Total Quality Management effects on Enterprise’s Quality system

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ABSTRACT

The general purpose of this paper is evaluation of effect of integrated management Philosophy toward continuous improvement in quality construction project, which is known Total Quality Management (TQM). As well as TQM effect on Quality Management System (QMS), the organizational structure, processes, procedures and resources needed to implement, maintain and continually improve the management of quality, in Iraq Directorate of Military Works (IDMW) that responsible planning and executing military projects of Iraqi army. The construction quality in military projects is important issue due to its Correlation with the requirements of national security and its impact on mission performance of an army readiness. The military projects have priority in the implementation and abundance of financial in the strategic plan of a state, especially when there is a threat to national security. The quality concept in construction projects includes the fulfillment of the stakeholders’ needs per defined scope of works within a budget and specified schedule, this paper consolidating the Construction Quality concept as a multi-dimensional concept for decision-makers in IDMW to attempt to optimize the execution performance of the Iraqi organizations and leading organizations in the same field.

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INTRODUCTION

After the third Gulf War in 2003, which has seen the regime change in Iraq, on 23rd May 2003 the civil governor of Iraq, Paul Bremer - announced the decision to disband the Iraqi army which in the decision later considered a great mistake[1]. This decision resulted in the destruction of all most of the infrastructure of the Iraqi Ministry of Defence. The interim plan is developed urgently by IMWD for the reconstruction of the infrastructure of the Iraqi army as a necessary solution to enhance security and political situation of the country. The regulatory authorities’ periodic report in Iraq indicates issues in the quality managementsystem of IDMW[2]. Stumbling the QMS in the construction sector not only in Iraq, but even in the leading countries in the construction industry. Several studies conducted in the United States of America and the United Kingdom to diagnose the causes of the deterioration of quality [3]. According to [4], the industry problems will remain until construction industry begins in implementations of TQM Philosophy.

Dr. J.M. Juran (1904-2008) is the first guru in quality management and is called the Father of Modern Quality Management[5]. Juran philosophy perhaps it is best summed as “quality does happen by accident; it has to be planned”. He identified the main processes, which must be found in a quality management system represented by: quality planning, quality control, and quality improvement. These processes were later known by Juran Quality Trilogy.

Methodology:

The TQM scientists confirmed that the TQM creates a new environment through implementation its principles because TQM is not program nor tool but it is paradigm. Its principles is the integrating elements covers all organization's areas and their aims to continuous improvement actions prevail the organization’s life. So to evaluation TQM depends on how to applying its principles. TQM principles are collected through literatures reviews that compliant with TQM as shown in Table 1. The twelve principles of TQM are classified according to organization into four perspectives: peoples (employees, customers, and suppliers), Processes
(development processes of quality), Powers (grant the authorities to employees), and Programs (training programmes). To evaluate reality TQM implementation and QMS processes, the Questionnaire is used.

The questionnaire items are designed to cover all TQM perspectives and QMS in IDMW. The Likert scale was used to know opinions of IDMW's senior management. The target group was chosen for the questionnaire by using the famous methods in the sample size in Significance Level and confidence level %5 and %95 respectively. The hypothesis testing has every important role to check the study hypothesis at the signification level of TQM perspectives are independent variables while QMS process are dependent then the data collection are treatment by the statistical software SPSS.

Table 1: literature reviews of study variables.

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<th>TQM perspective</th>
<th>Independent variables</th>
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<td>[6], [10], [12]-[14]</td>
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RESULTS AND DISCUSSION

(i) Evaluation of TQM implementation:

Figure 1 illustrates the reality TQM implementation in IDMW according to an SPSS analysis of the questionnaire results. The reliability analysis of all principles of TQM survey was performed using Cronbach alpha was 0.927. The result shown % TQM implementation is 58.2 %, and gap analysis of TQM implementation in IDMW is 65.75 % by using radar chart. In contrast, the % the gap is 62.4 % by using the Annular chart. In any case, the results show levels of TQM implementation currently is low, If compared with the size of the support of the military project implementation. The researcher explains that the reasons to three main reasons, first the central tendencies of the Ministry of Defence, second weak the powers that grant to the senior management of IDM to adopt development steps, and finally weak training programs.

(ii) TQM effect on QMS in IDMW:

Figure 2 shows Multi linear regression analysis to evaluation TQM effect on QMS in IDMW. Correlation analysis shows that TQM perspectives have moderate positive correlation between (0.361-0.669) with improvement process of QMS at significant level = 0.01, and have Negligible correlation with others process of QMS between (0.000-0.187). In the other meaning according the equation in Figure 2 shows TQM effect about 30 % on improvement process of QMS. This result is consistent with result above (me) which illustrates TQM implementation gap more than 60%. For that, IDMW must focus how enhance TQM implementation to improve its QMS.

Summary:

Despite the prosperity of TQM concept in many industries that achieved higher quality levels, the quality construction in many parts of the world suffers from problems such as works defects, time, and cost overrun. A need for change becomes inevitable in order to improve the condition of the construction industry. The results of this study show how to evaluation TQM implementation and the existing gap of TQM implementation in construction enterprise and show implementation level is relatively low and gap of implementation still big. The implementation of TQM in construction enterprise may be flanked some of the obstacles caused by the weaknesses in the application of the principles of TQM which can be overcome through the commitment of management by application of their principles and non-urgency the results as well, as they show the effect TQM as integrated management Philosophy toward continuous improvement in QMS in the construction sector in IDMW. The infrastructure of Iraqi army still in the primary stage, the existing QMS level will not be useless if not real steps toward improved quality process QMS.

Fig. 1: Evaluation of Total Quality Management implementation and its gap in IDMW.
REFERENCES

