The Capability Assessment of Project Managers for Career Development Program

– The reference framework, unique modeling and empirical view in Japan –

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In the professional world, knowledge tests are widely conducted for qualification at entry, and competence assessments follow thereafter to prove vocational capability in practice. In the project management world, knowledge tests are being accepted widely in Japan, while capability assessments are challenged in slow progress. Reminding that success or failure of projects depends on capability rather than knowledge, it is critical for any organizations to announce profiles and grade levels of project managers by showing definite path in career development program. This paper provides reference bases for advancement in modeling of capability assessment needed for responsible human resources.

**Keywords:** Project Manager, Competence Baseline, Japanese Capability Assessment, Framework and Modeling, Career Development Program

1 More Endeavors to Capability Assessment

1.1 A reminding view for qualification

The versatile views to standards are exhibited by authorized researcher project manager [1] regarding to roles of the project manager. Unlike a single discipline of depth, project management is a profession of multiple disciplines, which may encompass a broad scope of knowledge to explore system based applications. This specialty of cross disciplines is a few, but unique role desired in the service oriented society. In author’s view, the project manager has potentials in the new approach to solution business. To initiate the qualification of project management, a body of knowledge shall be prepared under solid vision, definite purpose and essential scope for candidates. Some certifications are linked to laws for national accreditation, and the others are conducted by professional bodies. Not a little number of companies has edited to apply their own version inside organizations under their envisioning, but proved little effective for sharing common with partners and its heritage. The first Japanese version of P2M - Project and Program Management had been developed and published in 2001 under vision to foster leaders to achieve innovative mission beyond conventional construction manager[2]. In fact, candidates of more or less 9,000 practitioners had challenged for 6 years to official qualifications by knowledge tests. It has contributed to the efficient diffusion of knowledge from broad domains of industries in IT, manufacturing, service, construction, engineering, construction, education and government.

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1.2 Critical issue to qualification

On the contrary, however, candidates for capability based tests are less than 250 in accumulated numbers by 2008. This extremely slow pace reflects a certain crisis to keep social acceptance of reliability to vocational capability. In the professional world like lawyers, accountants, and engineers, the knowledge tests are conducted for qualification at entry, and competence assessment follows thereafter to prove vocational capability in practice. The professional activities are not permitted to these government standards unless practice is experienced with final competence based test of capability. What does it make difference from project manager profession? In the author’s view, the similar process is needed in principle. The author is afraid of quality assurance of project management if qualification attitudes rely heavily on knowledge tests. Therefore, critical issue lies in the breakthrough efforts to applications and improvements of qualification system. The rigid process of certification like other professions by government permit is neither proper nor effective. Because significant numbers of qualified project managers are demanded in industries and organizations, comparing to matured professions. If rigid process is applied, it may cause short supply in demands, and even delay the recovery of competitiveness of industries. So, realistic approach shall be considered to such situation. The author reminds of essential thinking and methods for improvement, and gives references for extra endeavors to design original capability assessment framework of project managers in carrier development program. Points for issues are as follows:

- a. This specialty of cross disciplines is a few, but unique role of project manager.
- b. Knowledge framework shall be edited under solid vision to candidates.
- c. The slow pace of applicants of capability reflects a certain crisis of reliability for certification.
- d. Endeavors are recommended to design assessment framework for career development

2 Challenge to Capability based Qualification

2.1 Competence based challenge

IPMA competence baseline (ICB) is a monumental document, which had opened the history of competence based approach and standards[3]. Exhibited in its naming, competence in the baseline means integrated capability of knowledge, experience, and personal attitudes. In fact, its contribution has built the world of competence based qualification. Thanks to this baseline, project managers are encouraged to establish the career path with incentives in profession by the third party certification. It is significant to note that unless this qualification is conducted, their talents are less appreciated officially in organizations and little used in the prospective opportunities in the growing area. In long years, the dedication of project manager has been confined in engineering and construction, but being opened to growing arena of services like software, finance, consulting, and business development. In fact, capable project managers are hunted in these business in Japan, but capability based tests were delayed because of more complications than knowledge tests.
2.2 Capability and competency

It is widely known that iceberg model of “competency” is one of the key contribution in human resource management. Advocated by Richard Boyatzis, and David McClelland[4], competency at work is considered effective prominently in the fusion interface of knowledge and experience layers. Knowledge is visible, measurable, and trainable in short term, while experience based attitude is invisible, immeasurable, and acquirable in long years. It highlights the causal effects relationship between behaviors and performance. The theory contributes considerably to the base of framework. So far, it is persuasive to explain individual competencies of specialists of functional services, but is a little adaptable in representing project manager of a multiple disciplines. In the author’s view, competency applied to project manager shall represent the broad span of talents that the potentials of cross functional teamwork are more critical than a single functional performance. The term of “capability” applied here means broader concept related to Japanese project management to be endorsed by knowledge, experience, attitude, disciplines and ethics.

a. The professional organization of IPMA respects competence test in qualification.
b. The theory of competency has reference to behavior and performance in single discipline.
c. Competence and capability are the same concepts applied in multiple disciplines.

3 Taxonomy Model of the Capability Version

Comparing to the knowledge test, it is apparent that capability assessment is difficult and delicate in framework building. The delicacy lies primarily in the issues that roles of project manager are deviated in size, disciplines, value, and industries. So, efforts are continued to explore better way to find commonality against ambiguity of roles and competency. The challenge has been conducted globally by GAPPS-Global Alliance of Project Management Standards- team led by Professor Lynn Crawford[5]. Taxonomy is the term used in science or practice of supertype and subtype to represent structure of relationship in particular to living organism. The pioneer of taxonomy model for competence assessment in project management is IPMA, and the model is practically implemented globally. The context of capability is more or less the same with the competence baseline of IPMA, but the Japanese model is more conscious in business applications of broader life cycle. The figure 1 is the taxonomy of a model that the author designed for qualifications of “capability patterns” of the highest class of project manager, who may comply with mission in need of creating solutions at incidents[6]. The upper four patterns of holistic thinking (I), strategic thinking (II), integrated thinking (III) and leadership thinking (IV) are the critical capabilities by which core issues in the mission are identified and breakthrough ideas may be initiated practically for solutions. On the contrary, the conventional talents of project manager are represented mainly in the planning behavior (IV), execution behavior (V), and control behavior (VI). The other patterns are essential and influential for professionals to do effective teamwork. All the patterns are fractionalized into 100 standard attribute elements or questions, which shall be congruent to the assessment standard and kept confidential in details except the last two patterns (IX and X). The elements shall be improved from time to time according to adjustments in need.
Table 1  Taxonomy Model of Capability Version

<table>
<thead>
<tr>
<th>Patterns of capability</th>
<th>Criteria for attributes</th>
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<tr>
<td>I  Holistic thinking pattern</td>
<td>Mission pursuit (Mp) by defining mission, clarifying problems, developing solutions, and explaining thinking process in message</td>
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<tr>
<td>II Strategic thinking pattern</td>
<td>Strategic keys (Sk) by specifying objectives/goals, explaining constraints, prioritizing tasks, and allocating resources/measures</td>
</tr>
<tr>
<td>III Integrated thinking pattern</td>
<td>Value pursuit (Vp) by integrating interfaces, harmonizing stakeholders, communicating issues, and considering human aspects</td>
</tr>
<tr>
<td>IV Leadership thinking pattern</td>
<td>Leadership for innovation (Li) by overruling to breakthrough, looking future issues, complying with changes, and solving problems</td>
</tr>
<tr>
<td>V Planning behavior pattern</td>
<td>Management in planning (Mp) by reading contract, creating master plan, fixing goals, organizing team, and allocating works/tasks/resources</td>
</tr>
<tr>
<td>VI Execution behavior pattern</td>
<td>Management in execution (Me) by directing teams, executing jobs, keeping safety and health, shooting troubles, and managing changes/risks</td>
</tr>
<tr>
<td>VII Control behavior pattern</td>
<td>Management in controlling and closeout (Mc) by coordinating interfaces, controlling progress, delivering products or service, and achieving closeout</td>
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<tr>
<td>VIII Human relationship pattern</td>
<td>Management of Human communication (Hc) by building systems and actions for motivating, consulting, coaching, and mentoring the members</td>
</tr>
<tr>
<td>IX Achievement mindset pattern</td>
<td>Attitude to achievement (Aa) by brewing climate of collaboration, initiating model actions, obtaining trust, and pioneering the front</td>
</tr>
<tr>
<td>X Professional discipline pattern</td>
<td>Attitude under professional discipline by pioneering socially acceptable behavior, complying with legal and ethical mind, and taking responsibility</td>
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These questions are designed either in descriptive or oral answers from practical case sources, where attributes are compounded from several patterns. Five grades marking between 5 points at the best and 1 at the bottom is a quantifying way to see distribution of capability in either patterns or attributes chart.

So, this standard tool may provide at least the following advantages:

a. The highest profile of capability patterns is provided to candidates for qualifications.
b. The rank grading approach may be conducted flexibly by rearrangement of patterns.
c. The career path may be designed for training and allocation of human resources.
d. The standard provides quantitative data bases of capability development.
4 Fair Judgment Framework and Quality Assurance

Fair judgment has been a central argument by parties, which divide positive or negative attitudes to capability qualification or performance based test. The author believes that at least four basic principles may help avert risks of errors for “quality assurance” in assessment as illustrated in the elements of Fig. 1. These principles are shown in the elements of multiple stage screening, mixed testing methodology, debate course planning, and checking by plural qualified assessors. At the entry step of screening filtering work shall be conducted by application intent, knowledge test certificate, biographical evidence, and short essays. The mixed testing is designed to identify the depth of experience by applied issue test, and interviews in package to foresee minimum qualifications. To be more concrete in practice, applied test on commenting opinions is implemented to select 4 issues from “8 given issues” in 180 minutes for example. Interview testing will follow in package on another day in questions and answer style based on the essay and test results.

The successful candidates may be allowed to proceed to challenge 10-15 course modules in session, and interview tests are conducted twice at middle and final phases. The course module is composed of “several issues” from practical cases in 90-120 minutes, followed by 60 minutes workshop of 6 members to debate deeply on the given issues with answers. At least 30-60 minutes in each module is used for summary paper to be presented to plural assessors. This curriculum shall be flexible and designed to suit to purposes in terms of effectiveness. Nevertheless, wise design shall be contrived to solve dilemma between quality assurance and time-cost criteria. Should any of four principles be weak to save time and cost, the assurance of capability assessment could be fuzzy to cause sacrifice of reliability. The framework is applied in the certification program of capability in Japan, but could be developed further to the human resource career program inside organization. The followings are essence of framework designs.

a. The framework is solid by four principles for fair judgment and quality assurance.
b. The capability assessment is critical and if professional disciplines is respected.
c. Though more cost and time might be invested, it is essential for career program.
5 Modeling of Capability beyond Different Domains

Referring to capability, some project managers boast of its sizable system while the other explains its complexity. In fact, energy projects like power stations or liquid gas production amount multi billion dollars. In building ICT network system of several million dollars, project manager has to struggle with complexity in applying new technologies. Admitting sizes and complexity[7] in different disciplines, efforts of setting stable criteria are indispensable in qualifying capability to project managers. The commonality for development of platform implies three dimensions of indicators explained by situation, capability and domains. As exhibited in Figure 3, the author’s output is titled SCD model named after of its dimensions. Situations of projects are determined by client needs and environments. For example, energy production of oil and gas is programmed in the wild and distant location and forms of multiple projects by partners. On the contrary, IT process reengineering is implemented at offices in cities, but still exposed with risks by critical changes. Represented in cases, situations and domain are decisive by client needs. The factor of situations may be classified at least to three categories by factors of uncertainty, infrastructure and support system[8]. The stable environment (S1) is the desirable situation where changes are managed by gap analysis and control skill. The unstable environment (S3) is the undesirable situation where uncertainty is exposed and swift supports are hardly available. Most of projects are positioned in the middle zone (S2). These “situations” have something to do with “levels of required capability” of managing projects at different level to create optional solutions. As illustrated in the situation seeds, three sorts of managing projects are graded in basic (L1), applied (L2) and strategic (L3) levels of capability. It is trained, but systematic training is hardly adopted except on the job training. The basic level of managing project (L2) is based on capability of applying process and gap analysis to achieve goals efficiently by applying planning, executing, and controlling. Advancing to applied level (L2), project managers may overcome higher hurdles of constraints, risks, changes, and decision making. Program way of thinking is critical to comply with the situations. Strategic level (L3) means the highest level of capability which may initiate solutions on governance basis. Program manager represents mission and assume full responsibility on behalf of clients. After target setting the challenge level, the model is extremely helpful to identify capability positioning. Even candidates of rich experience may find the full and lack in capability cells. Another advantage may be cultivation of potential talents in course training to versatile applications. Like presented in the case examples, project management is applied today in a spectrum of domains from engineering to services. The thinking and skills are also penetrated from micro sized companies to multi national giants.

This universality of application is a charming power of project management being perceived today, while it raises another difficulty of facing a variety of candidates to a single titling certificate of the project manager. The advantages of SCD model are summarized as follows:

a. The model provides stable criteria footing in different disciplines and backgrounds.

b. In capability test, fair chance of equality is benefited in agenda for debates.

c. The model provides the tool to identify grading and balance by capability cells.

d. The model provides chances of fostering of potential talents to versatile applications.
### Fig. 2 Situation Capability Domain Model

<table>
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<tr>
<th>Situation/Domain</th>
<th>Need</th>
<th>Capability</th>
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<tbody>
<tr>
<td>Example 1:</td>
<td>Small scale projects</td>
<td>Needs Small scale projects in services</td>
</tr>
<tr>
<td>Example 2:</td>
<td>Domestic projects</td>
<td>Needs Domestic projects in construction</td>
</tr>
<tr>
<td>Example 3:</td>
<td>Medium scale projects</td>
<td>Needs Medium scale system projects in ICT system</td>
</tr>
<tr>
<td>Example 4:</td>
<td>Organizational</td>
<td>Needs Organizational renovation in business</td>
</tr>
<tr>
<td>Example 5:</td>
<td>Large scale projects</td>
<td>Needs Large scale turnkey projects in engineering</td>
</tr>
<tr>
<td>Example 6:</td>
<td>Innovation projects</td>
<td>Needs Innovation projects related to R&amp;D in enterprises</td>
</tr>
<tr>
<td>Example 7:</td>
<td>Intelligent cluster</td>
<td>Needs Intelligent cluster projects of competitiveness in community</td>
</tr>
</tbody>
</table>

### 6 Conclusion

Rewarding to heavier efforts of time and cost, the capability based qualification contributes to corporate performance in four points. First, it satisfies with more reliability than knowledge type tests. Second, organizations are needful of professional project managers in growing industries for innovations. Third, the framework contributes to human resource development program. Fourth, incentive systems are improved by proven performance by qualified project managers.

### 参考文献


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