ISO 9000 Quality Management System in their organizations. Thus, the research is a combination of quantitative and qualitative methods. Both of these methods are utilized to find the answer of the research question and pursue the research objectives.

The research was conducted in the State of Qatar where the Researcher has accessed the targeted segments of respondents. The data collection for the research study has been mainly based on a questionnaire technique. One of the reasons that led the Researcher to abandon the interview technique and depend on the questionnaire instrument is that the physical access to most of the targeted organizations to meet workers and to meet the concerned people over there is not an easy job and hindered by several difficulties, as the intended participants are always busy and it is not easy to have a chance to allocate time for interview.

#### a) *The Area of Study*

The study has been conducted in organizations' workers, in the governmental, private and mixed (i.e., governmental and private) sectors in the State of Qatar, which are currently ISO 9000 registered organizations and now experiencing the implementation of the ISO 9000 Quality Management System for *not less than 3 years*.

The researcher refers to his own experience and practice in determining that the selected organization should be ISO 9000 registered for not less than 3 years, with a condition that the registration of the organization *must* be valid at the time of responding. After 3 years of continuous implementation and working under the umbrella of the ISO 9000 Quality Management System, the workers of the organization will definitely experience the ISO 9000 Quality Management System and examine its tools and requirements. Also they can observe its resulted outputs. Therefore, a matured opinions and thoughts about the ISO 9000 Quality Management System will be formed in their minds, thus, a thorough research study can be performed.

#### b) *Sample Size & Sample Selection Method*

The success of any research study depends on the way in which the Researcher selects the people who will participate in the study. The crucial factor for a successful survey study is to obtain reliable and

actionable results that reflect the feelings and thoughts of the respondents.

The most successful and efficient sample size in a quantitative research is the representative sample which can be easily generalized over the whole population, with approaching to zero sampling error. Therefore, the main goal of the sampling techniques is to reduce or eliminate the sampling error, when possible.

The Sampling Method used in this study is a combination of the Stratified Sampling and the Simple Random Sampling Methods. The targeted segment in this research study (i.e. the population) is the whole workers of the ISO 9000 certified organizations in the governmental, private and mixed (i.e., governmental and private) sectors in the State of Qatar. According to the latest list of the ISO 9000 registered organizations issued by the Gulf Development Center (2007), there are about 120 ISO 9000 registered organizations with varying types of businesses and nature works.

The population is heterogeneous and contains several different groups and the factors those distinguish population members from one another are related to the topic of study. Therefore, to ensure a high degree of sample representativeness, the stratified sampling method has been utilized in which the 120 ISO 9000 registered organizations have been stratified into three main strata or layers based on their sectors (i.e. governmental, private, and mixed organizations).

The sample for this study was two governmental organizations, 105 private organizations and 13 both governmental and private organizations (see Table 1). The total sample size was  $n = 150$  workers. The sample size of each stratum has been calculated proportionally from the total size of the population, as explained by Stat Trek Webpage (2007). Then, the simple random sampling technique has been utilized to select the intended participant within each selected organization.

*Table 1 : The Size of Each Population's Strata*

	Name of Stratum	Size of Each Stratum (Organizations)	Proportion of Stratum (%)	Proportionate Sample Size (Workers)
1	Governmental Organizations	2	2	3
2	Private Organizations	105	87	130
3	Mixed(Governmental+Private Organizations	13	11	17
	Total	120	100%	150

The participants for the study were those who met these criteria: (a) workers who were interested in and willing to participate in the study, (b) the organization was ISO 9000 registered by an accredited certification body, (c) the organization was ISO 9000 registered for at least 3 years from the survey date, with an up-to-date valid ISO 9000 certificate, (d) the work environment included ISO 9000 Quality Management System. Areas in organizations whose workers were far from the organizations' core businesses or have had no impacts on the Quality Management System of the organizations were excluded from the study. For instance: Drivers, Office Boys, Office Keepers, Unskilled labors in factories and construction sites were excluded from the study.

The researcher increased the sample size and sent out the survey instrument (i.e. questionnaire), with count on increasing the sample size by about 50% to account for losses that may occur because of troubles in the communication media such as technical difficulties with receiving faxes or emails.

### c) Research Instruments

*Questionnaire* is used to obtain information. Questionnaire is one of the most effective and popular instruments that is efficient in collecting a certain kind of information or data. In general, questionnaire instrument has several advantages when compared with other

instruments: (a) questionnaire can address a large number of issues and questions of concern in a relatively efficient way, with the possibility of high response rate, (b) respondents to questionnaires can take their time to respond to the questions without interference or interruption, (c) cost wise, it is possible to provide questionnaires to hundreds, or even thousands, of people at the same time.

Questionnaires were chosen to enable the researcher to obtain an overall measure of the attitudes, opinions and thoughts of the respondent, because they are most probably designed on basis of scored answers. The researcher collected the required data by utilizing a Likert-type questionnaire, with rate scale questions from 1 to 5.

The questionnaire template could be filled out with no need for face-to-face meetings with the respondents and over the telephone and return it back to the researcher by either fax or email. It is important to mention that the design of the questionnaire has taken into account that most of the respondents had fulltime schedules. Accordingly, questions were formulated to be brief and direct to the point, with *tick* answers through which, the Researcher has studied the effects of implementing the ISO Quality Management System upon the performance of the organizations' workers.

The *Questionnaire* for the survey is constructed by using the Likert scale that is a bipolar scaling method



used to measure either positive or negative response to a statement Likert (1932). It is a common system that is used in the survey research. It runs from one extreme through neutral point to the opposite extreme. For this study a five-point scale system has been used and the respondents have been asked to express their opinions about the given statement by picking the answer from the given five options *Strongly Disagree*, *Disagree*, *Neither Agree nor Disagree*, *Agree*, and *Strongly Agree*. Each degree of agreement is given a numerical value between 1 and 5 from *Strongly Disagree* to *Strongly Agree*.

It is important to mention that all the questions included in the questionnaire have been made in a positive sense, which means all the statements reflect positive impact of the implementation of the ISO 9000 Quality Management System on the performance of organizations' workers. So, for example, if the respondents agree with these statements in large number it means that they are agree with the positive impact of the implementation of the ISO 9000 Quality Management System on the performance of organizations' workers, and if they disagree with most of the statements it means that there are no many positive effects that are observed by the respondents in their organizations or their businesses as general. Also, the questionnaire has been divided into four sections, keeping in view the research objectives and research questions.

It is also important to mention that the English Language is not the mother tongues' language of some individuals of the selected sample. Questions were formulated in a very simple English Language format.

### III. DATA COLLECTION

Questionnaires were filled out by the respondents. The data and information of the survey were gathered in accordance to the sections of the questionnaire. Thus, each section indicated the trends of the issues under discussions. The questionnaire instrument was composed of four sections where the first section asks the respondents to provide some personal information about their careers as well as their organizations. The second section contains questions that assist the researcher study the effectiveness of the ISO 9000 Quality Management System. While the third section is devoted to study issues related to the usage of the ISO 9000 Quality Management System. The fourth section of the questionnaire is provided to get Respondents' feedbacks on the questionnaire as well as the topic and area of study.

The collected data and obtained information were analyzed using the SPSS Program. Although there are a number of statistical software packages, the SPSS Program is the most widely used software package for statistical analysis. SPSS software and solutions are now used extensively in both the governmental and private

sectors to address wide ranges of business, research and educational needs. Like many software packages, SPSS is menu-driven. That means users can execute statistical analyses, simple or complex, by clicking a series of pull-down menus and selecting the desired pre-programmed commands.

### IV. DATA ANALYSIS

The first section of the questionnaire deals with the demographical information, some of which have been analyzed and shown in Figures 1, 2, 3, 4 and 5 below:

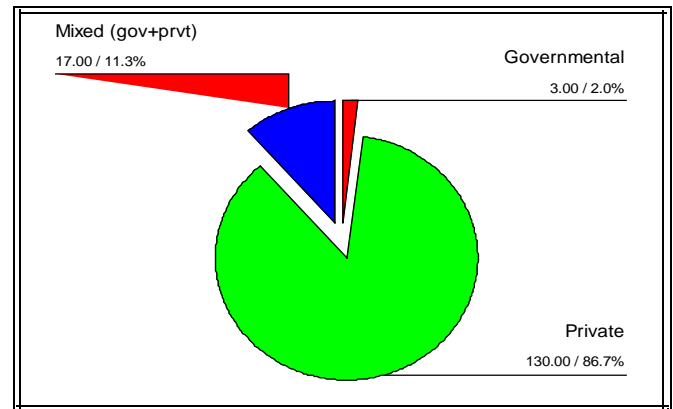


Figure 1: Types of Businesses

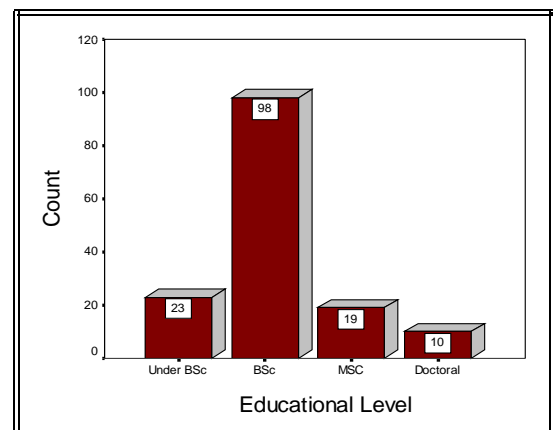


Figure 2: Educational Levels

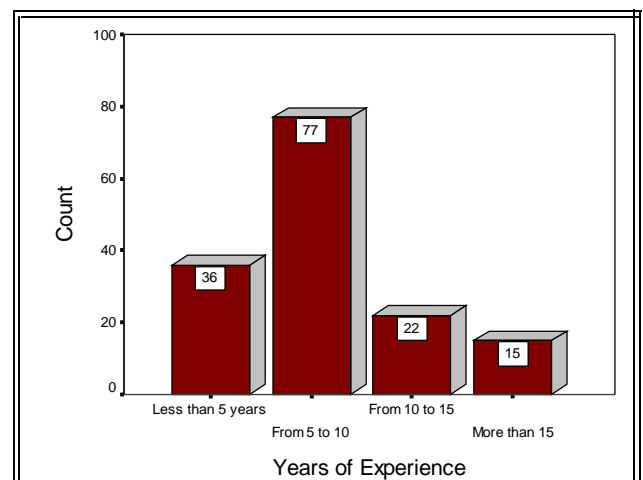


Figure 3: Years of Experience

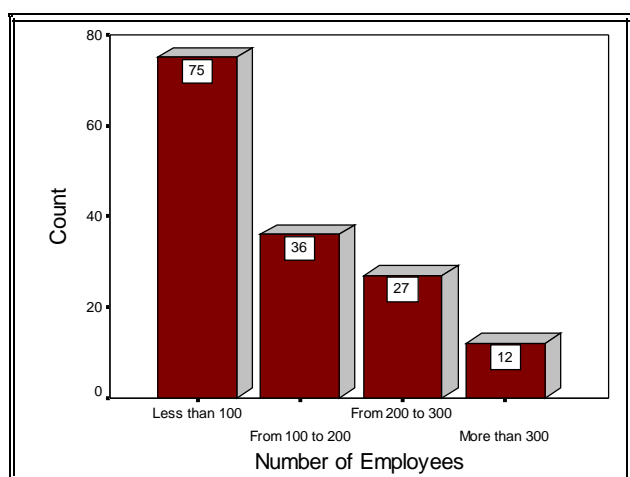


Figure 4 : Number of Employees

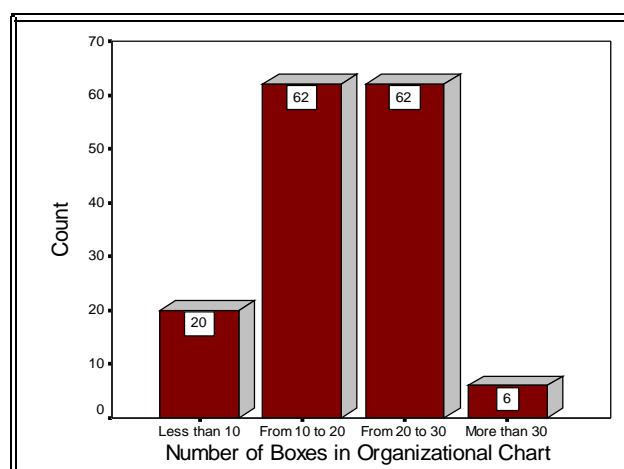


Figure 5 : No. of Boxes in Organizational Chart

Table 2: Likert Scale Ranges

Opinion	Weight	Weighted Mean
Strongly disagree	1	From 1.00 to 1.79
Disagree	2	From 1.80 to 2.59
Neither agree nor disagree	3	From 2.60 to 3.39
Agree	4	From 3.40 to 4.19
Strongly agree	5	From 4.20 to 5.00

As it has been explained earlier, the effectiveness of the ISO 9000 QMS in sections 2 and the usage of the ISO 9000 QMS in section 3 are measured by using four different factors in each section; and each one of these factors has been explored by a number of different questions for more confidence.

Table 3: Respondents' Opinions on Section 2

No.	Topic	Mean	Std. Deviation	Opinion
1	Productivity	2.22	0.876	Disagree
2	Communications	2.72	0.805	Neither Agree nor Disagree
3	Work Environment	2.46	1.032	Disagree
4	Customer Satisfaction	2.97	0.968	Neither Agree nor Disagree
Total	Effectiveness of ISO 9000 QMS	2.59	0.687	Disagree

Table 4: Respondents' Opinions on Section 3

No.	Topic	Mean	Std. Deviation	Opinion
1	Workers Satisfaction on the QMS	2.42	1.133	Disagree
2	ISO 9000 QMS Suitability	2.48	1.121	Disagree
3	ISO QMS Benefits for the Organization	2.87	0.770	Neither agree nor disagree
4	ISO 9000 QMS Applicability	2.43	1.157	Disagree
Total	Usage of ISO 9000 QMS	2.55	0.865	Disagree

Table 5 : Respondents' Opinions on Section 2 & Section 3

No.	Topic	Mean	Std. Deviation	Opinion
1	Effectiveness of ISO 9000 QMS	2.59	0.687	Disagree
2	Usage of ISO 9000 QMS	2.55	0.865	Disagree
Total	Impacts of ISO 9000 QMS on Organizations' Workers	2.57	0.591	Disagree

Likert Scale has been utilized to identify the final opinions of respondents on each section of the questionnaire, see Tables 2, 3, 4 and 5 above. Respondents' opinions were obtained. Comprehensive interpretations and discussions are discussed in the next part.

## V. RESULTS DISCUSSIONS

Interpretations and Discussions of the Obtained Results  
Most of the participants did not select *Strongly Disagree* and *Strongly Agree* to answer the questions.

From the researcher's point of view, this can be interpreted that most of respondent are unadventurous and do not prefer to choose obvious responses. The participants may be restricted by their organizations not to provide extreme answers. The participants may have been workers of an organization that does not properly implement the ISO 9000 Quality Management System. This may lead the organization's workers to possess poor (or, even none) knowledge regarding the ISO 9000 Quality Management System.

The first section of the questionnaire contains personal information about the respondents, which also called *demographical information*. The statistics shows that responses obtained on this section have no significant influence on the research study area. The Chi-Square Test has been used to determine whether there is a dependency relationship between the demographical variables: (a) Level of Education & the Years of Experience, and (b) Number of Employees & Number of Boxes in the Organizational Chart. It is found that no dependency relationships between the said demographical variables.

As it has been discussed earlier, the second section of the questionnaire instrument consists of questions that designed for the purpose of studying the effectiveness of the ISO 9000 Quality Management System by using four factors which are: (a) productivity, (b) communications, (c) work environment, and (d) customer satisfaction. Each one of these factors has been walked around by asking a number of questions about it.

The word *productivity* has got different meanings and measures to different organizations according to type of business and the size and nature of the organizations. It is very difficult to obligate the all types and sizes of organizations to stick to work with one criterion for *productivity*. From the Author's point of view, this is one of the strong reasons that why *productivity* is not clearly mentioned in the ISO 9001:2008 standard.

The first five questions have been asked around the first factor (i.e. Productivity). Regardless of the nature of job that the worker undertakes and the type of business that his organization does, worker's productivity is an essential key success factor of the organization and workers who are not using their time and resources effectively are costing the company money. Pavlina (2005) defined *productivity* in a simple way as the *value* divided by *time*. He broke down the value into four components: 1) the impact of the resulted work (i.e. the value), 2) the endurance of the created value, 3) the essence of the produced value, and 4) the volume of the created value (i.e. the achieved works). Because our study contains various types of businesses, three of these components are widely varying from one organization to another, and further in

the same organization, it varies from one worker to another. The volume of the achieved works is the only component that related to the study.

The statistical analysis of the collected data shows that the respondents declared that they are disagreeing with that the implementation of the ISO 9000 Quality Management System improves the workers' productivity. The implementation of the ISO 9000 Quality Management System does not improve the productivity of the organization's workers.

Naveh and Erez (2006 as cited Levine and Toffel, 2009) deduced from a survey data that ISO 9001 adoption enhances workers' productivity and workers' attention to details. For instance, one of the famous says of the word quality is that *doing the right things right first time and every time*. If this say properly considered by the organization, or any other guiding body working on its behalf (i.e. consultant or supervisor), in the establishment of the ISO 9000 Quality Management System, when mapping the work processes. This will result in strong and effective work procedures that ensure high quality of the produced products or presented services as well as they ease the job of the concerned workers and cut down the time consumed in performing the job. Thus, improve the productivity of the workers. This reflects the importance of the documentation system (Roseman, 1988).

The results of the non-improving productivity to that the implementation process prior, during and following the establishment of the ISO 9000 QMS and registration, was not conducted and did not follow the proper implementation process.

The second factor to study the effectiveness of the ISO Quality Management system is the communication processes: internally among the organization's workers in the various organizational levels, and externally with the organization's customers. This has been investigated by asking the respondents six different questions. The communication process is the process of sending and receiving messages, as defined by (Thill & Bovee, 2009). Thill and Bovee cited eight benefits of the effective communication that the organization may make use of:

- Stronger decision making.
- Increases productivity.
- Steadier work flow.
- Stronger business relationships.
- Clearer promotional materials.
- Enhanced professional image.
- Improved stakeholder response.
- Quicker problem solving.

The effective communication will not take place, unless each one of the four communication elements is effective, these elements are: sender, receiver, message and the media. The effective communications process is

essential for a successful implementation of the ISO 9000 QMS and it has been mentioned in so many parts of the ISO 9001:2008 Standard, such as:

*Clause 5.3: Quality Policy:* Sub-clause (d) of this part of the standard requires the top management of the organization to ensure that the 'Quality Policy' is communicated and understood within the organization.

*Clause 5.5.1: Responsibility and Authority:* This clause clearly stated that the top management shall ensure that responsibilities and authorities are defined and communicated within the organization.

*Clause 5.5.3: Internal Communication:* This clause clearly stated that the top management shall ensure that appropriate communication processes are established within the organization and that communication takes place regarding the effectiveness of the quality management system.

*Clause 7.2.3: Customer Communication:* This part of the standard describes how the organizations should communicate with their customers. This part will be detailed below when discussing the importance of customer satisfaction in the ISO 9001:2008 Standard.

The statistical analysis of the collected data shows a majority of neutral responses from the participants about the impact of the implementation of ISO 9000 Quality Management System on the internal and external communication processes. According to Likert scale, most of respondents are neither agree nor disagree that the implementation of the ISO 9000 Quality Management System improves the communication processes inside and outside their organizations. Respondents do not observe positive or negative impact of the ISO 9000 QMS upon the communication processes among workers with each others, with their managers, or with their external customers. This may be interpreted as that no observable impact on the communication processes after the implementation of the ISO 9000 QMS. Interpretation for that may have two reasons: the first option is that the ISO 9000 QMS does not properly address the communication issues and this can be totally excluded as the Author has displayed earlier how the ISO 9001:2008 Standard addresses the communication process inside and outside the organization. The second option is that this part of the ISO 9000 QMS has not been properly implemented and maintained by the organization.

The third factor to study the effectiveness of the ISO Quality Management system is the work environment that the organizations provide to their workers in the work place. The work environment is crucial for the organization success, because it has major and direct impacts on the performance of its workers. Therefore, the ideal organization considers providing its workers with comfortable work environments in the work place as a top priority.

The work environment has two components that must be satisfied, the first component is the physical work environment that must be provided in the work place (i.e. buildings, infrastructures, and so forth), for example, the organization should ensure sufficient lighting and good ventilation, protection from noises and bad weather, prevention from frequent interruptions; providing the necessary PPE ( Personal Protective Equipments) for the workers who operating in risky environments, for instance working in: construction sites, factory workshops, nuclear plants, oil platforms, and the like. The second component of the comfortable work environment that must be provided by the organization or available in the organization is the psychological environment. The organization must take care and try its best to keep friendly work environments that encourage every employee or worker in the organization to properly perform his/her job. For instance, matters that may lead to bad psychological environments among organization's workers like bad relationships among workers, lack of motivation, lack of appreciations for achievements, non-fair evaluations from managers, and so many others.

Each one of the infrastructure and the work environment has been addressed in a different two clauses (i.e. 6.3 and 6.4), respectively in the ISO 9001:2008 Standard. Clause 6.3 (i.e. infrastructure) requires the organization to provide and maintain the infrastructure needed to achieve conformity to product requirements. Infrastructure includes, as applicable: (a) buildings, workspace and associated utilities; (b) process equipment (both hardware and software); and (c) supporting services (such as transport, communication or information systems).

While Clause 6.4 (i.e. work environment) requires the organization to determine and manage the work environment needed to achieve conformity to product requirements. With additional noting that the "work environment" relates to those conditions under which work is performed including physical, environmental and other factors (such as noise, temperature, humidity, lighting or weather), as mentioned The International Organization for Standardization "ISO" (2008).

According to the five critical ingredients needed for a successful quality program (Miller, 1995) two of the critical ingredients are *fun* and *creativity* atmosphere that the organization should provide its workers with. Clause 6.4 stresses the importance of maintaining the psychological work environment, with evidence to be maintained, e.g. motivation and rewarding systems, system of dealing with abnormal frequent personal disputes among workers, and so forth.

The statistical analysis of the collected data shows that respondents disagree of any improvement



that may neither take place in the physical work environment nor in psychological work environment. This result can be interpreted that respondents do not observe or feel that the 3 years or more of being ISO 9000 registered did not impact the condition of the work environment. Perhaps, there is another justification that the existing infrastructures and work environments are already effective and sufficient. Thus, additional improvements may be difficult to be observed.

Customers for organizations like air and water for human beings. Brue (2002) stated, "You must attract and satisfy and keep customers. Otherwise, you obviously won't stay in business long" (p. 23). The fourth and final factor in the second section is customer satisfaction, which is a measure of how the organization's products and/or services meet the customers' requirements or exceed their expectations.

Customer satisfaction can be considered as one of the most important key performance indicators in business. Moreover, customer satisfaction is now seen as a key differentiator and increasingly has become a key element of business strategy. Measuring customer satisfaction provides an indication of how successful the organization is at providing products and/or services to the marketplace (Suganthi & Samuel, 2008, p. 91) mentioned three factors that every organization in every business should focus on: (a) attracting more customers, (b) making customers happy, and (c) retaining customers.

*Customer focus* is the first principle that the ISO 9000 Quality Management System Standard has been based on. The customer satisfaction takes a pride of place among the requirements of the ISO 9001:2008 Standard, because it is the happy end that every organization works hard to reach. Although that the ISO 9001:2008 is based on customer satisfaction, there are clear clauses stresses so many issues related to how should organizations treat their customers prior, during and following to presenting the service or buying the product, such clauses as:

*Clause 5.2 : Customer Focus:* This clause of the standard requires the top management of the organization to ensure that customer requirements are determined and are met with the aim of enhancing customer satisfaction.

*Clause 5.6 : Management Review:* Part of this clause requires that evidences should be maintained to prove that the top management of the organization reviews customer feedbacks on the received product or service as well as the improvement of the product or service that related to customer requirements.

*Clause 7.2 : Customer-related Processes:* This part of the standard includes three subsidiary clauses:

- *Sub-clause 7.2.1 : Determination of Requirements Related to the Product*

This part requires the organization to determine the: a) requirements specified by the customer, including the requirements for delivery and post-delivery activities, b) requirements not stated by the customer but necessary for specified or intended use, where known, c) statutory and regulatory requirements applicable to the product, and d) any additional requirements considered necessary by the organization.

- *Sub-clause 7.2.2 : Review of Requirements Related to the Product*

This sub-clause requires the organization to review the requirements related to the product. This review shall be conducted prior to the organization's commitment to supply a product to the customer (e.g. submission of tenders, acceptance of contracts or orders, acceptance of changes to contracts or orders) and shall ensure that: a) product requirements are defined, b) contract or order requirements differing from those previously expressed are resolved, and c) the organization has the ability to meet the defined requirements. Then finally, Records of the results of the review and actions arising from the review shall be maintained.

- *Sub-clause 7.2.3 : Customer Communication*

In this part of the standard, the organization is required to determine and implement effective arrangements for communicating with customers in relation to: a) product information, b) enquiries, contracts or order handling, including amendments, and c) customer feedback, including customer complaints.

*Clause 7.5.4 : Customer Property:* In general, this clause requires the organization to identify, verify, protect and safeguard customer property while it is under the organization's control or being used by the organization. In case of lost, damaged or found to be unsuitable for use, the organization shall report this to the customer and maintain records.

*Clause 8.2.1 : Customer Satisfaction:* This part of the standard gives freedom to the organization to determine its suitable method to monitor information relating to customer perception as to whether the organization has met customer requirements.

The statistical analysis of the collected data shows respondents neither agreed nor disagreed that the implementation of the ISO 9000 Quality Management System improve the satisfaction of their customers on the received services or products. The respondents do not feel any improvements in the level of satisfaction of the customers on their organizations during or following the implementation of the ISO 9000 QMS. This may occur when the organizations have no

standard mechanism or instrument to measure the level of the satisfaction of customers. The mechanism or instrument exists but it is not effectively utilized. The mechanism or instrument exists and work properly and the organization observes no difference in the measurements taken periodically.

The respondents concluded with a neutral response regarding the customer satisfaction on their organizations. The researcher concludes that the neutral response in essential and critical issues, like customer satisfaction, has a taste of negative response. One of the most effective performance indicators for the organizations is the customer satisfaction, by which an organization evaluate its internal performance as well as its position in the market place and according to which, the organization determines whether to continue by same rhythm of performance or some adjustments and/or improvements are needed. Therefore, observing no effect of the ISO 9000 QMS on the level of customer satisfaction lead to a big question mark to be put on the effectiveness of the implemented system.

The third section of the questionnaire instrument consists of questions that designed for the purpose of studying the usage of the ISO 9000 Quality Management System by using four factors which are: (a) satisfaction of the organizations' workers on the ISO 9000 QMS, (b) the ISO 9000 QMS suitability to the organization, (c) ISO QMS benefits for the organization, and (d) the ISO 9000 QMS applicability. Each one of these factors has been explored by asking the respondents a number of questions.

The ISO 9000 QMS is an integrated management system that all workers at the different organizational levels should not only work under its umbrella, but they should also have a tangible contribution prior, during and/or following its implementation. The first factor is about the satisfaction of the organizations' workers on the ISO 9000 QMS. This factor reflects the soundness of the method that the organization follows to implement the ISO 9000 QMS. It is a well known fact that workers represent the backbone of every organization, of whatever type or size. Workers' satisfaction about the way that they do their work is crucial for their productivity, thus, for the success of the organization.

The statistical analysis of the collected data showed the respondents *disagreed* that the organizations' workers are satisfied with the ISO 9000 QMS that implemented in their organizations. *Involvement of people* is the third principle of the eight quality management principles on which the quality management system standards of the ISO 9000:2000 and ISO 9000:2008 series are based. Another cause is that organizations' workers may also feel not happy with the ISO 9000 QMS because they observe no real advantage of the new system to their organizations and

to themselves. Dooley (2004) mentioned several benefits that organizations can gain from involving people in the implementation of the ISO Quality Management System, like that the organization can obtain motivated and committed people, innovation and creation atmosphere can be provided to workers, people will be accountable for their own performances, people will be eager to participate in and contribute to continual improvement, and so many others.

To involve everybody in the organization with the quality management project, this movement has to be addressed and communicated in proper language to be effective. According to Dr. Joseph Juran (as explained in Mukherjee, 2008, p. 301), the language of money only will convince the top management to get involved into any activity. The workforce understands the language of things or process on product measures and their improvement. Their efforts should be rewarded with recognition, prizes, promotion, and so forth. The middle management is bilingual (i.e., it understands both languages).

The ISO 9000 QMS suitability to the organizations is the second factor in this section. By using this factor, the author can assess the suitability of the ISO 9000 QMS to the nature of the organization, the size of works that should be performed by workers. Also, assess the ISO 9000 QMS framework with regards to issues related to workers' motivation and encouragement to rise up their enthusiasm to do their best in their jobs as well as to effectively contribute in the successful implementation of the ISO 9000 QMS.

Lack of involvement of people that take place prior, during and following the implementation of ISO 9000 QMS is one of the common mistakes that the top management always do. Top management may not fairly distribute the tasks and duties among their workers, which may lead some overloaded workers to feel bad about the system and think that it is not suitable.

An important point to mention here is that the ISO 9000:2008 does not stress or pay more attention to the benefits that the worker should gain from his/her organization when working under the umbrella of ISO 9000. By having a look to Clause 6.0 of *Resource Management*, it is noticeable that the Standard concentrates more on what should the worker do for the organization; however, what the worker should gain from the organization is clearly mentioned. The worker is paid a good salary from the organization and the ISO 9000 QMS is a part of the employees' duties. The author hopes that organizations pay attention to identifying top management responsibilities.

The third factor in the third section investigates to what extent the organization gains benefits from the ISO 9000 Quality Management System and its continual improvement tools, such as Quality Objectives, External



and Internal Quality Audits, Process Measurement, Corrective and Preventive Actions, and Analysis of Data. Although there are a lot of benefits that the ISO 9000 QMS provides for the organization, but the author thinks that the foresaid continual improvement tools are the foremost because when they are properly utilized, the organization can ensure that it is now putting its foot in the right track towards the Total Quality Management.

The continual improvement tools of the ISO 9000 QMS enables the organization to apply the evaluation step in the Deming's Circle of 'Plan-Do-Check-Act' (i.e. the *Check* step), by which the organization evaluate the effectiveness of the established and/or implemented quality management system in order to treat the weaknesses and support the strengths. The statistical analysis of the collected data shows neutral responses of that the respondents neither agree nor disagree that their organizations gain benefits from implementing the ISO 9000 QMS. No benefits were observed for the organization during and following to the implementation of the ISO 9000 QMS. The ISO 9000 QMS can provide the organization with benefits. Philips (2009) discussed ten of these benefits that are summarized below:

- 1) Increase the efficiency of the organization, because ISO 9000 QMS enable the processes to be established and guidelines in place for anyone to follow easily, making training, transitions, and trouble-shooting easier processes can be easily improved.
- 2) The ISO 9000 QMS registered organizations experience increased productivity and improved financial performance, compared to the unregistered ones.
- 3) The ISO 9000 QMS defines roles, duties, responsibilities, and authorities of workers. Also it enables the organization to establish training systems and ensures all contribute to more satisfied and motivated workers.
- 4) International recognition from the International Organization for Standardization (ISO).
- 5) ISO 9000 QMS to document all daily activities in the organization, which facilitates information gathering and decision making based on the available data.
- 6) Mutually beneficial supplier relationships are one of the key attractions to ISO certification. Following the processes for documentation and testing ensure quality raw materials go into your production system. The process also requires thorough evaluation of new suppliers before a change is made and/or consistency with respect to how and where orders are placed.
- 7) Documentation of all processes ensures consistency throughout production and accountability of all workers. This also guarantees

traceable records are available when needed.

- 8) Documentation of all processes minimizes the room for error and ensures consistency in productivity and the quality and of the produced products or presented services.
- 9) Customer satisfaction is ensured because of the benefits of ISO 9001:2000 QMS to company efficiency, consistency and dedication to quality service.
- 10) Continual improvement can be ensured, as improvements are carefully planned and implemented based on facts, using a system of documentation and analysis, to ensure the best decisions are made for the organization.

From the above benefits that the ISO 9000 QMS provides, the Author perceives that respondents did not observe all or part of those benefits in their organizations because of the improper implementation practices. The ISO 9000 QMS applicability is the fourth and last factor in the third section of the questionnaire. In this factor, the author assesses how the ISO 9000 QMS can be easily applied in the organizations and to what extent do the organizations' workers accept or refuse it.

Acceptance and refusal of the organization's workers to the ISO 9000 QMS is very important for the success of the system, as it has major impacts on the degree of involvements and commitment of the workers to the implemented quality management system. Also, the acceptance and refusal affects the psychological conditions of the workers, for example, if workers accept the ISO 9000 QMS, they will be self-motivated to adopt it and do their best to do their works, which will definitely result in a high productivity.

When workers do not accept or refuse the ISO 9000 QMS, a strong resistant will emerge up against the new system and the workers will try to put obstacles in order to hinder the successful implementation of the ISO 9000 QMS, which may result in the failure or ineffective implementation of the new system. Therefore, the more applicability of the ISO 9000 QMS, the more easy, effective and sustainable implementation will be.

The statistical analysis of the collected data showed that the respondents' attitude about the applicability of the ISO 9000 QMS is *disagree*. This result indicates that the respondents suffer and experience difficulties during and after the implementation process. This always occurs when there is a lack in the top management commitment, due to which the workers lose their commitment too. Thus, meeting the ISO 9000 requirements will become valueless and difficult to be done.

A similar case happened with the researcher when he entered the office places of a very well known company in the area of study and this company has

been ISO 9000 registered for not less than three years. The researcher met more than six employees and no one had any idea about ISO 9000 QMS. Therefore, to prevent such similar case, and to ensure successful implementation for the ISO 9000 QMS, the author sees that organizations should attempt to use the change management theories. Westcott (2005) defined the change management as:

A process for ensuring that the people affected by change understand the nature of the change and the reasons for it, with the expectation that the new methods of operating will be internalized without creating undue resistance, conflict, and fear. (p. 30)

The researcher thinks that to reduce resistance, it is important that the top management effectively communicates the new vision or the change's vision with the other workers in order to remove some of the uncertainty of not knowing the direction in which the organization is headed. In addition to that, the effective communication may clear the picture of the change process for the workers and enable them to know what the anticipated role from them is. The effective communication may also lead workers to contribute in the decision making process, thus, they become dedicated to the change rather than resist it.

The second and third sections together realize the research objectives, which is "*Assess the impact of the implementation of the ISO Quality Management System upon the workers' performance*". Table 5 above illustrates the results obtained from the statistics that the respondents disagreed with the positive impact of the implementation of the ISO 9000 QMS on the performance of the organizations' workers. The researcher thinks that one of the most important reasons causing these challenging results, besides the lack of top management commitments, is the poor performance of the external auditors during the certification audits. Because when the organization has a pre-information that the certification audits will not be comprehensive or that much stiff, this will surely lead the organization to spend its minimal resources, efforts and time to obtain the certificate as a destination.

Nelson (1996) described that the ISO 9000 certification is like a driver's license. One can learn how to drive without getting a driver's license, but to prove you can drive, you need the license. The proof is not in the ability itself, but that an external judge of driving ability found you fit to drive. Because when the organization gets the ISO 9000 certificate for the first time, which means it only meets the minimum requirements of having a quality management system to start its journey with.

The purpose of the fourth section of the questionnaire is to open the door for respondents to express their opinions, remarks and/or comments about the questionnaire, the topic under discussion, and/or

any other related issues or topics. Actually, very few respondents who took care of this section and spent time to provide the researcher with additional opinions, thoughts, remarks, comments, and so forth. The researcher has decided to leave out this section of the questionnaire, as the responses are very few as well as it does not add value to the discussion.

## VI. CONCLUSIONS

In this research study a mixed methodology was used. The data for the study were collected from both secondary and primary sources. In the first phase, literature review was conducted. In the second phase, a quantitative survey was administered to  $n = 150$  workers operating in about 20 organizations working in the State of Qatar. Both of those methods were utilized to answer the research questions and achieve the research objective.

The impact of the implementation of the ISO 9000 Quality Management System on the organizations' workers has been assessed and researcher found that, as per the perception of the participating workers (i.e. Respondents) in the area of study, the implementation of the ISO 9000 Quality Management System has no impact and does not improve the performance of the organizations' workers. This research study also revealed some important points related to the organizations' workers and their performances under the umbrella of the ISO 9000 Quality Management System, which leads the Researcher to raise some questions to the concerned people in the International Organization for Standardization (ISO).

## VII. RECOMMENDATIONS

This research study has added a lot of experience and knowledge to the researcher. The findings highlight many areas that the researcher will investigate further in the future. Below are some of study, the organizations who are intended to get the ISO 9000 registration in the future, the International Organization for Standardization 'ISO', the certification recommendations that the researcher thinks they may serve the ISO 9000 registered organizations in the area bodies, the ISO 9000 consultancy firms and all interested parties:

- Clause 6.4 should be revised to consider some requirement(s) to obligate the organization to maintain the psychological work environment inside the organization, and evidence to be required.
- Add to the Clause (5): 'Management Responsibility' a statement that requires the top management to ensure the proper implementation of the quality objectives. Top management should provide evidence to prove its close monitoring for the implementation of the pre-set Quality Objectives.



- Audits, particularly the registration ones, should be conducted by auditors, who at least, possess the minimum knowledge or theoretical background about the area under assessment.
- Most of the ISO 9001:2008 requirements are dealing with what is required from the worker to do for the organization to ensure a successful implementation, which may also need the organization to do something for its workers to ensure the continuity of the good performance, enthusiasm, and loyalty, e.g. prizing, appreciations, recognition, rewarding, providing them with opportunities to upgrade their qualifications (e.g. training and post graduate studying), and the like. The Researcher wishes this to be considered in the ISO 9001:2008 requirements.
- Some quality auditors should change their auditing style to attempt to benefit the auditee organization and try to look for opportunities for improvements, rather than seeking for the auditees' mistakes.
- The effective communications plays a key role in the successful change management process, as it assists the organization a lot in applying the change management principles prior, during and following the implementation process for the ISO 9000 QMS. The effective communications also increase the workers' awareness and knowledge regarding the quality management theories in general and the ISO 9000 QMS in particular.
- Workers are the backbone of every management system, so, top management should give sufficient emphasis to human resources management and pay more attention to involve its workers and encourage them to contribute in the different ISO 9000 QMS implementation stages.
- The organizations should make proper use of the ISO 9000 continual improvement tools, as it puts the organization in the continual improvement track.
- A message to the leaders and managers is not to interfere with the creativity in of the workers. Involve workers in the decision making and the strategic planning processes. Reward workers and appreciate their efforts.
- Top management of the organization should keep up with the enthusiasm and commitment to the ISO 9000 QMS prior and following the certification audits and should not take the ISO 9000 certificate as a destination.
- Some sort of revisions for the certification/registration process should take place to ensure more effective ISO 9000 QMS to be implemented. For example, increase the efficiency of the certification audits.

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