

# **EVALUATING THE INFLUENCES OF STAKEHOLDER MANAGEMENT ON CONSTRUCTION PROJECT QUALITY**

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## **ABSTRACT:**

The issue of ensuring that construction projects achieve high quality outcomes continues to be an important consideration for key project stakeholders. Although a lot of quality practices have been done within the industry, establishment and achievement of reasonable levels of quality in construction projects continues to be a problem. While some studies into the introduction and development of quality practices and stakeholder management in the construction industry have been undertaken separately, no major studies have so far been completed that examine in depth how quality management practices that specifically address stakeholders' perspectives of quality can be utilised to contribute to the ultimate constructed quality of projects.

This paper encompasses and summarizes a review of the literature related to previous research undertaken on quality within the industry, focuses on the benefits and shortcomings, together with examining the concept of integrating stakeholder perspectives of project quality for improvement of outcomes throughout the project lifecycle. Findings discussed in this paper reveal a pressing need for investigation, development and testing of a framework to facilitate better implementation of quality management practices and thus achievement of better quality outcomes within the construction industry. The framework will incorporate and integrate the views of stakeholders on what constitutes final project quality to be utilised in developing better quality management planning and systems aimed ultimately at achieving better project quality delivery.

Keywords: Project Quality, Continuous Improvement, Stakeholder Management, Construction Project Delivery

## **1. INTRODUCTION:**

The concept of quality has played an significant role in the business management literature since work began in Japan in the 1950s (Deming, 1986; J. Juran, 1988). Quality in the construction industry has been considered extensively with main parties involved in project lifecycle such as owners, project sponsors, projects and construction managers and constructors of building and infrastructure projects (Achterkamp & Vos, 2008; Arditi & Gunaydin, 1997). Besides, since construction projects have become larger and more complex, the structure of the industry and the relationships between various parties involved has become much more variable during the past two decades (Jawaharneshan & Price, 1997). Deming (1986) stresses the value of key participants of projects as a source of information to achieve a desired levels of quality. He added "It is stakeholder perceptions of quality levels that are important". Stakeholders can provide tangible value, supportive feedback information about how they are influenced by the project or service and are able to assist with those delivering the output. Also, in the construction and project management literature it is commonly posited that to make a project successful, the interests of all stakeholders, and certainly the key stakeholders should be taken into account (Achterkamp & Vos, 2008; Boddy, 2002; Wateridge, 1998). This paper therefore aims to identify the gap in the scope of previous studies on the relationship between stakeholder management and quality management practices in construction building projects. A successful project needs to take into consideration key stakeholders' expectations during project life cycle (Cleland, 1995b) which is the fundamental formation for project management science (ASCE, 1990).

## **2. PROJECT MAIN SUCCESS FACTORS:**

Success has always been the ultimate purpose of each activity of a project including construction and building projects (Yu, Shen, Kelly, & Hunter, 2006). Project success has been extensively discussed in the construction and project management literature. Most studies have focused on the scope of project success which means the way to measure success of project and factors affecting project success. Westerveld (2003) states that one of the most common ways of measuring project success is the well-known iron triangle of cost, time and required quality. Additionally, some studies have extended project success criteria into new aspects, such as stakeholder's participation and satisfaction, customer's benefit, upcoming prospective to organization, etc (Shenhar, Dvir, Levy, & Maltz, 2001). It is not easy for a variety of authors to get to an agreement regarding project success criteria (LU, Flett, & Bowers, 2005). For instance, Morris and Hough (1986) applied a number of concepts to measure project success such as: project function, project management, and contractor's business performance. Other researchers examine project success by make use of micro and macro criteria (C. Lim & ZM, 1999). In their examination micro criteria encompass time, cost, quality, performance and safety, and the macro criteria consist of project's actual benefit in the operation phase as well as their micro criteria. Aktin and Skitmore (2008) added the theory that enhanced stakeholder involvement can help with managing their needs, decreasing unanticipated risk and reducing unconstructive actions or reactions that have possible impact on project success.

However, according to the comprehensive statement by PMBOK Guide published by the Project Management Institute (PMI), project success criteria consist of the golden triangle ( time, cost, quality) and key project stakeholder's satisfaction and their incorporation to the project (PMI, 2004). Gathering the information from the literature shows that quality and stakeholder involvement have been regarded as two major success factors in construction projects.

## **3. QUALITY&QUALITY MANAGEMENT**

Quality has been variously defined as value, conformance to specifications (Gilmore, 1974), conformance to requirements (Crosby, 1979), loss avoidance (Ross, 1989), and meeting and/or exceeding customers' expectations (Parasuraman, Zeithaml, & Berry, 1985). Deming(1986), placed great importance and responsibility on management, regard management to be responsible for 94% of quality problems. Juran (1989) developed a remarkable managerial procedure for top management that include quality planning, quality control and quality Improvement. As stated by Hirao (1994, p. 23), "company-wide quality management has become a major concern for industries and businesses all over the world". However, in the construction industry the application of quality issues and tools among stakeholders has been more complicated due to its reactive nature and the complexities of the construction projects (Serpell, 1999). A significant amount of research into quality management in the construction industry has been undertaken (Arditi & Gunaydin, 1997; Elghamrawy & Shibayama, 2008; Establishment, 1982; Hellard, 1994; Jr, Matthews, & Kalidindi, 1991; Landin, 2000; Love, LI, Irani, & Holt, 2000; Mahmood, Mohammed, Misnan, Mohd, & Bakri, 2006; Payne & Sarkis, 1993; Rahimi, 2006; Serpell, 1999; Tam & Le, 2007; Wong & Fung, 1999) but few studies have been completed to examine the role of stakeholders in improving project quality within the industry. Since construction projects have become larger and more complex, they possess greater numbers of interested stakeholders. Establishment of a system to make greater use of stakeholder involvement in assisting to provide input into quality management is a great help to achieve better levels of quality within the industry and needs to be more considered.

### **3.1. Quality in the Construction Industry:**

The construction industry has, over the last decade, been viewed as being resistant to modify its practices and is therefore benchmarked internationally as being basically uncompetitive when compared to other sectors. In order to alter this image, which prevents construction companies from expanding competitively into a global market, a more focused approach to quality issues such as quality control and assurance needs to be embraced (Farooqui & Ahmed, 2009a). These authors also note that 'quality' needs to become the new business philosophy of any organisation. The 2000

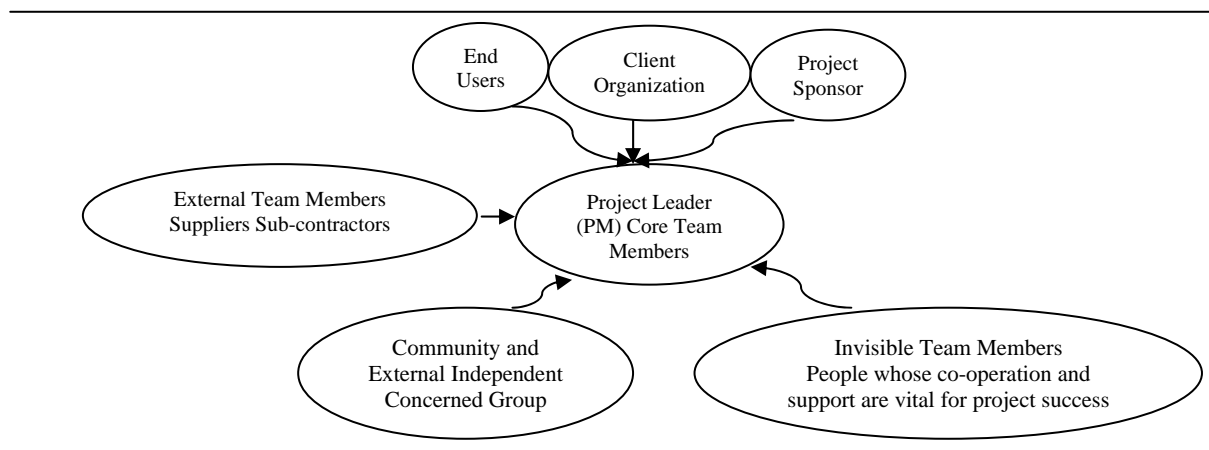
version of ISO9000 and 2005 version of ISO9004 also reinforce this view with the inclusion of the eight quality principles applicable to businesses for continuous improvement which are: Customer focus, leadership, involvement of people, process approach, system approach to management, continual improvement, factual approach to decision making and mutually beneficial supplier relationships. Greater part of the mentioned principles can be accomplished through involvement of key stakeholder's viewpoint in the construction project lifecycle. Other researchers have also provided a few explanations for the quality in the construction industry. According to Arditi & Gunaydin(1997, p. 236) "quality in the construction projects can be considered as meeting the requirements of the designer, constructor, regulatory agencies and owner". However, based on the inclusive classification by ASCE study (Ferguson & Clayto, 1988), in the construction industry quality can be characterized as follows:

- Meeting the requirements of the owner
- Meeting the requirements of the planners and design professionals
- Meeting the requirements of the constructor of a project
- Meeting the requirements of regulatory agencies (government, professional institutes) and others.

This comprehensive report by ASCE (1988) and review of the current understanding of quality in the construction projects verify that in order to achieve the preferred quality practices in industry, key stakeholder's perspective should be taken into account. This idea has not been adequately considered in the implementation quality management systems in the construction industry although Walker (2000, p. 21) highlights that "there is a gap in environmental quality management systems in ensuring that the contribution of stakeholder to project value in considered, evaluated and incorporated into the management process". Problems of quality in both the civil engineering and construction industries, such as low quality process implementation, ultimate poor quality of product (Hiyassat, 2000), lack of attention to a quality-based supportive work environment, wastage of materials, high fragmentation of systems (Bhimaraya, 2005) and manpower and duplication of cost, continue to plague these sectors of the industry and its projects (Arditi & Gunaydin, 1997). Incorporation of the stakeholder's point of view with projects quality practices in the construction industry is a great help in solving those problems. This statement leaves the door open for the extension to a stakeholder theory of quality.

#### 4. STAKEHOLDER MANAGEMENT IN THE CONSTRUCTION INDUSTRY:

Stakeholder concept has been applied to a number of fields of enquiry including, more recently, construction project management, while its theory start from strategic management, (Brian & Martin, 2008). The importance of stakeholder management in the construction and project management literature has been emphasised by many scholars (Achterkamp & Vos, 2008; Brian & Martin, 2008; R. E. Freeman, 1999; Walker, 2000; Yang, 2010). Freeman's (1984) definition states that "a stakeholder in an organisation is any group or individual who can affect or is affected by the achievement of the organisation's objectives". Briner (1997, p. 83) provides a helpful illustration of project stakeholders shown in Fig. 1:



Source: (Briner, 1997)

### **Figure1: Stakeholder Mapping**

One of the important aspects of Figure 1 is the significance of community and external independent concerned groups and identification of invisible team members. Project success can be mainly affected by the activities of these two recognized groups. In representing quality using the ISO 9000 standard, these groups can be disregarded (Walker, 2000). Andriti and Gunaydin(1997, p. 242) observe that “the construction industry is project oriented, so improved quality performance must be project oriented and include main project participants as a key ingredient”, since the quality achieved in any phase is contingent on the strength of the relationship between these participants and their impacts on the project.

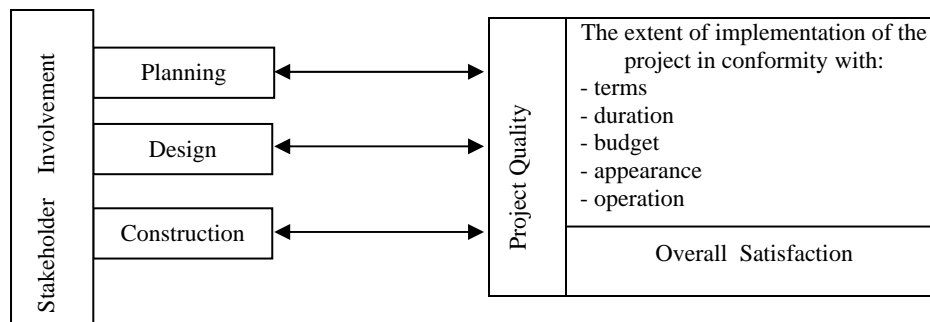
#### **4.1. Stakeholder Impacts on Project:**

As mentioned earlier, one of the important factors of project success which is being advocated by many researchers (Atkinson, 1999; Belout & Gauvreau, 2004; C. S. Lim & Mohamed, 1999) is to achieve superior quality outcomes on a project that meets the expectations of key stakeholders as well as of the final customer. Consideration in stakeholders has grown-up significantly since Freeman’s (1984) seminal work. Brian and Martin (2008) and other scholars studying the construction sector (Bosher, Dainty, Carrillo, Glass, & Price, 2007; Cole, 2005; El-Gohary, Osman, & Ei-Diraby, 2006; Olander & Landin, 2005) have realized that stakeholder involvement has undeniable impacts on project outcomes, and identification of the theory of stakeholder management has therefore developed more in recent years. Having the needed resources and are able to control the interaction and resource flows in the network, stakeholders most likely have a strong impact on an organization’s survival. The identification of such stakeholders thus becomes an essential function for an organization in crisis. It is also argued that successful completion of construction projects is dependent on meeting the expectation of stakeholders throughout the project lifecycle (Cleland, 1995a), including clients, project managers, designers, subcontractors, suppliers, funding bodies, users, owners, employees and local communities (Newcombe, 2003).

In the engineering and construction industry, stakeholders are seen to include a wide range of entities that directly or indirectly can provide support or resistance to the accomplishment of project objectives (Walker, 2000, p. 20). Wang and Huang (2006) confirm that effective relationships among key stakeholders are helpful in improving quality of a construction project. Deming (1986) declares that the customer’s ( stakeholder) perspective of quality levels is critically important. Walker(2000) state the gap in previous studies and affirms that implementation of quality efforts is often hindered by a lack of attention to the expectation of the stakeholders’ views of quality in the construction industry. Concluding the statements from various scholars prove that in order to get the desired level of quality in the construction and building projects, project owners and projects managers should involve key stakeholders in the quality decision of a project.

#### **4.2. Involvement of Stakeholder Perspective on Project Quality:**

Many stakeholders are involved in the provision of construction project that each has their own role, requirement and objective. To meet the differing demand of the various stakeholders, project managers have to involve these stakeholders in order to increase effectiveness and efficiency of the decisions which are making in the construction project lifecycle(Saghatforoush, Trigunaryyah, Too, & HeraviTorbati, 2010). Achterkamp and Vos (2008) reported that the main purpose of involving the stakeholder conception in the industry is to give meaning to a project’s success or to verify that the varying views on project success depend on the stakeholders concerned. Yang (2010) also placed an emphasis on the recognition of the fact that there are several stakeholders whose expectations and influences must be include in the project management process. It has been emphasised if a project’s stakeholders are not satisfied with the quality of the project management or the final project, the project team will require adjusting scope, time and cost to meet stakeholder requirements and expectations on quality issues. Bubshait (1994) provides a clear interaction between project quality and stakeholder involvement shown in Fig. 2.



Source: (Adapted from Bubshait, 1994)

**Figure 2 :** Relationship between stakeholder involvement and project quality

As it is shown in the Fig2, stakeholder involvement in different phases of a project is in direct relationship with the project quality. Therefore, efficient stakeholder involvement will improve the total quality of constructed project.

## 5. DISCUSSION:

Quality management is an important aspect in construction and building projects. In order to increase the quality of ultimate project and to reduce rework, revision and waste, and failure costs in the entire project lifecycle, the importance of quality has to be understood by the key project team members. Additionally, it should be noted that construction project management involves meeting or exceeding stakeholder requirements and expectations. The project team therefore, have to develop high-quality relationships with key stakeholders, in particular the main customers for the Project, in order to understanding the perception of quality systematically (Tam & Le, 2007).

Although many studies have been undertaken around the capability of quality management to improve the ultimate project (Arditi & Gunaydin, 1997; Elghamrawy & Shibayama, 2008; Hellard, 1994; Jr, et al., 1991; Sousa & Voss, 2002; Wong & Fung, 1999) and the question of the affirmative influences of stakeholder involvement upon project success has also been addressed by many other scholars(Cole, 2005; El-Gohary, et al., 2006; Olander & Landin, 2005; Pajunen, 2006; Soetanto, Proverbs, & Holt, 2001) the creation a quality team based on the incorporation of stakeholders into the planning of construction and building projects has not been considered significantly(Walker, 2000). Consequently, greater focus on the incorporation of stakeholders' points of view with regard to establishing processes and practices designed to improve the quality of building projects is essential.

## 6. CONCLUDING REMARKS:

This paper examines the gap in the previous studies on stakeholder management and quality practices in the construction industry and proposes a need to extend quality management practices for incorporating stakeholder's view of quality to get a better project quality. If construction companies adopt a strong direction to address performance criteria that have an effect on major stakeholders, with emphasis on quality issues and continuous improvement, high quality outcomes can be expected in the construction building project. This also will lead to significance amount of saving in the whole project lifecycle costs. Incorporation of stakeholder's point of view with main quality issues and practices will result in an effective formation to decrease quality problems in the construction projects and achieve better quality outcomes as well. This research will continue to extract and recognize these issues/problems from the available literature and categorise them to form a preliminary model as a basis for a future quality improvement framework for construction building projects.

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