



The Role of Organizational Culture on the Implementation of Total Quality Management

Case study of the Algerian Cement Producer- GICA GROUP -

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Abstract:

The aim of this study is to analyze the Role of Human Resource Management on the Implementation of Total Quality Management, in other words, the impact of organizational culture on TQM implementation mainly in GICA Group. The descriptive and analytical approach was used to obtain statistical data based on the survey method, as the questionnaire was administered to a sample of 250 respondents. After statistical processing, the results of the study confirmed our main hypothesis that the existing organizational culture in GICA group has an impact on the TQM implementation barriers. As a result, the study presented a number of suggestions including the following: organize quality trainings for employees, show visible support to quality initiatives in the organization and cultural orientation should be more flexible.

Keywords:

Total Quality Management; Human Resource Management; Organizational Culture; Organizational change; TQM Barriers.

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1. INTRODUCTION

Nowadays, competing environment push companies to rely on their competence when solving problems related to their external environment in order to meet customers' needs and expectations, competitors' innovations or macroeconomic changes. This puts a company in a place where using all instruments and means to improve its ability to respond to these environmental changes is mandatory. The company is concerned not only with adjusting its products and services in a competitive market but also its internal systems and processes.

Following these changes, many companies have adopted the motto "doing right things right" and "continuous improvement" which are considered the main principles of Total Quality Management.

TQM is a management philosophy, a systematic assertion of methods within organizational structure, aimed at reaching excellence in quality and customer satisfaction. Quality is related directly to customers' needs, implementing a successful Total Quality Management Concept will stimulate automatically employees' interest in continuous improvement of companies' processes.

However, traditional Human Resource Management and Organizational Culture of the company do not conform to the approach of Total Quality Management, which could cause a resistance toward its implementation in organizations.

1.1. Problematic study

This research seeks to answer the following primary question: "What strategic role does the Organizational Culture play in the implementation of TQM?". So, for this fundamental question to be answered, it is more than necessary to pass by the following sub-questions:

- Which organizational culture is adopted in GICA group?
- What are TQM implementation barriers that could arise due to organizational culture adopted?
- What is TQM implementation barrier dimension that has the most significant relation with the overall Organizational Culture?

1.2. Study hypotheses

To address the problematic issue, the following hypotheses are cited as tentative answers to be tested later:

H00: A significant relationship exists between organizational culture adopted in the company and TQM implementation barriers. The existing organizational culture in GICA group has an effect on TQM implementation barriers.

H₀₁: GICA group is a manufacturing organization that is goal oriented; its objective is to be quality oriented with characteristics of a Rational Organization that focuses on productivity and profitability.

H₀₂: Several potential problems could arise due to implementation of TQM as difficulties of gaining a commitment of employees and top managers, lack of customer satisfaction, poor internal communication and uncoordinated quality processes.

H₀₃: Employee Barrier has the most statistically significant correlation at the level of significance ($\alpha=0.05$) overall Organizational Culture.

1.3. Objectives of the study

The purpose of this research is to investigate the role of Organizational Culture on the implementation of Total Quality Management, the aim is also to identify what are TQM implementation barriers that could be encountered and which organizational culture is adopted in GICA group.

1.4. Research methodology

To carry out our study, two research approaches have been used: both of descriptive and analytical through a quantitative study that has included distribution of questionnaires for better data collection.

1.5. Structure of the study

In order to address the problematic scientifically and test the validity of hypothesis, the study has been divided into three main parts as follows: the first part includes the theoretical aspect of the research. The second part represents the practical aspect (research methodology, results and discussion). Then, the third part contains the conclusion and some recommendations.

2. Theoretical background

2.1 Total Quality Management: Aspects of implementation

The origin of TQM concept dates back to Feigen Baum in 1957 and later developed by the works of Ishikawa (1976), Crosby (1979), Juran (1980), Deming (1982), Taguchi (1990) and Oakland (1993). These theorists are regarded as key founders of TQM philosophy therefore the origin of TQM concept evolves mostly from their work (Al-Jalahma et al., 2012, P 10).

2.1.1. Defining Total Quality Management

In order to define this Total Quality Management, it is essential to define at first quality, as it is the key word in this concept, "it indicates the capability of all components

of an entity to satisfy the stated and implied needs, that a quality item will perform satisfactorily in service, and is suitable for its intended purpose. Quality is referred as “fitness for use” or “fitness for purpose”, “customer satisfaction”, “conformance of the requirements” (Kiran, 2016, P 42).

TQM has emerged as a holistic management model because the concept of TQM is much broader than traditional quality concepts. It encompasses not only product, service and process improvement but those relating to costs and productivity and to people involvement and development (Jancikova et al., 2009).

The concept of TQM is often described as a form of “Management Philosophy” based on a number of core values, such as customer focus, continuous improvement, process orientation, everybody’s commitment, fast response, result orientation and learn from others. This is what we call principles or dimensions, elements or cornerstones. (Hellsten et al., 2000, P239).

There is a diversity in TQM meaning, there is no single universally acceptable definition for TQM, it is described in so many different ways by researchers and no one could claim that his definition is the right one, but from analyzing the whole definitions found in the TQM literature, it is reasonable to have as a conclusion that TQM can be defined as a philosophy that involves the application of Quality Management principles and practices to all aspects of the organization from top to down management including employees, customers, stakeholders, suppliers and all internal and external environment of the organization (Black et al, 1996, P).

2.1.2. Obstacles to effective Total Quality Management

Managers encounter five common obstacles or barriers to Total Quality Management, which are (Ogbari, 2003, P55):

1. Inadequate human resources management,
2. Lack of planning for quality,
3. Lack of leadership for quality,
4. Inadequate resources for total quality management,
5. Lack of customer focus.

The most common obstacles in the lack of resources, most organizations are not motivated enough to accept Total cultural transformation inside the organization, the main reason is that managers don’t have a clear idea on what is Cultural change and how to approach it. Another big problem is the commitment of all the employees from top management to subordinates, also the lack of common goals, lack of knowledge, poor planning, poor training, and lack of effective management.

Successful Total Quality Management requires the availability of resources needed along the whole period of implementation, because Total Quality Management fails due to failure in implementation by the staff and not a failure due to theory and methods.

2.1.3. Aspects of TQM Implementation:

According to Lundquist (1995), TQM implementation is based on three core elements (Rashed et al., 2012, P32):

1. TQM philosophy that comprises a set of TQM principles;
2. Organizational culture - antecedent that influences TQM implementation;
3. TQM implementation barriers – that hamper effective implementation of TQM.

In this respect, accepting the proposition that TQM has valid content, the other two key elements that play a role in effective TQM implementation are organizational culture and TQM implementation barriers.

Despite this clear definition of TQM barriers, these obstacles change from an organization to another, there is no techniques or tools that could guarantee a successful implementation or TQM, even when organizations try to use or implement already successful models of TQM, following the same standards or strategies, the only solution there is to try to adapt the implementation to the organization and try to eliminate maximum of obstacles or implementation barriers.

2.1.4. The relationship between Organizational change and TQM implementation barriers:

Organizational Change can be defined as a transformation inside an organization; it is due to the changes or the development of new business strategies and goals (Repischak, 2016).

Implementation is putting a strategy or a policy into action, when of its consequences is the organizational change it causes. The ability for change is important for organizations to maintain their long-term efficiency. According to Killing & Fry (1986), “there are different causes of change, there is anticipated change, initiated through an urgent need of change, there is Reactive change, initiated due to a response to a need of change and there is Crisis, a change for the survival of the organization” (Noronha,2002).

Despite there is no certain or clear way to define organizational culture, some important components can be put together to summarize it as Schein’s definition did, he says culture is: “pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough

to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems” (Noronha,2002).

Lahke and Mohanty (1994) asserted the following measures for obtaining cultural change when implementing TQM (Jancikova, 2009, P36):

- ✓ Organizational policies, procedures and processes must emphasize quality;
- ✓ Employees must understand the importance of quality;
- ✓ Organization must be customer oriented;
- ✓ Participation of all the structure in the continuous improvement process;
- ✓ Business plan should integrate internal and external customer requirements;
- ✓ Develop a strong communication strategy.

The organizational change needs to possess a culture that adapts to external environment and respond effectively to internal processes.

Some researchers argue that TQM has a negative impact on the culture of an organization as stated all of (Deming, Juran, Hackman and Wageman, Lawler and Flood) that cultural transformation is due to TQM implementation, this involves a major cultural change (transformation in all values, beliefs, goals and processes among employees in the organization). On the other hand, many researchers as (Maull, McNabb, Sepic, Westbrook and Utley) argue that Organizational cultures determine the results of TQM implementation rather than the opposite, the Organizational culture adopted in the company has a crucial role in implementing an effective TQM system. According to Alkhalifa and Aspinwall (2000), Organizational culture’s attributes differs from a company to another, therefore each organization will have a unique type of organizational culture and each organizational culture will have a specific set of TQM constructs that need to be measured” (Al-khalifa, 2000, P26).

2.2. General Human Resource Management

Human resource management or management of work and people is one of the fundamentals activities in the organization, as it considers humans as an important aspect for the organization prosperity, it is considered as an inevitable consequence of starting and growing an organization.

2.2.1. The concept of Strategic Human Resource Management (SHRM)

Strategic Human Resource Management is an approach that supports development between HR goals and the business main goals and objectives (Kamoche et al., 2004).

The SHRM has been described by Boxall (1996) as "the interface between HRM and strategic management". Schuler and Jackson (2007) stated that: SHRM is fundamentally about systematically linking people with the firm (Boxall et al., 2007).

In essence, Strategic Human Resource Management is a general notion of how integration between Business goals and HR goals is done; it is also important how members of the HR function should adopt this strategic approach and how they should support the business goals.

The nature of SHRM can be considered as a set of concepts and not techniques, their aim is to make sure that human resource strategies are going along with organizational strategy and they both contribute to the achievement of business goals.

2.2.2. Implications of SHRM on the Organizational change

As the marketplace is becoming more and more competitive, organizations are trying to gain competitive advantage through strategic human resource management, by turning to more innovative changes, SHRM is used as a system that attracts and motivates employees to assure effective implementation of organizational changes that leads to the survival of organizations and reaching business objectives.

Maxwell and Watson already precised that one of the best strategies of HRM to survive an organizational change is a partnership between HR specialists and employees; it is a model that should be followed by any organization (Itika, 2011). A Strategic human resource management can be implicated in many operations to ensure a successful organizational change, this includes:

- **Staffing:** Organizational change can create the need for more competent and multi skilled employees if it needs to extend its organizations. The opposite can happen, organizations may have to layoff workers when experiencing organizational change;
- **Effective communication:** Organizational change may bring confusions inside organizations, so a good SHRM have to open a good communication plan with employees to keep them informed and also to have their feedback;
- **Developing plan:** HRM and top management need to come up with an effective plan to integrate new recruited workers into the process of change;
- **Integrating the human resource system:** The period of integration will include activities such as, planning, designing and communicating the human resource programmes and practices to be implemented across the organization and ensuring their implementation at all levels in the organization.

2.2.3. The effect of human resource results on organizational effectiveness

The HRM and TQM literature have become increasingly interlinked. This is partly due to the use of similar theoretical concepts and assumptions such as leadership, employee involvement and motivation, teamwork, and training, and partly because both

HRM and TQM are being linked to business performance in theory and practice. Most of the previous studies (e.g., Huselid, 1995; Delaney and Huselid, 1996; Tsui et al., 1997) focused on the relationship between human resource practices and performance outcomes and paid little attention to the effects of human resource results on other performance measures. Some of these studies (e.g., U.S. Department of Labor, 1993; Youndt et al., 1996) found that human resource practices such as selection and training contributed to productivity and company performance. Ryan et al. (1996) also argued that if the employees in a unit shared positive attitudes and valued cooperation and collaboration, productivity could be improved. In addition, a report prepared for the Canadian Policy Research Networks suggested that workplace practices such as job design, employee involvement, and training, which are strongly emphasized by TQM, had a favorable impact on employee satisfaction, absenteeism, tardiness, commitment, motivation, effort, and performance, which in turn had a positive effect on company performance, as well as productivity and competitiveness (Sila, 2007, P89).

3. Methods and materials

To achieve the research aims, the study depended on secondary resources represented by available literature. In addition, a questionnaire was designed to collect data from the targeted sample. The methodology of the research is clarified as follows:

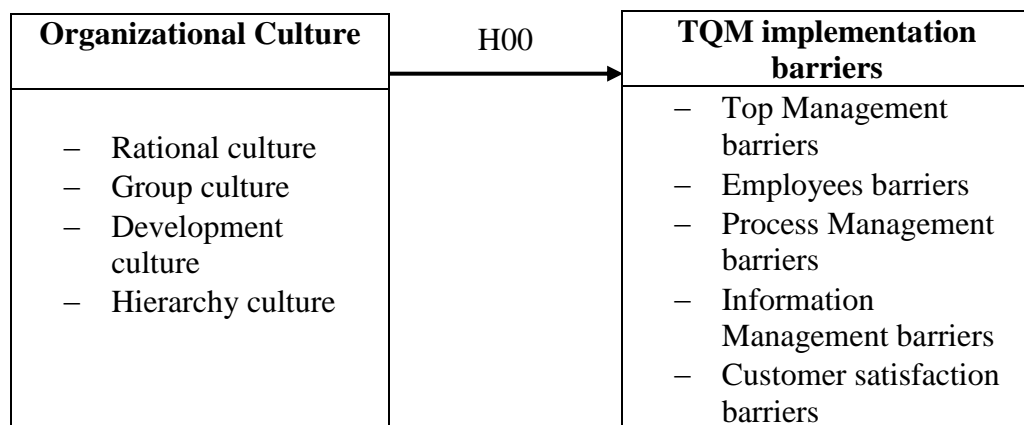
3.1. Purpose of the research

The purpose of this research is to investigate the role of human resource management on the implementation of TQM and how the organizational culture of an organization is going to affect the implementation. In other words, to study the relationship between organizational culture of GICA group and TQM implementation barriers existing in this organization.

3.2. Identification of study variables

The research is causal study, studying the role of organizational culture on the implementation of total quality management in the Algerian cement manufacturing sector precisely in GICA group. The independent variable is the Organizational culture as a consequence of the applied human resource management either the dependent variable is TQM implementation barriers. In order to study the relationship between these two variables the following theoretical model was proposed as shown in figure N°01.

Figure N°01: Conceptual model



Source: Prepared by the author

3.3. Research approach

This study adopted deductive approach which is suitably achieved by quantitative data analysis that enabled to understand the relationship between the two variables, TQM and HRM, more specifically, Organizational culture as a consequence of the applied human resource management of GICA group and TQM implementation barriers existing in the company.

3.4. Population

The major entity under investigation in this study is composed of different stratas; employees differ in GICA group, according to their qualifications, experience, department and also to their level on the management scale. Due to the large size of the population with 12000 employees dispatched on 23 subsidiaries, only one activity has been chosen for the study which is Cement manufacturing; which represents 14 subsidiaries of the group.

3.5. Sampling process

As for the sampling method, this study is based on non random sampling, convenience sampling was chosen. The data was collected from the population representatives who are conveniently available. The selection is usually based on money, time, location and availability. Convenience sampling is the best way to gain data effectively and quickly. For the purpose of this research study, 350 participants were requested to complete the questionnaire.

3.6. Data collection

A questionnaire is a set of questions arranged in a specific structure to extract information (Dillman, 2009). The questionnaire is in order to generate numerical data that

can either confirm or deny the hypotheses elaborated in the introduction, this questionnaire was developed based on an extensive literature review. The respondents were asked to indicate the organizational culture existing in their organization and also the barriers that TQM implementation may encounter.

During the execution of the field survey, trials to explain the theme were very frequent due to its complexity. The two variables were very ambiguous to the majority of employees and as a deduction from this situation, is that for the good running of the questionnaire, we tried to simplify the meaning of TQM concept and mention it implicitly as an aspect of quality so it could be clear and easy to understand especially for subordinates and workers.

3.6.1. Development of the questionnaire instrument

Based on the construction of the theoretical framework and the proposed hypotheses, the questionnaire was designed to identify the profile of respondents, existing organizational culture and barriers that could arise due to TQM implementation.

The questionnaire was written in English then translated into French in order to be understood by the study sample. It was divided into three parts (Refer to Annexe N°01). so as to provide evidence and test hypotheses as follows:

- ✓ **Part1:** Identification of respondents' profile;
- ✓ **Part2:** Identification of the organizational culture that consists of 4 dimensions:
 - Organizational culture
 - Management style
 - Leadership
 - The definition of success in the company;
- ✓ **Part3:** Identifying significant TQM implementation barriers that consists of 5 dimensions or axes:
 - Top management barriers
 - Employee barriers
 - Process management barriers
 - Information management barriers
 - Customer satisfaction barriers.

The five-dimensional Likert scale (1 to 5) with end points of "strongly disagree and strongly agree" was used (Chang, 1996). In order to calculate an overall score for each

barrier construct, the score of each of its barrier indicators was summed and then averaged.

3.6.2. Testing the questionnaire

A preliminary version of the questionnaire or a Pilot test was conducted in order to assess the questionnaire's comprehension and eliminate potential problems. The preliminary questionnaire was administered to a group of 32 employees of GICA Corporation. After testing the questionnaire, several questions were reworded.

3.6.3. Administration of questionnaire

The paper questionnaire was administered to three hundred and fifty (350) employees. It was very clear that the questionnaire was not welcomed by the whole staff; some employees consider the information needed confidential, the majority's problem was that the research topic was ambiguous and not clear enough. Efforts in making everything understood for every respondent were needed. 250 copies in total were collected with an achieved response rate of 71%, which help us to continue the study and analyze the responses. On the whole; data collection lasted three (03) weeks.

3.7. The questionnaire reliability

To determine the consistency of the questionnaire, the data reliability was checked through Cronbach's alpha coefficient using the SPSS24.0 software (Statistical Package for Social Sciences), which is used to measure questionnaire reliability regarding internal consistency of items. The result was the Cronbach's α is equal to 0.891 (89.1%) indicating a high reliability more than (0.60) which allows confirming the validity of the questionnaire.

4. DATA ANALYSIS AND DISCUSSION:

After collecting the questionnaire copies, in order to derive the results of the research different statistical test, tables, descriptive and deductive statistics methods were analyzed and evaluated by using SPSS software version 24.0.

4.1. Data analysis

4.1.1. Results of internal consistency measurement of the questionnaire:

Before evaluating the hypothesized relationships between the two sets of constructs, it was first necessary to validate the constructs. Construct validity is the extent to which a set of measured items actually reflect the theoretical latent construct they are designed to measure (Hair et al., 2007).

The spearman correlation coefficient and the probability Value Sig are the appropriate tools to quantitatively assess the construct validity of proposed measurement

theory.

Table N°01 shows if all the questionnaire dimensions are valid for measurement, it measures the correlation coefficient of each dimension and if the overall correlation of the questionnaire is statistically significant.

Table N°01: The correlation coefficient of each dimension and the questionnaire total score

Dimensions	Spearman Correlation Coefficient	Probability Value (Sig)
Organizational Culture	0.706	0.000**
Management Style	0.721	0.000**
Leadership Style	0.558	0.001**
Definition of success in the organization	0.513	0.000**
Top Management Barrier	0.576	0.000**
Employee Barrier	0.792	0.000**
Process Management Barrier	0.855	0.000**
Information Management Barrier	0.701	0.000**
Customers Barrier	0.519	0.000**

Source: Prepared by the author on the basis of SPSS 24.0 outputs.

From table N°01 we note that all correlation coefficients of all dimensions are greater than 0.5 which is a high statistical significance, which means there is a relatively strong relationship between these dimensions at the significance level of ($\alpha=0.05$).

4.1.2. The organizational culture measurement:

This section analyses the overall mean scores of each organizational culture type, the mean value of each culture type by each dimension of cultural characteristics.

- Group culture : is supporting and mentoring leadership, employee involvement and empowerment, employee participation in decision making...etc;
- Development culture: growth, creativity, innovation, resource acquisition, continual adaptation to the external environment/risks, visionary leadership, innovative and risk-oriented...etc;
- Rational culture: productivity, performance, goal achievement, competition, competitive actions, achieving stretch goals...etc;
- Hierarchy culture: emphasis on rules/regulations and standardization to achieve control and stability...etc).

Table N°02 presents the overall means, ranking and std. deviation. It also presents the reliability statistics of each organizational culture construct, using the recognized

Cronbach alpha method that measures internal consistency, based on the average inter-item correlation, together with the number of measurement items in each construct.

Table N°02: Mean score of each organizational culture type

Dimensions	Mean	Ranking	Std.Deviation	Cronbach's Alpha	N
Rational culture	3.65	1	0.66	0.78	250
Group culture	3.62	2	0.75	0.97	250
Development culture	3.57	3	1.07	0.94	250
Hierarchy culture	3.50	4	1.03	0.92	250

Source: Prepared by the author on the basis of SPSS 24.0 outputs.

In testing the reliability of constructs, we ran the results of the questionnaire on the statistical analysis software SPSS, Cronbach's Alpha values equal to or above 0.60 are considered to be an acceptable level of reliability. The table shows that the reliability of each of the scales is well above the minimum recommended alpha value for the four constructs or dimensions.

According to the results in table N°02, rational culture is the dominant (mean = 3.65), group culture with a mean score of 3.62 is the second most dominant, while development culture is third in ranking with a mean score of (3.57). Finally, Hierarchy culture was the weakest (mean = 3.5).

It is imperative that organizations understand what cultural make up they have in the first place. It is reasonable to argue therefore that measurement, using CVF model, of the different types of culture in GICA group. This measurement will give us a clear understanding of the factors that affect TQM. After analyzing the results, the overall mean of all organizational culture types are close to each other, which means that there is a mixture of culture in the organization.

The rational culture is the dominant culture in the organization, which means that the organization is a place that seeks productivity, performance, goal achievement, competition and market leadership.

4.1.3. Identification of TQM implementation barriers:

Table N°03 presents ranking, overall mean, and std. deviation of TQM barrier dimension. It also presents the reliability statistics of each barrier dimension, using recognized Cronbach's alpha method that measures internal consistency, based on the average inter-item correlation.

Table N°03: Ranking, overall mean, and std. deviation of the TQM barrier dimension

Barrier Dimension	Mean	Ranking	Std. Deviation	Cronbach's Alpha	N
Top Management	3.57	1	0.71	0.92	250
Customers	3.37	2	0.80	0.85	250
Process Management	3.16	3	0.72	0.96	250
Employee	3.3	4	0.79	0.92	250
Information Management	3.02	5	0.74	0.76	250
Overall Mean	3.28			0.88	

Source: Prepared by the author on the basis of SPSS 24.0 outputs.

Overall, the results show relatively high mean scores on two of TQM implementation barrier constructs (top management barriers, customer barriers) with respectively (3.57) and (3.37) mean score. It is reasonable to propose that the existence of these barriers may influence the implementation of TQM in the survey sample. However, the score was lower on the process management barriers, information management barriers, and employee barriers dimensions with respectively (3.16), (3.02) and (3.3) suggesting good efforts and outcomes within the survey sample.

→ **Top management barrier dimension:**

Table N°04 shows the mean, standard deviation, and variance of individual barrier indicators for the top management barrier dimension in GICA group.

The results show that all the barrier indicators have relatively a high score, thus showing a lack of commitment and support to quality (4.27), inadequate resources for employee training (3.66), lack of goals and objectives for quality improvement (3.87).

Therefore, there is a consensus in the sample population that all indicators of top management barrier construct are equally high in GICA group, except for the lack of quality awareness and improvements by managers which show a low mean score of (2.48).

Table N°04: Individual barrier results of top management barrier Dimension

Barrier Dimension	Mean	Ranking	Std. Deviation	Variance	N
Lack of visible commitment and support to quality by senior managers	4.27	1	0.72	0.45	250
Lack of adequate resources for employee training allocated by senior managers	3.66	3	0.7	0.52	250

Lack of goals and objectives for quality improvements	3.87	2	0.68	0.55	250
Lack of quality awareness and improvements by managers	2.48	4	0.76	0.53	250
Overall Mean	3.57			0.51	

Source: Prepared by the author on the basis of SPSS 24.0 outputs.

→ **Employee barrier Dimension:**

As it is seen in table N°05, and without repeating the same analysis done earlier, all individual indicators contribute equally in the organization, they all have approximately a high and significant mean score of 3. The lack of internal Quality Management indicators takes the lead with (3.93) followed by the indicator Lack of recognition for achievements in quality improvements with (3.48).

Table N°05: Individual barrier results of Employee barrier Dimension

Barrier Dimension	Mean	Ranking	Std. Deviation	Variance	N
Our employees are rarely empowered to apply quality improvement efforts in their area	3.42	3	0.86	0.86	250
Lack of involvement in improvement projects	3.18	4	0.71	0.71	250
Lack of training in quality improvement skills	3	7	0.87	0.87	250
Lack of recognition for achievements in quality improvement	3.48	2	0.77	0.77	250
Lack of job satisfaction	3.06	5	0.73	0.73	250
Employees are resistant to change	3.03	6	0.78	0.78	250
Lack of internal Quality Management expertise	3.93	1	0.87	0.87	250
Overall Mean	3.3			0.79	

Source: Prepared by the author on the basis of SPSS 24.0 outputs.

→ **Process management barrier Dimension:**

As can be seen in table N°06, the mean score for the first two indicators are too high comparing to the last two indicators which are low, the lack of quality initiatives has a mean score of (3.39) and the second indicator that shows that quality is delegated to selected people only has the mean score of (3.54).

The lack of adequate resources to employ TQM has the mean score of (2.90) followed by the lowest score in this dimension, which represents uncoordinated quality initiatives with the mean score of (2.81).

Table N°06: Individual barrier results of process management barrier Dimension

Barrier Dimension	Mean	Ranking	Std. Deviation	Variance	N
The quality initiatives in our organization do not include all organizational functions/ departments	3.39	2	0.69	0.48	250
Quality is treated as a separate initiative in our organization (i.e. it is delegated to selected individuals only)	3.54	1	0.74	0.54	250
Adequate resources to effectively employ TQM are not available in our organization	2.90	3	0.72	0.552	250
Organization tends to have many uncoordinated (ad hoc) quality initiatives	2.81	4	0.74	0.55	250
Overall Mean	3.16			0.53	

Source: Prepared by the author on the basis of SPSS 24.0 outputs.

→ **Information management barrier Dimension:**

Table N° 07 shows individual barrier indicator results for customer barrier construct. The individual indicator that demonstrate the lack of quality and performance information inside the organization takes the first place with a mean score of (3.42) followed by the lack of measurement of quality performance in the organization with score of (3.39), these two individual indicators show relatively high mean score comparing to the lack of enough time to employ quality initiatives and the lack of inter-organizational communication with respectively mean scores of (2.81) and (2.48).

Table N°07: Individual barrier results of information management barrier Dimension

Barrier Dimension	Mean	Ranking	Std. Deviation	Variance	N
Poor inter-organizational communication in our organization	2.48	4	0.72	0.58	250
Lack of Quality and performance information in the organization	3.42	1	0.72	0.54	250
Lack of measurement of the quality	3.39	2	0.86	0.6	250

performance in the organization					
Lack of enough time to implement Quality initiatives	2.81	3	0.68	0.97	250
Overall Mean	3.02			0.67	

Source: Prepared by the author on the basis of SPSS 24.0 outputs.

→ **Individual barrier results of customer’ barrier Dimension:**

Table N°08 shows the individual barrier indicator results for customer barrier construct , the table shows that individual indicator “the organization lacks an effective customer feedback system” has the highest mean score in the customer dimension with (3.84) followed by the indicator that shows the lack of system that measures customer satisfaction with mean score of (3.06).These two indicators demonstrate that customer satisfaction still has not been addressed properly in the organization.

Both “Lack of contact with key customers” and Customers’ needs and expectations are rarely assessed in the organization” have low mean scores with respectively (2.24) and (2.03), it appears that the organization is doing its best to grasp the importance of customer focus in doing business.

Table N°08: Individual barrier results of customers’ barrier Dimension.

Barrier Dimension	Mean	Ranking	Std. Deviation	Variance	N
Lack of an effective system to measure customer satisfaction	3.06	2	0.88	0.77	250
Customers' needs and expectations are rarely assessed in our organization	2.03	4	0.82	0.72	250
The organization lacks an effective customer feedback system	3.84	1	0.78	0.68	250
Lack of contact with key customers	2.24	3	0.75	0.86	250
Overall Mean	3.37			0.75	

Source: Prepared by the author on the basis of SPSS 24.0 outputs.

4.1.4. Measurement of the relationship between Rational Culture and TQM implementation barriers:

After analyzing each of parts of the questionnaire one by one using SPSS software, we came up with a conclusion for each variable. These conclusions will help us identify the nature of the relationship between rational culture and TQM implementation Barriers. The use of both Pearson Correlation Coefficient and probability value instrument (Sig) was necessary for this kind of analysis. These statistical instruments will help us identify

if there is any significant relationship between the second and the third part of the questionnaire.

Table N°09 represents the various results found after introducing collected data or responses, the table shows the nature of the relationship there is between organizational culture which is rational culture and TQM implementation barriers as separate variables, and it also presents the nature of the relationship there is between rational culture and each TQM barrier dimension.

Table N°09: Result of ANOVA between Rational Culture and TQM implementation barrier

Model	Mean	F	R ²	Pearson Correlation	Sig
Regression	3.74	88.071	0.500	0.707**	0.000*

Remark: ** Correlation is significant at the 0.01 level

Source: Prepared by the author on the basis of SPSS 24.0 outputs.

Based on table N°09 there is a significant relationship between Rational Culture and TQM implementation barrier with a Sig value of (0) which is statistically significant as it has a value that is at the level of significance (0.05) and with Pearson Correlation Coefficient of (0.707) which is a strong and a high value that confirm what has been said or proved in the previous studies mentioned above.

Table N°10 highlights the importance order of the impact of Organizational Culture on TQM implementation.

Table N°10: Ranking of the impact between Organizational Culture and TQM implementation barrier

Variable		TQM Barriers Dimensions				
		Top Management	Employee Barrier	Process Management	Information Management	Customer Management
Organizational Culture	The Mean	3.47	3.3	3.16	3.02	3.37
	Value of R ²	0.390	0.174	0.180	0.152	0.299
	Ranking	1	4	3	5	2

Source: Prepared by the author on the basis of SPSS 24.0 outputs.

The table shows that Top Management is the most important with value (R=0.390) of all TQM barriers dimensions through the study and then followed by Customer Management is the second, and then third Process Management in the latter Employee Barrier and Information Management with value (R=0.152).

The analysis of our research showed a positive and strong relationship between the organizational culture implemented in GICA group and each of the TQM implementation barrier dimensions which is not the case in the previous studies that proved that the

rational culture only has an impact on top management barrier, employee barrier and customer barrier. This contradiction is due to the fact that there is a mixture of organizational culture in GICA group. Despite that rational culture is the dominant one; other cultures also affect the TQM implementation as each one of these organizational cultures has their characteristics.

4.2. Results and discussion:

After collecting and analyzing the data some interpretations and results can be summarized in the following points:

- **Result One:** When asking participants about their work experience and educational background, we found that these two have a negative impact on TQM implementation and organizational culture. GICA group recruits workers that did not finish their studies because working at the manufactory as an executer does not need a high educational level, and execution category in the organization represents the majority of employees compared to t mastery and executive categories, this could represent an important barrier for TQM implementation in the organization as its employees are not quality experienced.
- **Result two:** In the second part of the questionnaire, we tried to identify the organizational culture adopted or implemented in the company. After reviewing the results we noted that: The dominant culture in the organization is rational culture, a culture that is characterized by productivity, performance, goal achievement, competition, competitive actions, achieving stretch goals and targets. Even though rational culture is dominant, the results also showed that there is a mixture of cultures in the organization as the four organizational cultures correlate at fairly similar degrees with TQM implementation barrier variables.
- **Result three:** All TQM barriers proposed in the questionnaire have an impact on TQM implementation in the organization. The study found that TQM implementation barrier related constructs of top management, customers and process management had a relatively high score in GICA group, which means that there is a lack of support to quality by top managers, process management is underdeveloped and that GICA group is not fully customer oriented.
- **Result four:** The organizational culture adopted in the company has an impact on all TQM implementation barriers, which is contrary to the previous studies results which proved that rational culture only has an impact on Top Management, Employee and Customers' Barriers. Even though rational culture is the dominant organizational culture in GICA group, we found out that other cultures exist in the organization and they have an influence on TQM implementation barriers due to the mixture of organizational culture characteristics.

5. CONCLUSION:

Since the results of the study were previously presented we are here to reformulate those results in a trial to answer the sub questions from our general introduction and also verify the veracity of the made hypotheses.

So the first hypothesis stipulating that “GICA group is a manufacturing organization that is goal oriented; its objective is to be quality oriented with characteristics of a Rational Organization that focuses on productivity and profitability” according to this study, this hypothesis can’t be confirmed. The result of this study indicates that there is a mixture of culture existing in the company even though rational culture is slightly dominant. Characteristics of other cultures such as group culture, hierarchical culture and development culture do exist in the organization which means that these characteristics have an impact on TQM implementation barriers.

The second hypothesis states that “Several potential problems could arise due to implementation of TQM as difficulties of gaining a commitment of employees and top managers, lack of customer satisfaction, poor internal communication and uncoordinated quality processes” according to the current study, this hypothesis is confirmed and could very well be the answer to the second sub question. Lack of understanding and not addressing TQM implementation barriers is considered a prime cause of failures of TQM in GICA group.

The third hypothesis proposed that “Employee Barrier has the most statistically significant correlation at the level of significance ($\text{Alpha}=0.05$) overall Organizational Culture.” According to this study, this hypothesis is confirmed.

The results of the study allow us to confirm our main hypothesis that states: “A significant relationship exists between organizational culture adopted in the company and TQM implementation barriers. The existing organizational culture in GICA group has an effect on TQM implementation barriers.”

Based on the analysis of the questionnaire results, GICA group in order to improve the impact of organizational culture on TQM implementation barriers should:

- Review the recruitment policy; the majority of employees do not acquire high educational level which means that they are not knowledgeable about the concept of quality and its aspects.
- Organize Quality trainings and workshops for its employees so that the whole staff would be familiar with the concept of TQM and start applying its aspects.
- Modify its cultural orientation to be more flexible. This modification aims to nudge the organization towards achieving strong comprehensive culture because

of the dominant existence of rational and hierarchical culture types.

- Adopt some elements of each of the four ideal culture types (group, developmental, rational and hierarchical). Therefore, a favorable mix of characteristics of organizational culture is desired.

For further research, additional research questions such as TQM implementation barriers can be added to get more detailed information. Also, this study can be proved or validated by a qualitative approach, interviews with quality experts from different organizations could be done to collect more data that support our results.

Bibliography List:

- Al-Jalahma,R. (2012).*Impact of Organization culture on TQM implementation barriers*, , Brunel Business School, UK.
- Al-khalifa, K.N. (2000)." Using the Competing Values Framework to identify the ideal culture profile for TQM: a UK perspective", *Manufacturing Technology and Management*, 2(7). UK.
- Black, S. A., & Porter, L. J. (1996). Identification of the critical factors of TQM. *Decision sciences*, 27(1), 1-21.
- Boxall, P., Purcell, J. (2007). *The Oxford Handbook of Human Resource Management*, Oxford University Press, USA.
- Chang, S., Wiebe, R. (1996). "The ideal culture profile for total quality management: a competing values perspective", *Engineering Management Journal*, 8(2),USA.
- Hair Jr,J., Black, W., Babin, B., Anderson , R. (2009). *Multivariate Data Analysis* (6th ed), Pearson,USA.
- Hellsten, U., & Klefsjö, B. (2000). TQM as a management system consisting of values, techniques and tools. *The TQM magazine*, 12 (4), 238-244.
- Itika, J. S. (2011). *Fundamentals of HRM*, University of Gronigen, Netherlands.
- Jancikova,A ., Brychta,B. (2009). "TQM and Organizational Culture as Significant Factors in Ensuring Competitive Advantage: A Theoretical Perspective" , *Economics & Sociology*, 2(5).USA.
- Kamoche, K., Muuka, N., Horwitz, F., Debrah, Y. (2004). *Managing Human Resources in Africa*, Routledge, UK.
- KIRAN, D. R. (2016). *Total Quality Management: Key concepts & case studies*, Elsevier Science, Amsterdam.
- Noronha, C. (2002). *The theory of Culture-specific Total Quality Management: Quality management in Chinese regions*, Palgrave Macmillan, UK.

- Ogbari, M. (2003). *Strategic Imperatives of Total Quality Management and Customer Satisfaction in Organizational Sustainability*, University of Ilorin Business School, Nigeria.
- Repischak, V. (2007). *Managing Organizational Change: A guide for Human Resource Professionals in the era of change*, lecture, School of public and Environmental Affairs, India.
- Sila, I. (2007). Examining the effects of contextual factors on TQM and performance through the lens of organizational theories: An empirical study. *Journal of Operations management*, 25(1), 83-109.

Annexes

Annexe N°01 : Questionnaire

First part : Identification

1. To which department do you belong?.....
2. What is position?
 - Executive
 - Mastery
 - Execution
3. What is your education Level?
 - Fundamental
 - Secondary/BAC
 - Graduation
 - Post graduation
 - Professional diploma
 - Others :.....
4. How old are you ? :
5. What is your professional experience in term of months?
6. Have you already known the term « Total Quality »?
 - Yes
 - No

Second part: Identification of the Organizational Culture profile

The Organizational Culture of the organization	1	2	3	4	5
The organization is a personal place - it's like a big family. People seem to share a lot of themselves.					
The organization is a dynamic and entrepreneurial place - people are willing to try new things and take risks.					
The organization is results oriented, the people are very competitive and success oriented.					
A controlled and structured place, formal procedures generally govern what people do.					

The management style of the organization	1	2	3	4	5
Teamwork, consensus and participation.					
Individual risk-taking, innovation, freedom and uniqueness.					
Job security, compliance, predictability and stability in employee relations.					

Third part : Identification des barrières de la mise en œuvre du management de la qualité totale

Top Management barriers	1	2	3	4	5
Lack of visible commitment and support to quality by senior managers.					

Lack of adequate resources for employee training allocated by senior managers.					
Lack of goals and objectives for quality improvements.					
Lack of quality awareness and improvements by managers.					

Employees' barriers	1	2	3	4	5
Our employees are rarely empowered to apply quality improvement efforts in their area.					
Lack of involvement of employees in improvement projects.					
There is a lack of training in quality improvement skills in the organization.					
Employees and teams are rarely rewarded there is a lack of recognition for achievements in quality improvement.					
There is a lack of job satisfaction.					
In our organization, employees are resistant to change.					
There is a lack of internal Quality Management in our organization.					

Process Management barriers	1	2	3	4	5
The quality initiatives in our organization do not include all organizational functions/ departments					
Quality is treated as a separate initiative in our organization (i.e. it is delegated to selected individuals only)					
Adequate resources to effectively employ TQM are not available in our organization.					
Organization tends to have many uncoordinated (ad hoc) quality initiatives					

Information Management barriers	1	2	3	4	5
There is a poor communication in our organization.					
Information about quality and performance in the organization is not displayed.					
The quality performance is not measured regularly in our organization.					
Our organization wishes to implement Quality initiatives but there is not enough time to do it.					

Customers'barriers	1	2	3	4	5
The organization doesn't have an effective system to measure customer satisfaction.					
Customers' needs and expectations are rarely assessed in our organization.					
The organization lacks an effective customer feedback system.					
In the organization, contact with key customers is difficult.					