

Examination of Relationship between CMP Qualification and Competency for Work Performance

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Abstract

Korean CM Association, Korean Professional Engineers Association, and Korean Institute of Construction Technology Education entered into MOU on Jul. 2015 according to integrate CMP qualifications. The licensees qualified before and after this MOU are estimated to be about 8,100 and it is expected that there may be more professionals specialized I construction management though without the licenses. The number of CMPs is expected to increase constantly, therefore, the purpose of this study was to investigate and analyze statistically whether the qualification of CMP has effects on the competency for work performance. The results of this study are expected to be used as raw materials to build system to manage competency of CMPs.

Keywords: Constructuion Manager; CMP; Competency; Statistical Analysis

1. Introduction

1.1 Background and Purpose

The construction industry is characterized by the bigger importance of labor compared to other industries. The nature of producing in the form of structure built in the horizontal and vertical spaces make the portion that can be replaced by advancement of producing technology and capital to be less than other industries. The effective raising and management of technology manpower working for production, due to such characteristics, have direct effects on competitive power. The Construction Manager (CM) in construction industry work in various construction management tasks with other participating parties in each step of project life cycle, therefore their competency is important determinant of results of construction project.

Several thousands of CMs were qualified as title such as CMP, PCM, and KCCM through various institutions such as Korean CM Association, Korean Professional Engineers Association, and Korean Institute of Construction Technology Education for over ten years since the introduction of CM system. There have been claims to unite these inconsistent qualification institutions into a system. For the response to these claims, Korean CM Association, Korean Professional Engineers Association, and Korean Institute of Construction Technology Education (“Three

Institutions”) entered into MOU on Jul. 2015 according to the plan for integration of CM qualification(CM, CMP, PCM) and integrated the qualifications into ‘Construction Management Professional’(CMP) and have issued the license by qualification examination. The qualified CMPs after integration are 2,342 and the previously qualified professionals from Three Institutions were about 5,800, resulting about 8,100 professionals have been qualified as CMP or corresponding other license. In addition, it is expected that there may be more professionals specialized I construction management though without the licenses.

Table 1. The number of various Construction Management Professionals

Issuing Institution	License Name	Qualified Persons
Korean CM Association	CM	app. 962
Korean Professional Engineers Association	CMP	app. 3,630
Korean Institute of Construction Technology Education	PCM	app 1,200

*The qualified CMPs after MOU among Three Institution(2015.7.9): app. 2,342 persons.

The number of CMPs is expected to increase constantly, therefore, the purpose of this study was to investigate and analyze statistically whether the qualification of CMP has effects on the competency for

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work performance. The results of this study are expected to be used as raw materials to build system to manage competency of CMPs.

1.2 Scope and Method

The scope of this study is limited to Quality Control among various tasks for construction project manager. The quality control in construction industry refers to secure some level of quality considering the demands from clients and most fundamental one in the array of responsibilities of CPMs. The procedure to investigate the CMQ qualification has actual effects on competency for work performance in construction management are as follows:

(1) Development of questionnaire consisting of an item indicating whether the construction project manager possess CMP license and items indicating actual competency for work performance borrowed from Check list for quality control work competency proposed in National Competency Standards.

(2) Administration of questionnaire against Korean construction project managers

(3) Performance of Independent two sample t-test to determine the difference in quality control work competency between construction project managers with and without CMP license by using IBM SPSS Statistics v22.0

2. Test for Relationship between CMP Qualification and Work Competency for Construction Project Management

2.1 Questionnaire Analysis Overview

The overview of questionnaires administrated in this study to determine the relationship between CMP qualification and Work Competency for Construction Project Management are as following table 2. The questionnaire survey was performed among the domestic construction project managers with career of managing construction project from 2016/7/1 to 2017/2/20. The all respondents had at least a year of CM careers and the distributions are as following table 3.

The distribution is almost equally even as seen in table, suggesting that our questionnaire survey results reflects overall opinions related current level related to quality control work, though the 108 of sample size is not satisfactory.

Table 2. Questionnaire Analysis Overview

Investigation period	2016/7/1 – 2017/2/20
Object of investigation	Construction Manager in Korea
Survey method	Questionnaire investigation (E-mail)
Contents of investigation	Presence of CMP qualification, Diagnostic competencies items in NCS
Number of responses	108

Table 3. Distribution of work experience

Division	Construction work experience (%)	CM Construction work experience(%)
under 5 years	12	33.6
above 5 years ~ under 10 years	4.3	17.2
above 10 years ~ under 15 years	6.8	21.2
above 15 years ~ under 20 years	2.5	13.1
above 20 years ~ under 25 years	10.4	11.1
above 25 years ~ under 30 years	17.2	2.7
above 30 years ~ under 35 years	29.2	0.9
above 35 years ~ under 40 years	13.7	0.2
above 40 years	4	0
total	100	100

The items related to competency for work performance were from quality control competency unit’s performance criteria from NCS. The competencies were self-scored as from 1 (very poor) to 5 (very excellent) points. The presence of CMP license was also asked.

The following research hypothesis was formulated to determine the relationship between CMP qualification and competency for work performance in construction project management.

Research Hypothesis: The competency of CMP licensee is higher than CMP un-licensee. (CMP license have positive effects on competency).

3. Results

To test the above research hypothesis(The competency of CMP licensee is higher than CMP un-licensee) the difference in competencies between CMP licensee and un-licensee groups were analyzed independent two sample t-test and the results are as following table 4.

The results showed that the t value is -8.609 and significant probability is 0.024, being smaller than 0.05, a general significance level, therefore the null hypothesis was rejected and the research hypothesis was supported. Specifically, the mean competency for CMP licensee group was 294.148, which is significantly higher than 200.148 of un-licensee group.

Table 4. Relation between CMP license and competency

Division		CMP license	
		licensee	un-licensee
Competency to perform quality control	Frequency count	81	27
	Mean	200.148	294.148
	Standard deviation	45.350	59.285
	t	-8.609	
	p	0.024	

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4. Conclusion

This study explored the relationship between CMP qualification and competency for work performance in construction project management and the results showed that the CMP licensee has positive effects on the actual work performance of construction project manager.

The sample size of this study was 108, insufficient to represent construction project manager population. The another limitation of this study is that the competency measured were restricted to quality control one, meaning that the results is not applied to overall competencies of construct project managers.

This study contribute to this field by analyzing the relationship between CMP qualification and competency for work performance in construction project management for the first time, thereby, providing fundamental data to establish competency management system for construction project managers.

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