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## THE NEED FOR QUALITY CULTURE IN IRAN'S OIL AND GAS PROJECTS: A CRITICAL REVIEW

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### **Abstract**

Quality is an approved management concept in the twentieth century and an intense catalyst for driving organisational competitiveness and effectiveness. The cornerstone of any type of quality enhancement includes cultivating a 'quality culture' in the target organisation and incorporating it all through the organisation. 'Organisational culture' is characterised as the collective views, standards, outlooks, and behaviours that represent the staff in a company. As a management system, Total Quality Management (TQM) initiated in the 1950's and has persistently progressed and has become more widespread since the early 1980's. TQM is considered as an improvement to the conventional commercial methods and is an established strategy securing survival in the worldwide rivalry. Project Management (PM) is the field of utilising recognised standards, procedures and policies to deal with a project from origination to completion. It is frequently abbreviated as PM and entails organising and connecting the company's resources to accomplish a specific activity, event or responsibility. Different organisations and project teams possess exclusive features, value structures and manners of performing objectives to be successful. A project leader is supposed to comprehend the notion of culture; in turn, he can receive support from the organisation members and lead the project efficiently. The aim of this paper is to stress the necessity of quality culture in PM teams within Iran's oil and gas industry. Therefore, a critical review of the related literature is performed to clarify challenges in conventional PM structure in Iran's oil and gas industry, current practices in TQM and methods with which quality culture can enhance the performance of PM teams. A critical literature survey and review of existing published data is carried out to explain the needs of quality culture in Iran's oil and gas projects.

**Keywords:** Oil and Gas Industry, Project Management, Quality Culture, Organisational Culture

## **1. INTRODUCTION**

Quality is an approved management concept in the twentieth century and an intense catalyst for driving organisational competitiveness and effectiveness (Butler, 2009). As of late, research interests have moved from the implementation aspect of quality and subsequently the formation of organisational and local culture that drive quality through consistent change and optimisation, towards the emerging concept of sustainable organisational excellence.

According to Goetsch and Davis (2014), quality is defined as a dynamic condition connected to products, procedures, setting, services, and individuals that satisfy customer desires and needs and assists in generating higher value. These authors also state that to differentiate Total Quality (TQ) method from conventional methods of business, attempts must be made to amplify the competitiveness by consistent enhancement of the quality of products, procedures, setting, services, and individuals.

According to Oakland (2014), TQM is a management system that initiated in the 1950's and has persistently progressed and has become more widespread since the early 1980's. TQM is considered as an improvement to the conventional commercial methods and is an established strategy securing survival in the worldwide rivalry (ibid). The culture and activities of an organisation can be modified by transforming the management activities. Oakland (2014) continues to state that TQM is an inclusive and organised way to deal with organisational management that attempts to enhance the quality of services and products by means of progressing improvements in light of constant feedback. The three words are broken down in the following section:

- Total: construction of an entirety;
- Quality: Amount of superiority a service or product offers; and
- Management: Action, skill, or method of managing, controlling, coordinating etc. (Oakland, 2014).

As a result, TQM is the skill of dealing with the entirety to achieve superiority. TQM is also characterised as an attitude and an arrangement of standards that embody the establishment of a ceaselessly enhancing organisation (Oakland, 2014). It is utilisation of quantitative strategies and human resources to enhance the whole procedures in an organisation and surpass customer needs at the present time and also in the future. TQM combines essential management methods, current modification endeavours and specialised apparatuses under an organised approach.

A critical review of the related literature is performed to clarify challenges quality culture faces in Iran's oil and gas PM teams. The paper starts with the notion of quality and then quality culture constituents are discussed. Afterwards, quality culture within PM and Iran's oil and gas is briefly discussed followed by addressing the challenges of quality culture in PM. Further, the connection between these challenges and the impact on Iran's oil and gas performances is discussed.

## **2. QUALITY**

Chandrupatla (2009) believes that different individuals view quality in their own specific ways; however, everybody can realise what is referred to as 'quality'. As an example, a customer using a specific product views the concept of quality in the form, performance and function of that product. The extent of satisfaction by the customer indicates the quality of the received service. In the dictionary, quality is defined as the amount of superiority. Nevertheless, the definition is not considered as absolute because of the relative nature of the definition. The evaluation procedure is eventually done by the customer. Every service or product should reflect customers' requirements in the form of quantifiable features. After these specifications are set, it is necessary to find ways for assessing and observing the target features. Indeed, this procedure leads to constant enhancement in the service or product with the end goal to persuade the customer to buy the service or product. This persuasion brings about profit for the service provider and creates a strong relationship between the customer and the service provider. Establishing and maintaining this relationship is contingent upon the reliability of the service or product.

## 2.1 Quality Culture

Business owners, who start organisations, or managers in charge of controlling the company, regularly develop organisational cultural frameworks which reflect their own logic. The applicability of these frameworks in finding opportunities and facing limitations reflects the organisation's success or failure (Bass & Avolio, 1993; Dellana & Hauser, 1999). Thus, the culture of an organisation can be considered as the source of business attitude and value and it is this culture that defines guidelines, techniques and activities within an organisation (Batten, 1994; Dellana & Hauser, 1999, Malhi, 2013). As Malhi (2013) puts it, Quality Culture includes the coordination of shared principles, philosophies and standards that concentrates on delighting customers and constantly enhancing the quality of products and services. Thus, in an organisation that possesses quality culture, quality is deeply rooted in almost every facet of organisational life.

A border not clearly defined is the one between TQM as an organisational culture and TQM as a management agenda. A large portion of the TQM categorisations entail individual aspects or components that have a place in organisational culture. Definitely, one may contend that the essence of TQM is culture modification and that TQM activities are only instruments for cultural change (Flood, 1993; Zeitz, Johannesson, & Ritchie, 1997). The answer to this riddle can be found in organisational culture. Culture comprises of the convictions, standards and fundamental assumptions that support behavioural items and patterns (Ott, 1989; Zeitz et al., 1997).

## 2.2 Quality Culture in Iran Context

It is significant for this study to inspect levels of adoption of quality, but also to analyse the presence of quality cultures in Iran and the oil and gas industry. Gershman (2016) believes that the relationship between culture and economic growth is by no means a new subject. In addition, Prajogo (2007) also states that there is a strong relationship between quality, strategy and competitiveness.

In the Middle East, quality or TQM is viewed as a profitable management approach. Nevertheless, culture change in Iran appears to be misjudged, yet in the West, organisations have developed business cultures that positively affect benefit and financial improvement. In the Middle East, associations are likely to lack a long-term view (Zairi, 1996). Business goals are in general short term and concentrated on fulfilling immediate social needs of the business owners. Moreover, the practices set up frequently fulfil the social needs of the business owners, and thus there is occasionally little concentration on consumer satisfaction as required in TQM.

The poor work practices, high degrees of self-satisfaction, distrust among groups of workers, doubt, trivial jealousies, demonstrations of treachery, nepotism, dishonesty, passive outlooks, absence of eagerness to coordinate, 'them and us' syndrome, and numerous other unsuitable work habits are found in Iranian organisations. These issues should be handled and tested immediately if success with quality is to be sustained.

In 1997, Aly carried out a study which analysed TQM execution in the Middle East (a territory which entails Iran). At that point, he set up that the need to research quality and TQM was 'very worthwhile'. Additionally, it was found that the quantity of associations

utilising TQM as a means through which to deal with their organisations was ‘very limited’. There were also issues with perceiving the significance of setting objectives, besides goal arrangement and measuring results. Aly deduced that his investigation had ‘indicated that there is a poor level of understanding of TQM as a total concept. Most perceptions still seem to be focused on product related issues and cost efficiency issues.’

The approval of TQM as a management philosophy for developing organisational competitiveness and efficiency has left the growth of experimental research behind and this issue is reflected specially in developing countries where awareness and recognition of TQM is still in the embryonic stages (A1-khaliti & Aspinwall, 2000; Baidoun, 2003). Organisations in the majority of Middle Eastern countries are not aware of the effect of their Quality Management (QM) on efficacy, competitiveness, and productivity (Abusa, 2011). Indeed, the driving forces of Quality Management Practices (QMP/s) in the Middle East are globalisation and the fluctuation of oil and gas prices in the world. This fluctuation has made oil and gas producers to implement QM in businesses including the oil/gas, private, public, and industrial businesses (A1-khalifa & Aspinwall, 2000).

### 3. PROJECT MANAGEMENT

PM is the field of utilising recognised standards, procedures and policies to deal with a project from origination through completion. It is frequently abbreviated as PM. PM entails planning of an organisation's resources to carry out a specific task, event or responsibility (PMI, 2015). It regularly comprises a one-time project rather than a continuous one, and resources entail human and monetary capitals. A project manager can assist in describing the aims of the project and deciding when the various project segments should be carried out and by whom this must be done. The project manager generates quality control observations to ensure completed segments meet a particular standard (Siakas, Georgiadou, & Balstrup, 2010).

A well-known group of constraints regularly utilised represents that PM achievement is evaluated by the capacity of the project team to deal with the project in a manner that the anticipated outcomes are generated yet controlling budget and time (Ahmed, 2014). "PM Triangle" or "PM Triple Constraint" (Figure 1) is the expression commonly used for these elements.



Figure 1: The PM Triangle (Ahmed, 2014)

A limitation is indicated on every side of this triangle so that change in one side influences the other sides. These sides include 'Cost', 'Scope', and 'Time' while 'Quality' is placed in the centre of the triangle as the forth limitation (Kerzner, 2013).

### **3.1 Quality Culture in Project Management**

Suda (2007) suggests that any project team or organisation has its own exclusive characteristics, value structures, and the manner they perform their tasks to succeed. In order to lead and support the target project to success, the project leader should have a clear picture of the notion of culture. Many of these projects include business with various cultures at the same time. These project leaders usually perform their duties based on the core culture of their organisation; indeed, they also consider the subcultures of different departments such as research and development (R & D), sales, and etc. Project managers also take into account the customers and the core cultures related to them. For accomplishment of the project, comprehension of immediate culture is also a must as this is the key for developing time-honoured plans. Subsequently, practices that disturb the end goal and principles of the client organisation must be bypassed. To form a focused project culture, many chances are provided for project leaders contingent upon the fact that this culture be consistent with the lead culture of the target organisation. In order to have a team with a healthy atmosphere and to improve the project team, all the factors mentioned above must be taken into consideration.

## **4. RESEARCH METHODOLOGY**

This paper is based on secondary data analysis that characterises and clarifies the needs of quality culture in Iran's oil and gas projects. The data have been collected from peer reviewed journals, and some books and conference papers. At this stage of research, a qualitative content analysis will form the key research tool to analyses the secondary data. At this point, the primary data gathering and analysis has not yet been completed, which will be collected by interviewing relevant expert views regarding the impact of quality culture in Iran's oil and gas projects. This present study will, therefore, purely adopt a qualitative data gathering method, and consider various secondary sources accessed via Internet and academic databases.

## **5. CHALLENGES OF CULTURE AS AN INFLUENCE ON QUALITY**

A fundamental element distinguished in the literature is the failure of numerous organisations to adapt TQM properly to the particular cultural setting in which it is being applied. This turned into a significant theme in the TQM literature alongside the developing realisation that 'soft' behavioural and cultural aspects of TQM are in any event equally as essential to its prosperity as the 'hard' aspects, such as particular instruments and techniques (e.g. Dale & Cooper, 1992; Katz, 1993).

Culture influences individuals' beliefs and indirectly affects performances. The socio-cultural condition, in which the association exists, specifically influences organisational culture and functioning of organisations (Siakas et al., 2010). The execution and adequacy of quality management practices could also be emphatically affected by the national culture (Tata & Prasad, 1998). Noronha (2002, 2003) contended that quality management programmes ought

to be culture-specific and the effective adoption requires understanding the fundamental national cultural variables. Cultural change is progressively being perceived as a vital part of total quality development (Adebanjo & Kehoe, 1998).

The cultural impacts on business and organisational exercise generally, and on TQM implementation specifically, can be partitioned into national cultural influences and organisational culture influences, which frequently overlap, however are not necessarily the same.

## **6. CHALLENGES OF ORGANISATIONAL CULTURE IN PROJECT MANAGEMENT**

The culture of an organisation is connected to the degree of success of the projects in various regions, including processes, administration style, time controlling and training. Organisational culture includes the potentials and performances of that organisation's employees. *A guide to the PM body of knowledge (PMBOK® Guide)* (2008) summarises these elements as:

- General quality of the staff experience
- Collective perspectives, duty declarations and expectations
- Encouragement and payment procedures
- Work principle
- Manners of behaviour
- Atmosphere
- Social standards
- Risk-taking procedures

The PMBOK Guide notes that these attributes assume a significant part in deciding whether objectives of the project are accomplished. The point of view of employees about their role in the project and in the organisation is a crucial aspect of organisational culture. Projects that are viewed as adjusting to organisational culture may have smoother application and higher achievement rates contrasted with tasks that contradict with those cultural standards. Tasks that comply with the elements of organisational culture may have better application and greater achievement than the activities that are not in line with those elements.

Comprehension of organisational culture along its connection to PM can assist organisations in figuring out which activities are considered as effective to tackle. Inserting PM mind-set in organisational culture can bring about long-term advantages in competition with other organisations. This is based on a research carried out by PM Institute (PMI®) in 2015: *Pulse of the Profession: Capturing the Value of PM*.

The research recognised a number of ways for developing a culture that grasps PM such as recognising the significance PM offers; involving project patrons at administrative levels; and adjusting tasks to organisational plan (Bradley, 2017). Companies with such credits will probably indicate greater amounts of accomplishment in PM.

## **7. OIL AND GAS SECTOR IN IRAN**

The Anglo-Persian oil organisation discovered oil in 1908 at Masjid-i-Suleiman located in the southwest of Iran and thus put an end to the seven-year ailment and debts (Kent, 2015). The finding established the backgrounds for the organisation called BPPLC and the mounting of a huge oil power.

During the previous century, Iran has had the opportunity to be one of the world's most powerful oil producers despite its recurrent difficulties with Saudi Arabia's oil lobby (Kent, 2015). Iran started opening up before the beginning of the new century, seeking the skill of worldwide oil organisations to assist in increasing production. European oil organisations put billions of dollars in the nation, enthusiastic to access Iran's boundless reserves regardless of tough terms (Raval, 2015). As Stevens (2015) reports:

- The oil and gas sector in Iran is vital for the nation's financial outlook. The future of this country is dependent upon how restrictions are removed and also upon arrangements Iran has made to offer to the international oil companies (IOCs).
- Innovation and capital are what Iran requires which can be accessible from IOCs. Although Iran has indicated a great interest, the IOCs will probably be attracted if the condition is profitable.
- The trade of liquefied gas has been offered from Iran to Europe to eliminate over-dependence on Russia. Various pipeline courses have also been proposed (Stevens, 2015).

In May 2014, Zanganeh, Iranian minister of petroleum, expressed that Iran has been always ready to export liquefied gas and gas to Europe. At the same time, Ali Majedi, the representative oil minister for international trade affairs stated that 4 million cu m and 50 million cu m of natural gas can be transferred to Europe every day through a pipeline in Turkey. Also, alternative lines can go through Iraq, Lebanon, Syria, Armenia, Georgia and the Black Sea (Stevens, 2015).

## **8. QUALITY CULTURE CHALLENGES OF OIL AND GAS INDUSTRY IN IRAN**

Ranked first for oil and gas reservoirs, the National Iranian Oil Company (NIOC) is in charge of studying, planning and performing hundreds of projects per annum. While managing these projects, the anticipated consistency and efficiency should be met; otherwise, considerable losses of money, time and other resources is inevitable (Brumberg & Ahram, 2007). Thus, the notion of founding an appropriate PM procedure in NIOC seems essential. Furthermore, the top management highly endorses any novel and applicable solutions regarding this issue. Unfortunately, improper PM has led to failure in achieving goals on time in many NIOC projects (Kerzner, 2013). This scenario becomes worse when lessons learned from previous or present projects are not collected and utilised in the form of an official, unified and comprehensive system.

Knowledge of essential tools, tactics and methodologies within TQM is a necessary skill for project managers with which most are not professionally familiar. As a result, already solved problems in other projects or those that could have been easily avoided waste a great deal of time and effort to be resolved (Umble, Haft, & Umble, 2003). As an example, an ordinary and not large oil production plant in NIOC (50,000 bpd) will bring about \$100 million loss



for a one-month delay which could be easily avoided by using a proper TQM system (Moghaddasi, 2013).

The Iranian Oil Company is not only the largest organisation in the Middle East but also a major member in oil companies around the world (Karimi & Kadir, 2012) which plays a prominent role in the economy of the country. Many helpful activities have been initiated in the domain of quality management, quality enhancement of products, and economical progress by this company. The ISO standard is held by the majority of oil and petro chemistry companies; other companies have also won the EFQM prize. In order to achieve the maximum customer satisfaction, a number of companies have created suggestion systems to improve TQM. However, the key question addresses the amount of success companies have achieved with pre-planned quality agenda. The review of the related literature reveals that no studies thus far have been conducted in this domain. Therefore, the present research aims to address this gap and thus help eliminate shortcomings of the aforementioned issues. It is necessary to conduct research on the effect of TQM on the level of quality, enhancement of production quality as well as performance of the oil industry particularly in their operational performance.

As Sharafedin (2016) reports, in the past decades, many incidents have happened within oil and gas industry of Iran, ranging from \$40 Million oil rig collapse into the sea to fire incidents in Iranian major petrochemical plants because of lack of quality. For example, in 2016 a fire at Iran's Mobin Petrochemical refinery complex located in Assaluyeh left 4 employees injured and \$66 Million damages to the plant.

## **9. DISCUSSION**

PM includes organising different parts of a project to yield a satisfactory outcome. This organising entails various factors as employees, resources, facilities, and techniques (Amalraj, Hernani, Ladouceur, & Verma, 2007). Unfortunately, project managers have encountered major challenges during the past ten years. Quality, agenda, and cost are variables that have made PM a challenging issue along with a number of mitigating factors over which the project manager can have no control. Occasionally, these external variables can affect PM in a way similar to controllable variables. Amalraj et al. (2007) suggest that quality is the part of PM that can cause problems in this domain and project owners view quality as a challenge. The owner representatives usually do not concentrate on the notion of quality as required since they devote most of their time to supervising managers.

Culture includes a group of developed behaviours that individual have within a society. To E.B. Taylor, an anthropologist, culture is a multifaceted whole that entails information, faith, art, ethics, regulations, conventions and all the other habits and behaviours people in a society might acquire. Organisational culture entails the principles, customs, information, performance and the predictable practices of a specific social group (Cleland, 1988). People create organisations and each organisation has its own distinctive features which connect these people to each other while providing a group of values and principles for working and living.

The general cultural climate of each organisation is reflected in its policies which is also the case with PM. In a nuclear project, for instance, culture can have a great impact on the connection between efficacy and different controlling bodies. When efficacy is not in line with the Nuclear Regulatory Commission (NRC) guidelines, quality reassurance turns into a

piece of paper instead of a managing instrument (Cleland, 1988). On the contrary, cultural climate can also influence projects in a constructive manner.

The effect of cultural difference on business productivity is not a new concept in oil and gas industry of Iran, yet has increased because of globalisation. Nonetheless, the correspondence among different social groups and effective control of emotions has not received enough attention. The technical challenges have also made the situation more complicated and strong determination is required to tackle these problems (Weijermars & De Jong, 2008). Traditionally, the oil and gas sector has concentrated on managing economic, political and methodical uncertainties and risks connected to them. Bringing an intelligible perspective to cultural risk management assists in preventing undesirable results from happening in discussions and implementations of PM in oil and gas business. The oil and gas industry is usually multifaceted and includes a great diversity with regard to different cultures professionals of the field come from. Since human behaviours and activities are partly influenced by emotions instead of logic, it seems reasonable to stress the part emotions and cultural obstacles play and thus measure their potential effect on oil and gas industry internationally. This critical review research not only extends previous research on quality culture, but also enables project managers to be aware of key challenges and barriers that exist in oil and gas projects especially in Iran. As this paper is critically reviewing quality culture issues in Iran's oil and gas industry, critical literature survey and review of existing published data is carried out to explain the needs of quality culture in Iranian oil and gas projects.

## 10. CONCLUSION

The impact of culture to a project team has received various answers in the literature: a) it creates social standards to control behaviour; b) it conveys messages to both insiders and outsiders about the organisation objectives; c) it assists in connecting people, organisational objectives and standards; and d) it helps regulate, supervise, and develop views and activities in the organisation. The purpose of this study is to understand the necessity of quality culture in PM teams within Iran's oil and gas industry. Therefore, a critical review of the related literature is performed to clarify challenges in conventional PM structure in Iran's oil and gas industry, current practices in TQM and methods with which quality culture can enhance the performance of PM teams. A critical literature survey and review of existing published data is carried out to explain the needs of quality culture in Iran's oil and gas projects. As a contribution to the existing body of literature, the present study will make an attempt to provide a comprehensive perspective to project managers in oil and gas sector. These managers will also be able to perceive the role of different factors in executing oil and gas projects. Consequently, a more extensive and multi-faceted image of quality culture in project management will be created. This can indeed enhance their performance and effectiveness as the so called project managers and give their companies the needed boost.

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