

# A study on the development of the "Taiwan project management competence scale"

I-Chan Kao<sup>1,a</sup>

<sup>1</sup>*General Education Center, Open University of Kaohsiung, Kaohsiung 812, Taiwan*

## Abstract

On the basis of the 46 competence elements in the International Project Management Association (IPMA) ICB Version 3.0 and the PMP competence guidelines in PMBOK® Guide -- Fifth Edition by the Project Management Institute, this study formulates a "Preliminary Draft of the Taiwan Project Management Competence Scale". After expert review, a pretest was developed for the Taiwan Project Management Competence Scale. With adult students in adult education institutions as the respondents, a pretest was conducted in order to collect data. Confirmatory factor analysis, and reliability analysis were then conducted to construct the "Taiwan Project Management Competence Scale", which covers the four dimensions of project management of cognitive and conceptual competences, behavioral and technical competences, contextual competences, and moral and ethical competences. It is intended that this scale could be used as reference in future investigations into and measurement of project management competence in Taiwan, thus, facilitating the diagnosis, improvement, and refinement of performance in terms of project management competence.

## Study purposes

Based on the foregoing statement of study motivations and study background, the purposes of this study are, as follows:

1. To understand the connotation of project management competence.
1. To establish a questionnaire scale for project management competence.
1. To propose a Taiwanese project management competence performance scale according to the results of this study, which shall act as reference for future investigations into and measurements of project management competence in Taiwan, thus, facilitating the diagnosis, counseling, improvement, and refinement of performance in terms of project management competence.

## Study method and process

First, through literature review and analysis, this study integrates the connotation of project management competence and constructs the "Preliminary Draft of a Questionnaire on Taiwan's Project Management Competence Performance", where experts from industry, government, and academia are invited to construct expert validity, and then, a total of 328 persons from industry, government, and academia are extracted as the study samples in order to implement a questionnaire survey of Taiwan's project management competence performance; the validity of the recovered questionnaire data is analyzed with Structural Equation Modeling (SEM), and Cronbach's  $\alpha$  reliability analysis and other statistical methods are adopted to establish Taiwan's project management competence performance scale.

## Connotation of project management competence

In accordance with the ICB 3.0 competence baseline, as issued by IPMA (2009), a total of 46 project management competence elements, including 20 technical competence elements, 15 behavior

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<sup>a</sup> Corresponding author : kic0929@ouk.edu.tw

competence elements, and 11 situation competence elements, shall act as the reference standard for the world to join IPMA member organizations, as well as the promotion of project management education training and project management competence certification.

### **Connotation of project management competence performance scale**

A summarization of the above mentioned contents is, as follows: there are five processes for project management competence: initiating, planning, executing, controlling, and closing, which provide the structure for competence in project management, including cognitive and skill performances, in combination with attitude, moral ethics, and project management standards. This study has a total of 30 cognitive competence project management performances, 30 technical competence performances, 10 attitude competence performances, and 10 moral ethics competence performances, for a total of 80 items in the performance scale.

### **Conclusion**

A total of 80 items for the “Taiwan Project Management Competence Performance Scale” are established, including 30 items of “Project Management Cognitive competence Performance”, with 5 items of cognitive competence performance of project initiation, 10 items of cognitive competence performance of project planning, 10 items of cognitive competence performance of project control and management, and 5 items of cognitive competence performance of project closing in terms of the connotation; secondly, it includes 30 items of “Project Management Technical Competence Performance”, with 5 items of technical competence performance for project initiation, 10 items of technical competence performance of project planning, 10 items of technical competence performance of project control and management, and 5 items of technical competence performance of project closing in terms of connotation; thirdly, it includes 10 items of “Attitude Competence Performance of Project”; fourthly, it includes 10 items of “Moral Ethic Competence Performance of Project”.

The results of this study shall be used for subsequent performance measurements of project management personnel, as well as a reference indicator for the development of project management competence and career development. It can be used in IPMA and PMI international project management communities, for the promotion of project management education and training all over the world, and for the certification of Project Management Professional (PMP). The study results can be integrated into the auditing and certification of project management competence to gradually import a knowledge system of project management, including best practices experience, and a competence baseline for project management organization and operation of all fields. A complete operational mechanism is constructed for project management in order to improve the maturity of project management organization and operation, and shape a project management culture for organizations, which has deep and wide functions and values for strengthening the benefits of project management.

### **References**

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