

# Assessing Indonesian Construction Regulations on Quality and Performance

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**Abstract:** Indonesian construction companies are currently facing high competition both among themselves and with global construction companies. In order to address this issue, the Government of Indonesia has enacted specific regulations and policies relating to the development and implementation of quality management systems (QMSs) ISO 9001 based in construction, acknowledging that the consistency of construction project quality requires a formal quality system as a guarantee to raise quality standards at all project stages. The research has been undertaken to examine the effectiveness of the regulations and policies against several key performance indicators (KPIs) of the ISO 9001 Indonesian construction companies. A comprehensive review of the relevant regulations and policies together with interviews with the Government and National Construction Services Development Board recommend possible additional guidelines and supporting quality system, which intends to measure contractors' project output against defined standards as well as to assess their performance among other similar service providers. The outcomes of the research contribute to the development of the Indonesian own construction industry quality measurement and assessment system.

**Keywords:** Construction regulations, quality, performance, Indonesia

## I. INTRODUCTION

Since the early 1970s, the construction sector has been one of the main economic indicators to show continuous and gradual growth of the Indonesian economy. This sector accounted for 10.19% of GDP in 2011 [1]. Moreover, it has been reported that in the first-quarter of 2011, the construction industry workforce in Indonesia was about 5.58 million, making it one of the largest employment sectors in the Indonesian economy [2]. Given the emerging prospects of the Indonesian construction industry to become the 'engine' of national economic development, Indonesian construction companies are still unfortunately plagued by low competitiveness [3].

The lack of competitiveness of domestic contractors when competing for contracts with foreign companies, both at national and international levels, is mainly attributed to their poor performance and inability to adapt to change, high execution costs, project delays, low levels of efficiency, low productivity, and conflict among involved parties [4], [5]. These challenges and constraints have resulted in inability of many Indonesian contractors capitalize on development and contractual opportunities due to their not being capable of attaining higher levels of performance [3]. Therefore, achieving quality and higher performance, not only domestically but also in the international market, are becoming crucial issues.

In order to embrace the issue of 'quality and performance' of the Indonesian construction industry, the Indonesian Government has enacted regulations for construction companies undertaking projects, particularly those that are government related. The regulations and policies set by the Government are mainly in terms of the

development and implementation of a quality management system (based on QMS-ISO 9001). However, after implementing those regulations and policies, for over a decade, there is still a lack of deep-rooted operational practices and procedures needed for ensuring the ultimate delivery of a well-operated QMS capable of giving customer satisfaction in line with the espoused values of ISO 9001. Therefore, this paper accordingly examines the effectiveness of the regulations and policies against several key performance indicators (KPIs) of the ISO 9001 Indonesian construction companies, and assesses their existence on increasing quality and performance of the construction companies.

## II. INDONESIAN CONSTRUCTION QUALITY AND PERFORMANCE

For the past decade, the Indonesian construction sector has had the intention, or has been made, to promote the development and implementation of quality management systems (QMSs) among its various players. As stated above, there are government regulations recommending registered construction service providers to establish their own quality standards and determine their responsibilities to the public as well as to service local and global market needs. In 2004, QMS-ISO 9001 for establishment, implementation and operation of a bona-fide QMS is recommended by the Ministry of Settlement and Regional Infrastructure and the Head of Construction of the Investment Development Board, as the quality standard to be implemented by all grades of Indonesian contractors.

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As a result, currently all large-scale (used to be grade-6 and grade-7) Indonesian contractors and builders, must have an ISO 9001:2008 certified QMS; some have already obtained it and many others are trying to get their certification. This also means that construction companies which intend to bid for the Government and private projects must have the ISO 9001 certified QMS.

The benefits of holding an ISO 9001 certificate have been acknowledged by some researchers, by implementing a QMS they get more chance of winning contracts [6], and the certified construction companies find it easier to win a higher number of contracts because project owners trust them more than non-certified companies [7]. Project sponsors and clients are more certain that projects will be finished on time and to specified quality standards. Research findings from Asa *et al.* (2008) [8] note that by applying QMS-ISO 9001, Indonesian construction companies have gained greater overall profits than previously, and at the same time a new quality-oriented movement has started to be consistently built up. Nevertheless, Sudarto (2007) [9] admits that the Indonesian construction industry still needs to seek higher achievement, such as being able to produce sustainable construction projects and have competitive power within developing countries in the Asian region as well as globally.

The positive achievements of some construction companies have apparently not been experienced by others. The misconceptions that arose amongst some constructors and builders regarding the basic concepts of ISO 9001, as well as the prevalence of the wrong motives for developing and implementing this quality system, have indeed led to the low level of acceptable quality work in many contemporary projects in the Indonesian construction industry.

To cope with these obstacles, while aiming at providing quality services and products as the strategic role of construction services in national development, there has been the establishment of a related Government act, various new decrees and regulations. However, specific regulations on the development and implementation of QMS (as a part of the national construction services strategic role) have not been adequately addressed to date, since they just contain general descriptions of what construction companies should do. Consequently, construction organizations (especially large-scale contractors) view these QMS-related policies as merely relating to the need for possessing relevant qualifications for registration to participate in the Government procurement activities. Additionally, these QMS-related regulations really require more comprehensive supporting explanation in order to make the requirements of such system more understandable and practical for constructors and builders, this will definitely help construction organizations to more effectively implement their QMSs.

The fact that the effective implementation of QMS-ISO 9001 in the construction companies' benefits either the internal management and operational systems of the companies, through the improvement of quality awareness

and understanding, and therefore, the quality of services and product delivery, or the satisfaction of external parties involved in the services and product provided by the companies, including the end-users of the construction, indeed the overall benefit is an important for the companies' business performance improvement. There are many potential criteria, which might be measured to assess construction companies performance and achievements, however, the notion that construction companies' performance is measured in terms of business or financial performance is still critical, particularly for the Indonesian construction industry which is focused on ISO 9001 certified contractors [8].

### III. RESEARCH METHODS

#### A. Review on Regulations

A basic set of regulations (Construction Service Act No. 18/1999, Government Regulation No. 29/2000) relating to operations of construction services was formulated in order to provide direction for the growth and development of Indonesian construction services, in creating a solid business structure, and delivering reliable, highly competitive, and quality construction work. Specifically, Presidential Decree No. 80/2003 was designed to effectively and efficiently control the conduct of the Government procurement activities for products and services by all stakeholders involved in construction activities, including construction companies. The regulation was reviewed and renewed in 2010 (Presidential Regulation No. 54/2010), following the acknowledgement of the need for corrective action aimed at providing healthy competition with changes in management and business efficiency.

A decree directed primarily at quality management system (QMS) implementation, was developed by the Ministry of Settlement and Regional Infrastructure. This decree is known as the Construction Quality Management System of the Department of Settlement and Regional Infrastructure No. 362/KPTS/M/2004. Within the context of this decree, the Government refers to ISO 9001 as a reference standard for the development of QMSs for contractors engaged in the department's construction projects. The decree is a follow-up to the Decree of Ministry of Settlement and Regional Infrastructure No. 339/KPTS/M/2003 on Guidelines for Construction Services Procurement by Government Agencies. In these guidelines, it is stated that government working units or procurement committees should recognize the fact that certain contractors are ISO 9001 certified, and for special or complex work, or works involving high levels of technology, the Director General may include the requirement for tendering contractors to be ISO 9001 certified.

The Ministerial Regulation No. 362/KPTS/M/2004, however, does not clearly state any other required qualification for contractors to be engaged in developing QMSs than obtaining ISO 9001 certification. Although the current regulation solely applies to large-scale contractors, an attempt is being made to also apply the

same regulation to medium-scale contractors. Based on the interviews with the Government and National Construction Services Development Board officers, it was also apparent that some parent contractors (large-scale) are also beginning to realize that they must involve sub-contractors (medium and small-scales) in adopting documented controlled quality procedures into their project work processes. However, these contractors are not currently required to hold ISO 9001 certifications. A revision of the regulations is regarded as being necessary in order to guide the reform process in Indonesian construction industry, particularly in terms of ensuring a quality system and quality products.

Another decree on QMS implementation within the construction services was issued by the Head of Construction and Investment Development Agency, on behalf of the Ministry of Settlement and Regional Infrastructure. This decree is known as the Construction Quality Management System for Small Scale Construction Corporations, No. 16/KPTS/KE/2004. The Agency recommends SNI-19-9001-2001/ISO 9001-2000 as one of the instruments to be used to meet the quality requirements for construction work. Small to medium-sized construction companies are referring to these two regulations as 'the rules' applicable for developing their quality management systems, and as the main driver for using ISO 9001 requirements to govern the QMSs eventually being developed.

In 2005, the National Construction Services Development Board (NCSDB) – a buffer body, as stated in the Construction Service Act No. 18/1999 that is responsible for the development of the construction sector together with the Government and other construction service stakeholders, – in cooperation with the Department of Public Works, released Guidelines of Quality Management Implementation (ISO 9001:2000) for Construction and Consultant Services. These guidelines contain key sections explaining the planning and implementation of QMS documentation, and they also provide examples of typical work instructions. These guidelines are provided by the NCSDB as a tool in support of regulation No. 12/LPJK Year 2009, in relation to the re-registration of certificates of construction enterprises in the year 2010. In the regulation, it is clearly stated that any grade 7 (G-7) companies (the highest grade in Indonesian construction company capability qualifications) must hold valid ISO 9001 certification to be eligible for undertaking construction work.

An implication of the Government regulations is that all large-scale construction companies are inspired to get the ISO 9001 certification immediately. Ideally, the primary aim of construction companies in obtaining their ISO 9001 certification would be to satisfy their customers. This aim refers to the first principle of ISO 9001, which states that "Organizations depend on their customers and therefore should understand current and future customer needs, should meet customer requirements and strive to exceed customer expectations" [10, pp. 26]. Another aim that follows this primary one is for a company to be successful in its business performance.

The current regulation concerning Indonesian construction quality system is the Ministerial Regulation No. 04/PRT/M/2009. It mandates the service provider to develop a quality plan of contract implementation (RMK), as an assurance that the Ministry of Public Works' projects will be undertaken in accordance with the content of the contract. However, based on monitoring and evaluation of the implementation of this regulation, the RMK has been prepared solely based on a desire to be included in the Government tendering lists projects, without having been fully referenced by both the Government officer and the contractors. This current regulation is also lack of the duties and functions of empowerment and supervision aspects regarding the performance of the contractor against the fulfillment of the work being contracted (as stipulated in the Contract Quality Plan/RMK).

### *B. Interview*

Information obtained from the interview with Deputy Director of Regulation and Permit, Construction Development Agency, Ministry of Public Works, as well as Vice Chairman National Construction Services Development Board (NCSDB) on March 2, 2015, and data from Head of Construction Development Agency, Ministry of Public Works (Electronic mail, March 24, 2015) regarding the lead role of the Government and also the extant regulations for QMS implementation emerge the following issues:

General QMS implementation:

- Most of contractors understand Quality Management System (QMS) as just a tool to improve project administration. In fact, if the quality system is applied optimally, it will be used as a tool to measure the performance of the contractor. The eight principles of QMS-ISO 9001 are expected to be a measurement for assessing Indonesian contractors' performance and competitiveness.

Contractor Performance Indicators (CPI):

- In the project level, the performance is measured on task level, for example, in some major works of building project, structural works, architectural works, mechanical and electrical works are the components to be measured.
- In the organization level, the main indicator to measure contractor performance is financial performance; while internal business processes, education and development, and customer satisfaction are also the important CPIs.
- In the industrial level, the measurement is focused on the performance of construction companies based on their financial performance.

Policy support guidelines for the future Indonesian construction companies:

- The realization of the construction industry business structure that is robust, reliable, and highly competitive.

- The healthy competition process among national contractors.
- Increasing the number of reliable, skilled, and qualified construction workers.
- Increasing the global competitiveness of construction companies.
- Increasing capabilities in constructing creative and innovative project design.
- Increasing infrastructure investment.

#### IV. DISCUSSION

Promotion of the implementation of Indonesian construction services QMS has become a concern of all stakeholders through specific Government regulations and policies as well as the NCSDB rules. However, these regulations just contain general descriptions of what construction firms should do in starting to develop and implement the QMS-based on ISO 9001. These regulations and guidelines still necessitate additional comprehensive explanations in order to make the required systems more understandable and practical for constructors and builders.

On the other hand, due to the pressing needs to possess the ISO 9001 certification, apparently the predominant motive for construction companies to establish and implement ISO 9001-based QMS is solely to meet the tender requirement. This ultimately hinders the critical point in developing and implementing QMS in the first instance, that is a positive intention to successfully operate projects without substantive time-delays and cost overruns, or in other words to meet the requirement and satisfaction of project owners. As a comparison, studies on the main initial motivation for construction companies to have ISO 9001 certification was to have an effective tool for improving quality management procedures in companies [11], [12], and some authors have opined that ISO 9001 certification is being pursued both for company marketing reasons and in response to customers' requests [11], [12], [13].

As expected from the Government, the proper implementation of QMS-ISO 9001 within Indonesian construction companies should drive the companies to enter the international construction market. This indicates that the Indonesian contractors appear to still doubt the many advantages associated with implementing the system, which may result in having low competitiveness.

The Indonesian Government's efforts to improve the professionalism and competitiveness among the providers of construction services, need to be supported by the existence of a comprehensive system to guide the Government in implementing good assessment both on the contractors QMS implementation and the implementation of the QMS-related regulations and policies, as well as to evaluate their performance amongst construction services providers. The assessment should cover the ability and capacity of contractor management, the tender and contract execution, and the responsibilities of the contractor during the maintenance period. The availability of quality assessment system for construction

service providers in some countries, such as in Singapore (Construction Quality Assessment System - CONQUAS) and in Hong Kong (Performance Assessment Scoring System - Manual PASS), have meant to enhance the workmanship of construction practitioners and encourage them to 'do things right the first time' while also provides high work motivation because of rewards granted in terms of tender opportunities and awards [14], and to measure contractors' project output against defined standards as well as to evaluate their performance amongst other similar service providers [15]. Meanwhile, Indonesia has not had a similar scoring system, so it is considered necessary to develop the system as a follow-up of the rules and policies that have been established to accommodate the issue of quality, performance and competitiveness of national construction.

Bearing the above facts in mind, revision of the regulations is a necessity in order to guide the reform process in Indonesian construction industry, particularly in terms of quality system and quality product. The additional regulations considering the monitoring and evaluation of the construction companies' performance both in organization and project levels are urgently needed to enhance the performance of the contractors, specifically in the area of quality project works, education and development, customer satisfaction, and financial performance.

#### V. CONCLUSION

It is obvious that the Government and its partner's regulations and policies on quality of Indonesian construction industry practices need to be reformed in order to provide comprehensive guidelines for the construction services providers to improve their quality and performance. The regulations and policies are not only needed to require Indonesian's construction companies to develop and implement QMSs, but also as a tool to measure and assess the performance of the construction companies in undertaking qualified project works and services in project/task level, organizational level, and their performance amongst other similar service providers to obtain the performance of Indonesian construction industrial level. It is intended through this study that the development of the Indonesian own construction industry quality measurement and assessment system will help the construction companies achieve better project quality delivery that will, in turn, lead to improvements in the companies' business performance and an enhanced Indonesian construction industry performance profile.

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