

Requirements for Effective Program Management of Public Owners

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Abstract: *As the business environment for construction enterprises has been worse, the level of their dependence on public projects increases. Under these circumstances, the public owners should pursue more efficient management process and make continuous efforts to establish strategic project-oriented organizations. There are growing concerns on owners' role with the recognition that the public owners are the key stakeholders to improve effectiveness in public sectors and reinforce competitiveness of entire industry. This study reviewed the characteristics of public construction projects with the concept of program, evaluated the current status of program management capabilities, and discussed the requirement for effective program management.*

Keywords: *Public Owners, Program Management, Project Management, Construction Projects*

I. INTRODUCTION

A. Background and Purpose

As construction projects become larger and more complicated, the emphases are placed on the needs for strategic project management from the enterprise's aspect. Also, the scope of construction business expands from a single project to programs or portfolios. Considering this trend, more elaborate systems are required to control those kinds of projects. However, the large-scaled construction projects in public sector still disclose various problems such as frequent design changes, schedule delays, cost overruns, etc. despite the public owners' efforts to reinforce their existing in-house project management systems. This study reviews how to manage public projects with the concept of program and discusses the requirement for owners.

B. Contents and Method

1) *Review the Properties:* Review the characteristics of public construction projects, and define program management scope and areas.

2) *Evaluate the Status:* Assess the current level of program management in a specific public organization.

3) *Discuss Requirement:* List what is needed for public owners' effective program management.

II. CHARACTERISTICS OF PUBLIC PROJECTS AND PROGRAM

A. Characteristics of Large Public Projects

Large-scaled development projects such as new cities, industrial complexes, or housing land development essentially possess the properties of "program". As the

management objects increase, the concept of program enables managers to control multiple projects and programs in an integrative manner, and consequently helps maximize the target benefit. Thus, to accomplish the planned targets, the public owners should strategically establish the internal systems to handle program management issues.

B. Concept and Scope of Program Management

The expert groups in U.S. and Europe derived the new area in the process of responding to the change in size and complexity of projects. The institutes on professional project management including PMI suggested the concept of program management. The program management, as higher managerial level than project management, connects the projects on lower level, and pursues the centralized control in a coordinated way to achieve the strategic target and profit of the whole business. Figure 1 shows the comparison of management scopes among program, project, construction contract, and supervision along the project life cycle.

Stage of Project	Planning	Concept	Design	Construction	Commissioning
Program Management	Very Large or Multiple Projects				
Project Management	Single Project				
Construction Management					
General Contracting					
Construction Supervision					

FIGURE 1
 COMPARISON OF SCOPE FOR PGM, PM, CM, AND CS

Referring to the standards of institutes, the areas of construction program management could be defined as 17 areas as shown in Table 1. Basic areas are common with

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ten project management areas in PMBOK. Then the program specific areas of finance and governance as well as the five construction specific areas of safety-health, environment, approval, material, and design-eng. are added to structure.

TABLE 1
 AREAS AND SCOPES OF PROGRAM MANAGEMENT

A-area	B-area	C-area
Basic area	Additional area	
Common area (10)	Program specific area (2)	Construction specific area (5)
Management of Integration, Scope, Time, Cost, Quality, Human resource, Communication, Risk, Procurement, and Stakeholder	Finance management, Governance	Management of Safety-Health, Environment, Approval, Material, and Design-eng.

III. CURRENT PROGRAM MANAGEMENT PRACTICE OF PUBLIC OWNERS

A. Basic Evaluation

The survey conducted to the staffs in construction management division with 1~5 rating scales showed that the current level of program management was moderate, and still required some improvement. Among the questionnaire, the most insufficient item was the clear definition of interfaces among program components.

TABLE 2
 GENERAL STATUS OF PROGRAM MANAGEMENT

No.	Questionnaire	Avg.
①	(In the process of managing multiple projects) Is the benefit predicted and managed effectively?	3.00
②	Are the conflicting items among projects identified and processed?	2.92
③	Are the interfaces among projects are clearly defined?	2.67
④	Do you make efforts to optimize the project cost, schedule, and labor?	3.17

B. Capability Measurement

In addition, the capabilities of program management as public owners were surveyed.

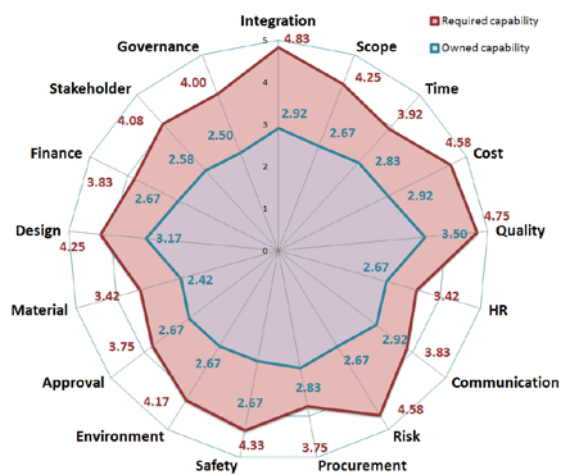


FIGURE 2
 REQUIRED AND OWNED CAPABILITIES OF PROGRAM MANAGEMENT

The respondents considered integration, quality, cost, risk, and safety as the most important program management areas while the areas of human resources, material, procurement, approval, finance, and communication were comparatively rated low. The comparison of required capability and owned capability could reveal the areas needing the improvement most. The differences were largest in integration and risk management areas, and the areas of cost, safety, and scope were followed. Figure 2 shows the differences of required capability and owned capability in each management area.

IV. REQUIREMENTS FOR EFFECTIVE PROGRAM MANAGEMENT

For effective program management, the owners should prepare the items below.

1) Accumulating process assets

The organizational process assets(OPA) are classified as process, procedure, and stores for sharing knowledge. These process information and available best practices are to be provided on demand systematically.

2) Reorganizing PMO and clarifying its roles

PMOs are in charge of managing projects on enterprise level, and execute the monitoring of resources and schedule, arbitration of risks, training, performance tracking, standardization of process, and suggestion of methods. Current project management division is required to strengthen its functions as PMO ensuring consistency.

3) Developing management capability model

In order to enhance management capability, the evaluation model should be developed such as PMI's capability maturity model first. The capabilities could be measured on diverse hierarchies of individual, project, or organization according to the purposes.

4) Establishing standard management framework

PMO needs providing the management framework, and helps managers customize it on the commencement of projects. At the early stage of project, managers prepare all the processes, guidelines, performance indicators, baselines and project management plan referring to standard framework and similar cases of the past.

V. CONCLUSION

Enhancing public owners' management capabilities could lead to the improvement of competitiveness of overall construction industry. In particular, the public owners are required to establish the program management system including OPA, PMO, capability model, and standard management framework in consideration of the characteristics of large-sized public projects.

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