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Capability Based Professional Certification Guidelines
“CPC Guidelines”

Version 2.1

June 2004

Project Management Association of Japan
(PMAJ)

Introduction

At the dawn of the millennium, the world faces complex and difficult social problems such as global warming, the digital divide, and domestic problems, such as the aging society and deindustrialization. The solutions to these problems can be brought about by human beings and their wisdom, but they cannot be solved by relying on traditional wisdom. New human resources are required of a mission achievement type, with a wide range of knowledge and accumulated experience.

Global warming is bringing about weather changes and the depletion of resources. Poverty and conflicts pose a threat to the safety of the worldwide economy. In order to eradicate such negative legacy of capitalism, both developed and developing nations have to settle conflicts of interests between material affluence arising from industrialization and the preservation of an ecosystem arising from the emphasis on the environment. At the Rio Conference, the vision of continued progress was globally confirmed and a recycling-based society was set out as a major objective.

Unless the vision is implemented, resources will be wasted. As is stated in the P2M standard guidebook, the principle has been extended into missions, and a large number of programs necessary for the legislative process, administrative policies and corporate strategies have been created. However, few people are able to manage such programs efficiently and effectively. As a result, numerous projects are carried out dispersedly and only a limited effect is produced. Waving the banner of practical human resources that can manage programs and projects from the lofty and wide point of view, P2M proposes the development of new human resources that have the ability to bring project teams together. To promote programs and projects, it is necessary to have integrated knowledge and ability to lead teams so that a number of specialists can be controlled and a wide variety of knowledge, such as laws, technology, accounting and business, can be accumulated.

With the support of the Ministry of Economy, Trade and Industry, Specific Non-profit Organization, the Project Management Association of Japan (PMAJ) recognizes the importance of the development of human resources and set up a PM competence committee for certification. The committee continues to carry out investigations, experiments and hold discussions and has already submitted four volumes of investigation reports. These capability-based certification guidelines are a result of the committee's efforts. I would like to take this opportunity to express my deep gratitude as a representative of the committee to the members of the committee, who made a great contribution, and the Ministry of Economy, Trade and Industry and the secretariat of the Specific Non-profit Organization, PMAJ, both of which have been offering the committee support.

March 5, 2004

Specific Non-profit Organization, Project Management Association of Japan (PMAJ)

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Chapter 1 Qualification Certification System

1.1 P2M standard guidebook

Project & Program Management for Enterprise Innovation (hereinafter referred to as “the P2M guide”) is a Japanese version of a scheme of practical capability, which was published in November 2001 after three years of investigations, discussions and research by the Committee for the Introduction, Development and Investigation of Project Management, which belongs to the Engineering Advancement Association with the support of the Ministry of Economy, Trade and Industry, Manufacturing Industries Bureau, International Plant Promotion Room. The Specific Non-profit Organization, Project Management Professionals Certification Center (hereinafter referred to as “the Center”) started activities to popularize the P2M guide. The P2M guide is highly acclaimed because of its progressive contents, and domestic and international organizations have been introducing it for their seminars and training on project management. It is also adopted by MBA (Master of Business Administration) and MOT (Management of Technology) courses at graduate schools and is of use to students as practical teaching materials. The P2M guide has already been translated into English and the number of global users is rising.

1.2 Project certification center

The Center is a neutral organization (The president of the organization is Mr. Hiroyuki Yoshikawa, Former President of the University of Tokyo) that sets tests for professionals and offers qualification certification in accordance with the P2M guide. Its mission is to develop globally capable human resources for project management and to offer new opportunities to those having profound practical capability and experience to actively participate in growing fields by providing them with qualification certification.

1.3 Qualification Certification System

The Center defines practical capability of project management and provides three kinds of qualification certification for professionals in accordance with its achievement levels.

- (1) Project Management Specialist (PMS)
- (2) Project Manger Registered (PMR)
- (3) Program Management Architect (PMA)

For PMS, a knowledge-based written exam is set and for PMR and PMA capability-based examinations are conducted. The capability-based examinations are highly demanded by society, but the verification of objective capability requires a number of procedures and methods, such as application of complex knowledge, long hours of behavior tests by several examiners and actual proof of business talent.

1.4 Capability-based professional certification guidelines

With the support of the Ministry of Economy, Trade and Industry, the Center published capability-based professional certification guidelines (hereinafter referred to as “the CPC guidelines”), which are attracting global attention, after spending two years preparing them.

The CPC guidelines are composed of the nine chapters shown in Diagram 1 below.

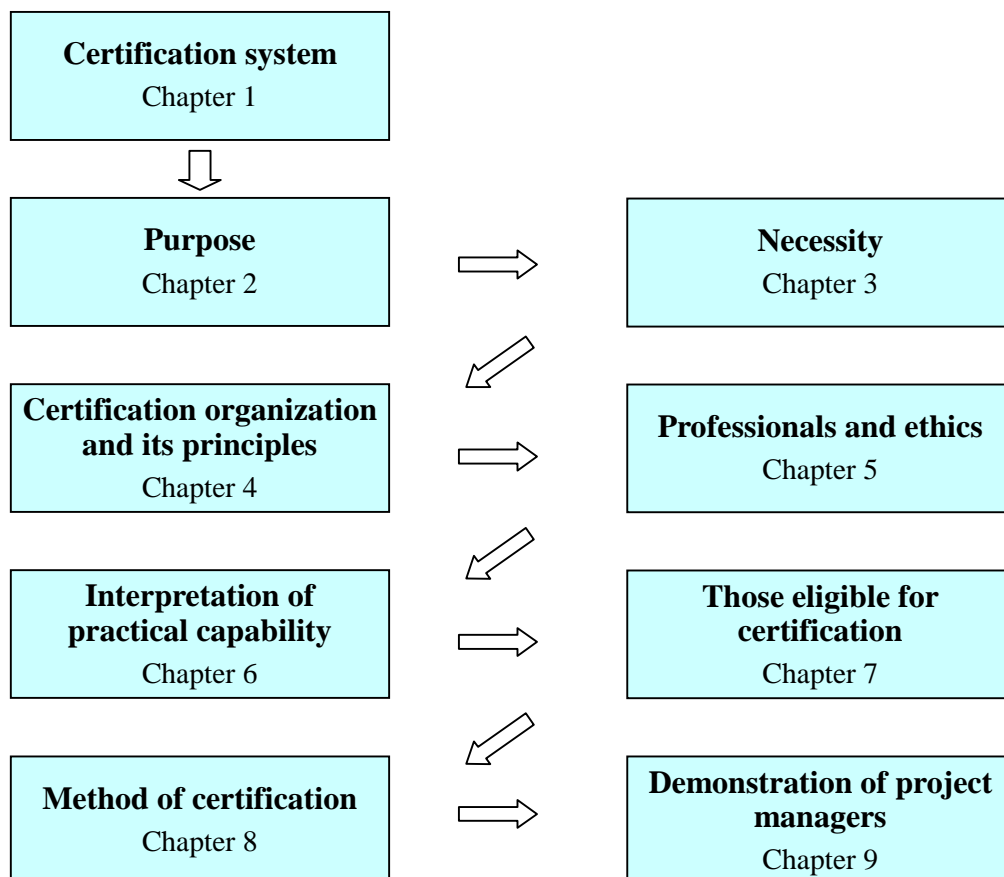


Diagram 1 Contents of CPC guidelines

Chapter 2 Purpose of certification

The P2M guide aims to develop and construct project management that had traditionally and chiefly been designed for technical systems in order that the project management can be adapted even to complex corporate-level business models and systems or administrative and local community systems. The intention is to develop new sophisticated professionals (hereinafter referred to as P2M professionals) in a mature society brought by changes in the industrial structure and an environment where industrial knowledge is turned into services and broadband services are provided, which are peculiar to developed nations. Japan has many excellent achievements in project management. Not many days have passed since the P2M knowledge system and the system of qualification certification started functioning, but they are attracting international attention as advanced systems. The guidelines have the following five main purposes.

- (1) To have the roles of P2M professionals socially recognized and contribute to social progress;**
- (2) to improve the status and treatment of P2M professionals by certifying their capability;**
- (3) to maintain the intellectual property of P2M professionals and try to pass it down to the next generation and have the next generation inherit it through education, training, etc.;**
- (4) to improve the intellectual capability of P2M professionals and adapt it to business opportunities where they can take on complex duties; and**
- (5) to try to promote and expand the certification organization to improve it.**

Chapter 3 Necessity for certification

3.1 Necessity for certification

Japan's application of project management was mainly limited to the construction of technical systems of the engineering industry. The essential strength project management is that it can bring out "teamwork", which tries to combine knowledge in interdisciplinary and interindustrial fields, and "leadership", which brings out potential. Through the development of P2M, project management has further been enhanced and its field of application has been extended to the areas of administration, local communities and management, which has increased the opportunities for applicants to take on new challenges. Qualification certification is essential for three reasons.

- (1) Improvement of employability of intellectual human resources;
- (2) meeting the needs of human resources in the broadband age; and
- (3) achieving corporate reform in a knowledge service society.

■ Improvement of employability of intellectual human resources

In the drastic transition from a lifetime employment system to a merit-based system, restructuring has been carried out. Along with a mismatch in the labor market, the intellectual human resources needed by society are under threat. Measures against the hollowing out of intellectual property are strategic policy problems requiring long-term vision. As one such measure, the Center's certification system aims to improve employability of intellectual human resources. This system enables intellectual human resources to improve adaptability to workplaces and hand over tacit intelligence to the next generation. The Center understands that it is difficult to judge one's capability of problem solving even when this ability is exceptional solution of a dilemma that though you have high capability, it is difficult to judge such capability. In the engineering, construction and manufacturing industries, which have manufacturing and intellectual services in common, a significant number of people have accumulated project management skills and knowledge in the domain of business. To communize the intellectual property peculiar to companies, it is necessary to conduct reorganization in conformity to the P2M guide and qualification certification on the basis of the achievement levels of practical capability.

■ Response to the needs of human resources in the broadband age

With the arrival of the broadband age, administration, industries and companies aim at the realization of a ubiquitous society. The advent of broadband heralds an age in which the benefits of sophisticated high-capacity communications can be enjoyed by anyone, anywhere anytime.

These environment changes generate unlimited programs and projects that merge knowledge beyond geography, types of business and organizations and give birth to the needs of P2M professional human resources whose mission is to solve complex problems. For instance, administrative professionals have a duty to achieve both the supply of services by e-government and qualitative improvement by streamlining. One of the problems to be tackled in local communities is to provide both nursing care and medical services for an aging society and the use of an information system. The industrial world seeks human resources that can solve such complex conflicting problems as business development and the development of products in a multimedia market, shortening of lead-time and returns on investment. Demand for bringing up and certifying such human resources is increasing.

■ Response to corporate reforms in a knowledge service society

Corporate property is classified as physical property and intellectual property. Intellectual property is composed of managers' business model concepts, technical experts' technical know-how, salespeople's customer information and other information. This intellectual property is a resource owned by organizations. New business development is a value-creating project for the future that needs project leaders for its execution. The business performance of companies tends to be divided into two opposites, the winners and losers and it is the use of intellectual property and the development of human resources that divide companies into the two groups. While companies with worsening performance are introducing perfunctory imported administration, excellent companies adapt themselves in a timely manner to environmental changes and are creating a new framework. Companies must form teams in a cross-organizational manner and be aware of the importance of the development of P2M human resources that can improve their market value and strengthen their development.

3.2 Basic process of the development of human resources

The certification center realizes the significance of improving employability, the potentials of the broadband age and reforms into intellectual companies and recommends the qualification certification of P2M professionals. As merit-based pay and the mobilization of human resources become diffused both professionals with years of experience in project management and young, talented professionals should prove their ability to their managers. To that end, it is necessary for individuals to adapt themselves to environmental changes and study P2M in a timely manner and obtain official certification so that third parties can judge their capability. Companies should try to improve their organizational capability and individuals must make efforts not to miss opportunities due to personnel reshuffling or treatment. The process of the development of P2M human resources, shown in Diagram 2, is acclaimed as a system responding to the needs of human resources in and outside companies.

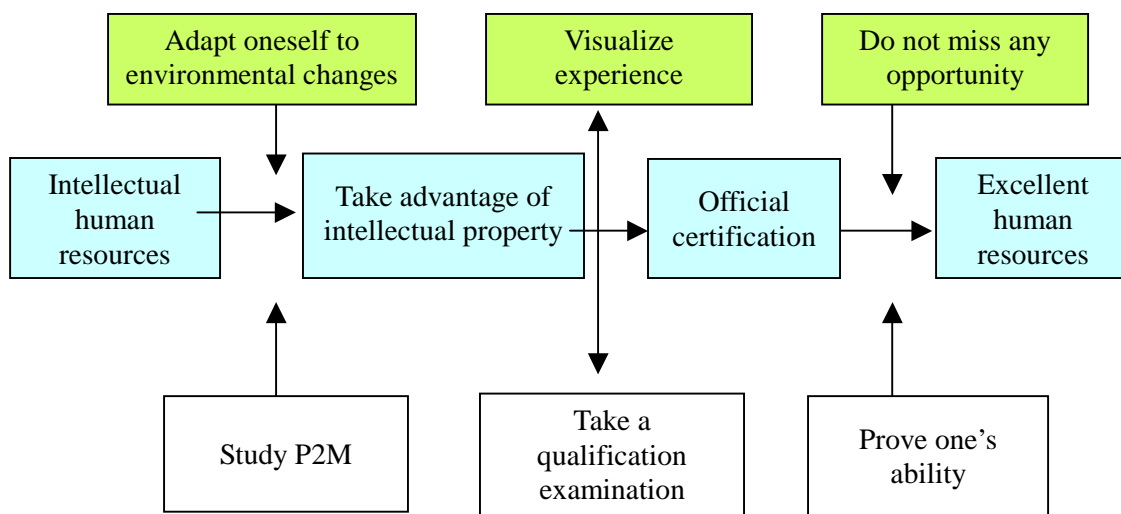


Diagram 2 Process of the development of human resources

Chapter 4 Certification organization and its principles

4.1 Functions and activities of the organization

The Center needs to carry out the following six activities to achieve its roles.

- (1) Drawing up standards regarding P2M and development, revision and publication of a standard guide for the qualification certification;
- (2) Conducting studies of knowledge, cases and practice and compilation, publication and sale of educational materials
- (3) Introducing knowledge, cases and practical details of the P2M guide and making the P2M guide popular and trying to increase the number of users
- (4) Promoting de-facto standardization through exchanges and cooperation with domestic and international organizations concerning P2M
- (5) Carrying out certification of P2M professionals
- (6) Operating the certification organization

4.2 Qualification Certification organization and its duties

(1) Permanent organization

The Qualification Certification Organization is one of the main departments of the Center. Its divisions and sections are shown in Figure 3. Its duties comprise the qualification certification of project management specialists, project managers registered and project management architects. Since these three qualifications are certified according to the levels of achievement of practical capability, the details and examination methods of the three differ. The examination methods are divided into a knowledge-based examination and a capability-based examination. The duties are divided and dealt with by the Operation Division in the Qualification Certification Department for better efficiency. The “capability examination structure” holds examinations for project managers registered and project management architects, which are multi-stage capability-based examinations that take many hours to conduct. To be concrete, it takes charge of the designation of examiners by third parties, preparation of examination questions, arrangement for instructors and tasks required for the execution of examinations in accordance with certification plans drawn up by the operation section.

(2) Appointment of the manager of the Qualification Certification Division

The manager of the Qualification Certification Division is appointed by the chief director of the Center after deliberations at the meetings of the Operation Division in the Center are discussed and the approval of those responsible for committees is classified by qualification.

(3) Composition of committees

For the preparation of various examination questions and the execution of final examinations that require neutrality, secrecy and fairness, third party committee members are appointed and the duties are performed by the committees together with the Center.

(4) Structure of the Qualification Certification Department

The duties of the Qualification Certification Department comprise the preparation of qualification certification plans, examination implementation manuals, examination questions, execution of examinations, evaluation of examinations, issuance of certification documents, registration of those who acquire certification, and supply of services and information.

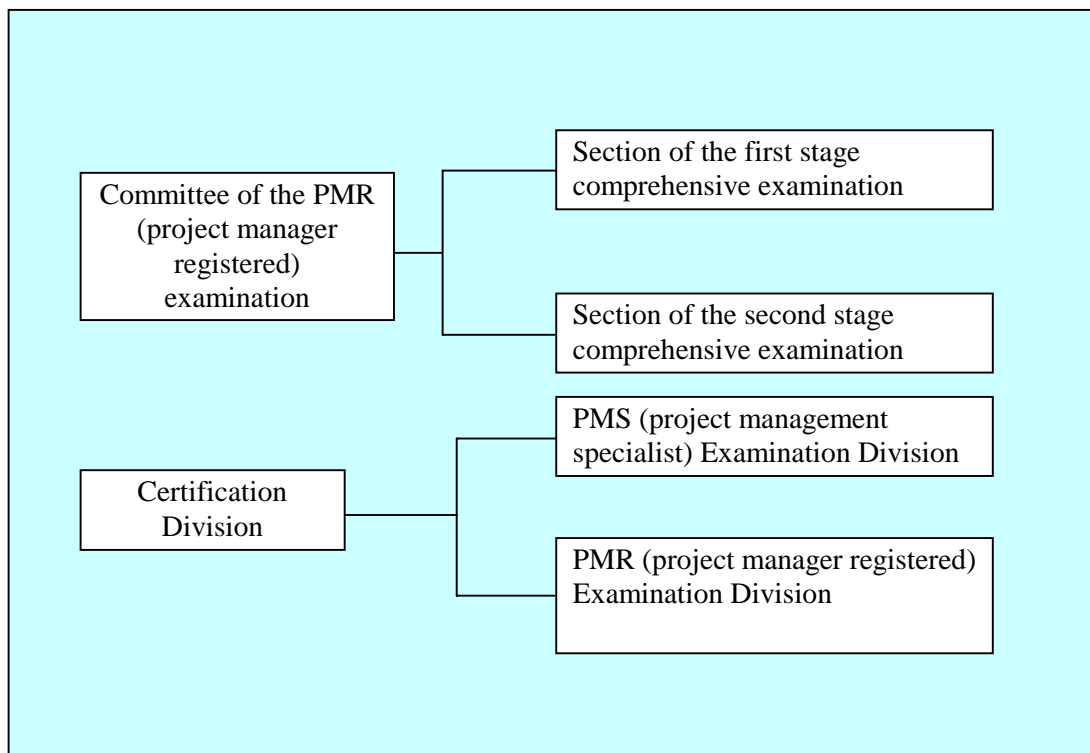


Diagram 3 Chart showing the current structure of the PMAJ

4.3 Principles

In granting the qualifications of P2M professionals, the Center must be aware of its mission and roles as a specific non-profit organization. It must establish its basic principles and ensure that its staff members are familiar with them. It must also make maximum efforts to change and improve the structure, functions and operation of the Center. Its basic principles and operating principles are as follows.

(1) Basic principles

- (1) The Center makes efforts, being aware of the three management principles of qualification certification, namely, “public interest, efficiency and continuation”.
- (2) The Center makes maximum efforts to improve its management in order to maintain its independence and continued progress as the Qualification Certification Organization.
- (3) The Center improves the convenience of applicants, ensuring candidates for examiners and registration of those who acquire qualifications.
- (4) The Center abides by the three operating principles, “neutrality, justifiability and specialty”, required in the process of screening.
- (5) The Center always makes efforts to implement reforms and improvements in order to contribute to the acquisition of social reliability and development of human resources.
- (6) The Center makes efforts to cooperate with international organizations and diffuse P2M for the realization of global standards.
- (7) The Center respects the privacy of applicants and those who acquire qualifications and keeps their information confidential.

(2) Operating principles

- (1) The Center announces its operating visions every business year for the adaptation to environmental changes and improvement of its services.
- (2) The Center announces annual plans and priority goals and makes information related to the certification system public.
- (3) The Center supplies details, procedures, and changes related to qualification certification at its website and in writing.
- (4) The Center conducts knowledge-based “project management specialist exams” a few times each year.

- (5) The Center conducts capability-based “project manager registered exams” a few times each year.
- (6) The Center conducts capability-based “project management architect exams” several times each year.
- (7) The Center registers those who acquire qualifications and provides them with opportunities for capability improvement and information and encourages them to join the P2M club.

Chapter 5 Ethics and responsibility of professionals

5.1 Professional ethics

Ethics are norms of “Goodness” that human beings are required to observe in social activities. “Goodness” is defined by custom, discipline, culture, natural features, race, conditions of countries, lifestyles, occupations, etc. and formed by historically accepted human wisdom. National acceptance is the ethical norm of justice, equality and responsibility and laws inhibit their breach by punishment. Discipline has little binding power but laws have compelling power. The Charter for Good Corporate Behavior, which forces professionals to abide by the law, has recently been called compliance, a social norm. It is a natural duty of professionals to maintain and observe compliance.

5.2 Ethical responsibility and system of P2M professionals

(1) Ethical responsibility and its system

P2M professionals shoulder two types of ethical responsibility. One of them is responsibility for the social acceptance of work and the other is responsibility for results to stakeholders. We should recognize that P2M professionals are required to fulfill these two types of responsibility and that the realization of such responsibility can improve the social reliability of professionals and the progress of the organization.

(2) Responsibility for social acceptance

Responsibility for social reliability means the satisfaction of compliance requirements. Although the enactment of laws is delayed because of a delay in social progress and other circumstances, professionals should not employ such delay maliciously and such ethical stance is essential as professionals.

(3) Responsibility for the results to stakeholders

If we do not fulfill its responsibility for the results to stakeholders, such negligence will cause material risk to programs and projects and greatly affect them. It is not unusual that interests and conflicts occur among stakeholders, but for the adjustment and settlement of conflicts, standards of equality and justice are required. Ethical responsibility in which respect for regional culture and daily customs take precedence over specific purposes is of greater importance.

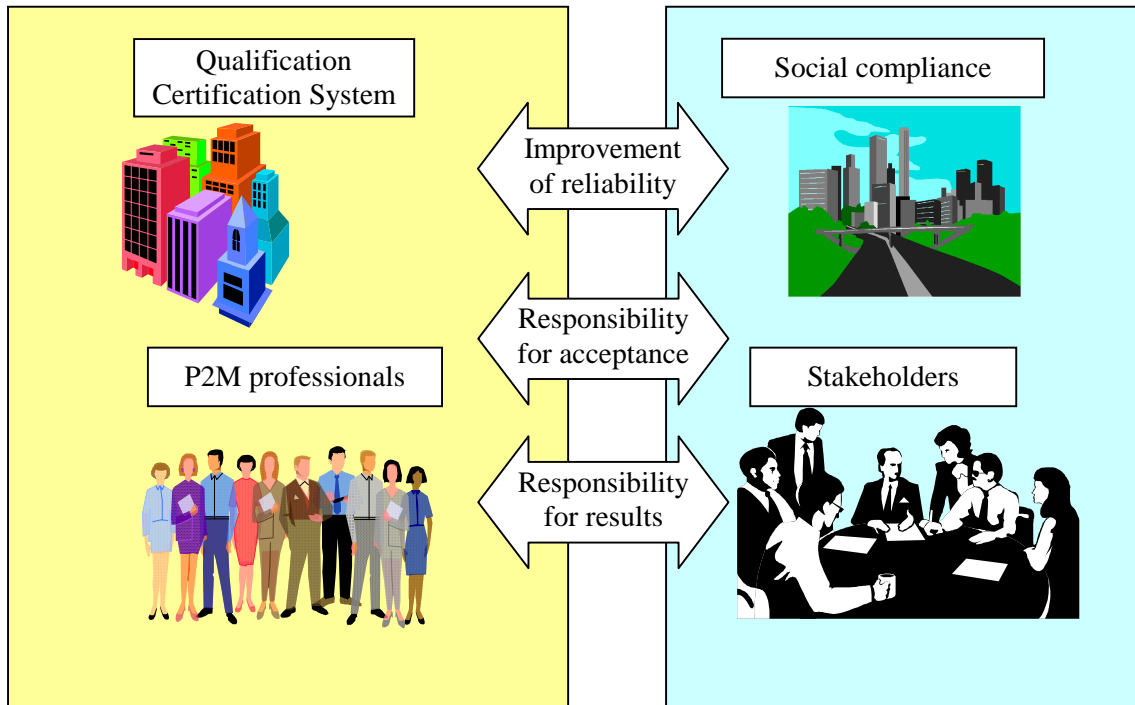


Diagram 4 Relationship between professional ethics and its system

5.3 Ethical oath of P2M professionals

(1) Ethical code for P2M professionals

Today's professionals' ethical problems are systematic anti-ethical pressure and conflicts between organizations and individuals on anti-social actions that take advantage of imperfect legislation. P2M professionals must observe ethical standards with a resolute attitude. The Center requests those who acquire qualifications to observe the following ten provisions of "the ethical provisions for professionals" in place of a written oath.

Written oath

- Article 1** P2M professionals shall contribute to society through project management.
- Article 2** P2M professionals shall act with a spirit and in the attitude of justice and equality.
- Article 3** P2M professionals shall periodically report on the results of their social contribution and ethical attitude.
- Article 4** P2M professionals shall abide by the ethical code for professionals stipulated by the Center.
- Article 5** P2M professionals shall maintain a spirit of compliance and demonstrate observance by professional behavior.
- Article 6** P2M professionals shall not take advantage of the absence of legal provisions and shall not be against ethics despite the absence of legislation.
- Article 7** P2M professionals shall be responsible for explaining their behavior, process, and results of work.
- Article 8** P2M professionals shall make decisions affecting stakeholders in conformity to a determined ethical standard.
- Article 9** P2M professionals shall attempt to make decisions in conformity to ethical standards at the occurrence of conflict between organizations and individuals.
- Article 10** P2M professionals shall contribute to improvement of the ethical code for professionals adopted by the Center through work.

(2) Suspension and revocation of qualifications

An ethical investigation committee specified by the Center shall review cases of P2M professionals who are in breach of the compliance requirements, stakeholders' requirements or the ethical code adopted by the Center and cause a considerable social, or professional loss or loss of honor. The qualifications of those concerned may be suspended or revoked.

Chapter 6 Definition of practical capability

6.1 Definition of practical capability

Practical capability means comprehensive capability that produces value in business practice and that is endorsed by knowledge, experience, attitude, talent and ethical factors necessary for business practice and combines them. In other words, practical capability represents the integration of the five practical elements and power of verification in project teams. Students have acquired knowledge, but have no experience in business practice. New employees have knowledge and experience, but have not formed an attitude yet. Practical capability means capability that is embodied in individuals and that brings out potential capability of teams unlike competency of researchers or lawyers.

Competency is regarded as individual capability. It means integrative ability specific to behavior that produces effective behavior patterns, which are verified by those who made great achievements. There is an overlap in the unification of knowledge, experience, attitude and talent in specific features of behavior. Competency is an evaluation or a benchmark based on the specific nature of individuals that made the highest achievements in specific functions in organizations with division on a top-to-bottom basis.

On the other hand, practical capability intended by P2M is the ability to bring out potential teamwork and aims at the satisfaction of team members and ambitions of all the team members, and the results as a team. In this sense, practical capability of P2M is a concept lying between individuals and organizations.

6.2 Circulation process for the improvement of practical capability

The first step for professionals is to accumulate experience in business practice by taking advantage of specialized knowledge. However, to establish status as professionals and be given proper treatment, equal and justifiable evaluation is needed. Professionals must take practical capability examinations conducted by third parties and acquire qualifications. It is important for professionals not to miss opportunities for career improvement.

Practical capability means flexible ability that works in a similar or related scope of work and is given such evaluation as “usable”, “useful” and “producing results”. It also means prompt adaptability that enables one to be quick at understanding the scope

of work and adapting oneself to the job even though the work may be within a different industry. Businesspersons are rich in experience, but if the scope of their knowledge is limited or biased, their flexible and prompt adaptability is weak and their team's potential is not fulfilled. Businesspersons can further improve practical capability by acquiring new knowledge through practice, organizing and deepening such knowledge with accumulated experience.

The improvement of practical capability leads to the motivation to seize new opportunities and enables talent to flourish. Business practice allows us to see the essence of problems, propose solutions and master mission-achieving abilities that enable execution. In other words, there is a spiral process where tacit wisdom and perfunctory wisdom develop in circulation and problem finding ability, ability to foresee the future, insight, intuition, creativity, a broad perspective, decision-making ability, human relation ability, etc. can be displayed depending on the circumstances. The first step for P2M professionals is to be aware of the circulation process of the improvement of practical capability, which is shown in Diagram 5.

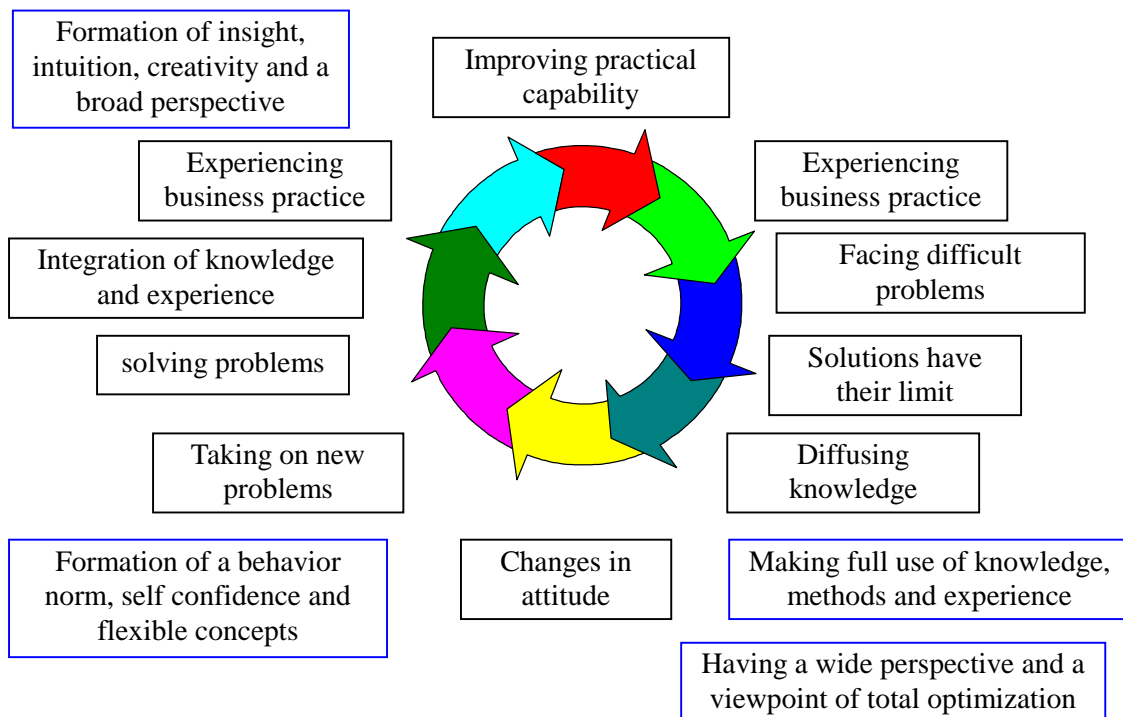


Diagram 5 Circulation process of the improvement of practical capability

6.3 Continued efforts to improve practical capability

To improve practical capability, it is necessary to continue to have deliberate opportunities and efforts to combine knowledge and experience. The P2M guide systematically organizes a norm, principles, knowledge and practice deemed necessary by the world of professionals. The Qualification Certification System classifies the achievement standards of practical capability into three levels and offers opportunities for creating a deliberative career track. Since the certification system ensures social verification for those who acquire the qualifications, they must continue to meet the following requirements even after qualifying.

- (1) P2M professionals must display practical capability that produces value.
- (2) P2M professionals must explain their behavior and results.
- (3) P2M professionals must continue learning activities and practice to maintain their practical capability.

Chapter 7 Those eligible for qualification certification

The Qualification Certification System of the Center (hereinafter referred to as the certification system) offers the following three grades of P2M professional qualifications (hereinafter collectively referred to as the professional qualifications) to applicants.

- (1) Project Management Specialist (PMS)
- (2) Project Manager Registered (PMR)
- (3) Program Management Architect (PMA)

7.1 Project Management Specialist (PMS)

Desired type of human resources

Applicants eligible for certification as Project Management Specialists (hereinafter referred to as PMS) are those that have acquired the minimum knowledge that allows them to understand business practice and can sufficiently communicate with members, using appropriate terminology and can contribute to project teams.

Examination method

A knowledge-based written examination is set to judge the level of achieved practical capability in connection with knowledge elements and to grant the qualification to successful applicants. The coverage of the examination conforms to the P2M guide. Applicants are required to acquire systematic knowledge of project management and program management.

Application requirements

Applicants' educational background or business experience is disregarded.

Privileges for those who acquire the qualification

Those who acquire the qualification are registered as PMS and become P2M club members. The qualification status is renewed every five years and the members should try to obtain CPU (Continuing Professional Development Unit) points. As long as their qualification is maintained, those who acquire the qualification of PMS can satisfy the application requirement of the next level, "Project Manger Registered" in connection with knowledge elements.

7.2 Project Manager Registered (PMR)

Desired type of human resources

Applicants eligible for certification as Project Manager Registered (hereinafter referred to as Project Manager or PMR) are those that can lead projects as key persons. They should be able to control progress and propose solutions to problems such as obstacles and conflicts. They should also be able to motivate other members and complete projects while persistently maintaining human relationships.

Qualification certification

A knowledge-based written examination is set to judge the level of achieved practical capability in connection with knowledge elements and grant the qualification to successful applicants. The coverage of the examination conforms to the P2M guide. See Chapter 9, Section 4 for details of the knowledge-based examinations.

Application requirements

- (1) Possession of the qualification of PMS**
- (2) Having three years or more of business experience in participating in projects**
- (3) Having business experience in two types of projects conducted in a team of 50 or more members, three types of projects conducted in a team of 30 or more members, or five types of projects conducted in a team of 10 or more members, or similar business experience**

The abovementioned requirements have to be satisfied.

Privileges for those who acquire the qualification

Those who acquire the qualification are registered as PMR. The qualification status is renewed every five years and those who acquire the qualification should try to obtain CPU (Continuing Professional Development Unit) points. As long as their qualification is maintained, those who acquire the qualification can satisfy the application requirement of the next level, “Program Management Architect”, in connection with knowledge elements. The holders of the qualification are registered as candidates for the members of a committee for the preparation of PMS examination questions of the Center.

7.3 Program Management Architect (PMA)

Desired type of human resources

Applicants eligible for certification as Program Management Architects (hereinafter referred to as PM architect or PMA) are those that have accumulated experience as key persons, such as an owner-manager, program manager or consulting manager, in large-scale projects categorized as programs, projects whose development risk is high, projects that build up complex and multiple systems and projects conducted among several large-scale organizations. They should be able to be directly involved in the creation, execution and management of programs and propose solutions to problems such as obstacles and conflicts. They should also be able to construct relationships in different fields and among organizations with creativity and display leadership in the realization of programs.

Qualification certification

A knowledge-based written examination is set to judge the level of achieved practical capability in connection with knowledge elements and grant the qualification to successful applicants. The coverage of the examination conforms to the P2M guide. See Chapter 9, Section 4 for details of the knowledge-based examinations.

Application requirements

- (1) Possession of the qualification of the PMR**
- (2) Having ten years or more of business experience in participating in projects**
- (3) Having business experience in five types of projects conducted in a team of 300 or more members, ten types of projects conducted in a team of 100 or more members, or fifteen types of projects conducted in a team of 50 or more members, or similar business experience**

The abovementioned requirements have to be satisfied.

Privileges for those who acquire the qualification

The Center registers those who acquire the qualification as PMA. The qualification status is renewed every five years and the holders of the qualification should try to obtain CPU (Continuing Professional Development Unit) points for maintaining and improving practical capability. The holders of the qualification are registered as candidates for the instructors and examiners for PMR of the Center.

Chapter 8 Method of judgment and qualification certification

8.1 Method of judgment and qualification certification

In conducting examinations and granting the qualifications, the Center conforms to the basic principles and operations principles (See Chapter 4) and maintains fairness, justice, neutrality and sustainability. Further, the Center makes maximum efforts and finds appropriate ways to make accurate and objective judgments and certification specialized in knowledge and business practice. The screening and certification method (hereinafter referred to as “the method of certification”) refers to the overall structure and details of the process of examining the level of achieved practical capability of applicants wishing to become P2M professionals with submitted documents, examinations, screening, judgment and approval to the granting of the qualifications. “Judgment” means the conclusion of an intermediate stage of screening and “approval” means the conclusion of the final stage screening and signifies that conditions for granting the qualifications are met. As to the details of the method of qualification certification, explanations are given in accordance with the four items shown in Diagram 6.

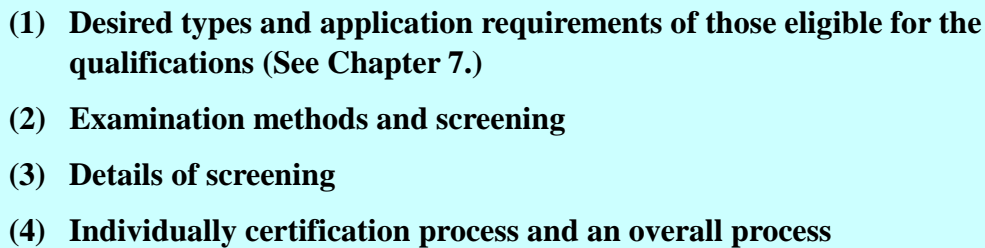
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- (1) Desired types and application requirements of those eligible for the qualifications (See Chapter 7.)**
 - (2) Examination methods and screening**
 - (3) Details of screening**
 - (4) Individually certification process and an overall process**

Diagram 6 Details of the screening and certification method

8.2 Examination methods

The examination methods fall into two main categories; a knowledge-based examination and a capability-based examination.

(1) Knowledge-based examination

A knowledge-based examination is adopted as a method of screening PMS.

A knowledge-based examination judges the level of acquired knowledge of applicants in writing in a scope that conforms to the P2M guide, which makes up practical capability. The knowledge-based examination attaches importance to objectivity, accuracy, specialized knowledge in addition to the basic principles. The knowledge-based examination is based on an objective indicator, either a percentage of correct answers or scores, depending on how the questions are to be answered.

(2) Capability-based examination

A capability-based examination judges the level of achieved comprehensive capability covering knowledge, capability, attitude, and ethics, in general, in practical capability. The capability-based examination attaches importance to objectivity, accuracy and specialized business practice in addition to the basic principles and judges the level of applicants, using a capability verification model developed by the Center (See the following section).

A capability-based examination is adopted as a method of screening PMR.

A capability-based examination is adopted as a method of screening PMA.

8.3 Capability-based examination model

Capability-based examination model

The Center developed a capability verification model (hereinafter referred to as CVM), which is shown in Diagram 7, by combining the four requirements that were proposed in the evaluation of practical capability to maintain the principles of examinations. Such requirements are multiple stage screening, examinations composed of multiple kinds of screening, examinations conducted by several examiners and a course screening. This CVM is used for granting the qualifications of project managers registered (PMR) and project management architects (PMS), both of which need the certification by capability-based exams that enable examinees to demonstrate their capability at their places of work after passing the capability-based exams given by the Center.

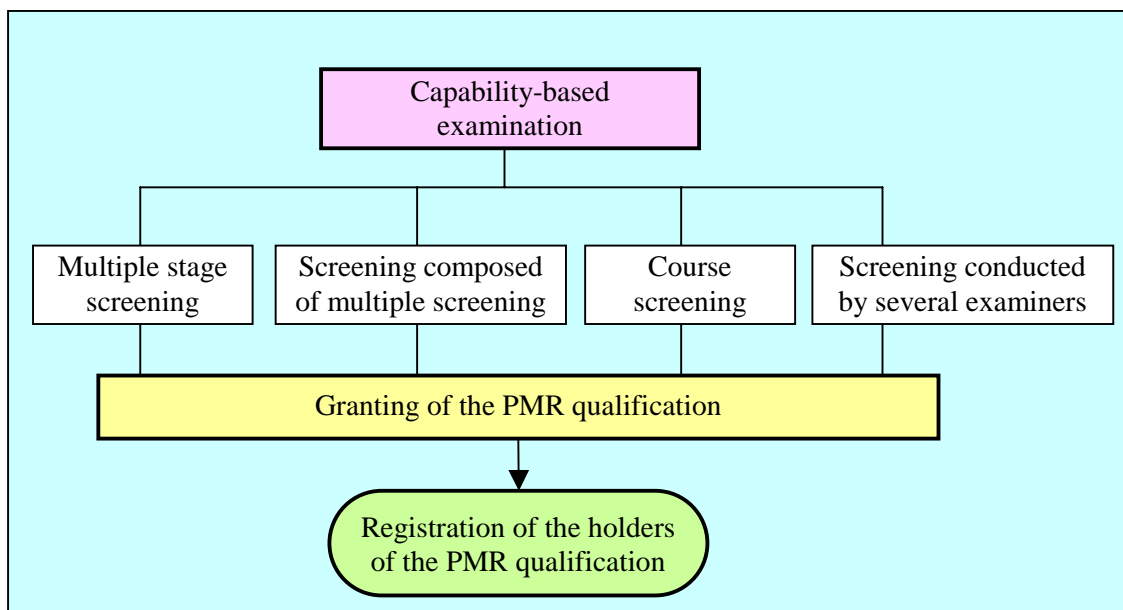


Diagram 7 Capability-based examination model

Chapter 9 Project Manager Registered (PMR)

9.1 Screening by a two stage examination

The Center adopted a two stage screening process composed of a first stage comprehensive examination and a second stage course examination, through which applicants acquire the official qualification of PMR.

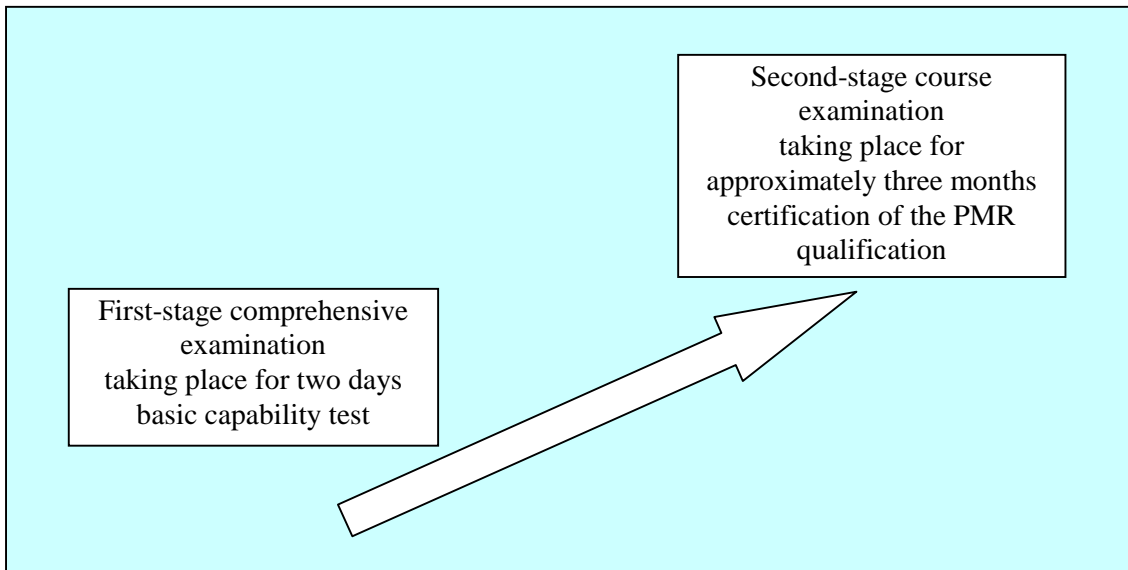


Diagram 8 Two stage examination for PMR

9.2 Details of the first stage comprehensive examination

The first stage comprehensive examination (hereinafter referred to as “the comprehensive examination”) is made up of three different kinds of tests, namely, document screening, an individual interview and an essay examination. It is conducted by several examiners.

1. Details of the comprehensive examination

The details of the comprehensive examination are as follows.

- (1) Applicants' record of performance of project management and screening by applicants' dissertations**
- (2) Essay examination (about 180 minutes)**
- (3) Individual interview on applicants' record of performance of project management, dissertations and essay examination (about 30 minutes)**

2. Execution of the comprehensive examination

The comprehensive examination is set in the following manner.

- (1) Applicants submit application documents in accordance with the application information of the Center.**
- (2) The comprehensive exam is given within three weeks after the application deadline.**
- (3) The comprehensive examination takes place for two days.**
- (4) An essay examination is set on the first day.**
- (5) On the second day, an interview is conducted and applicants are requested to present their record of performance of project management, dissertations and essay examination.**
- (6) Those who pass the comprehensive examination can take a second-stage course examination.**
- (7) The fee for the comprehensive examination is 60 thousand yen and applicants are required to make a lump sum payment. This fee is non-refundable even if applicants do not take the examination.**

9.3 Details of the second-stage course test

1. Course test

■ What is a course test?

A “course test” focuses on cases in a curriculum. The curriculum is a table showing a detailed screening plan of subject-based courses for the purpose of performing screening and enhancing capability. The curriculum is shown to those who pass the first-stage examination and is not made open to public. In principle, curriculums are reorganized every time course tests are carried out.

2. Details

■ Curriculum

- (1) The curriculum is composed of case materials common to project management for the purpose of judging practical capability.
- (2) Practical capability is judged in terms of cases classified by industry groups, circumstances and degree of difficulty and utilization ability.

■ Example of the curriculum

Schedule	Case	Project area
From the first to fifth week	<ul style="list-style-type: none"> • Project for constructing an information system • Solution type project • Project of a social information system • Production project that needs international cooperation • Project of constructing a large plant • Public service for international cooperation 	<ul style="list-style-type: none"> *Information *Management *Business development *Engineering
	Intermediate screening (interview)	*Manufacturing
From the sixth to tenth week	<ul style="list-style-type: none"> • Product development project • Management reforms of small and medium-sized enterprises • Supply chain project • PFI project • Service project • Project of community development 	<ul style="list-style-type: none"> *Construction *Finance *Administration *Service
	Final screening (interview)	

Diagram 9 Example of the curriculum

■ Execution of a course test

(1) Screening period and course selection

The course test is given either on Tuesdays or Wednesdays (the designated number of applicants is from 15 to 25) and one module (150 minutes) of exam is carried out during the period from 18:30 to 21:00.

(2) Number of curriculum modules

Ten modules are scheduled to be carried out in three months and the qualification is not granted unless applicants take X modules or more. (Under special circumstances admitted by the Center, applicants can transfer the number of modules they took to the next exam course by paying an additional 20% of the regular fee).

(3) Intermediate special screening and term-end special screening

They are conducted on the third Sunday of the second month and the final Sunday of the third month, respectively.

(4) Cost

A lump sum payment of 400 thousand yen must be made in advance, which is non-refundable from the tenth day after the application is made.

3. Choice of a case for a domain appraisal test

■ Domain appraisal test

A domain appraisal test classifies practical capability on the basis of two criteria, situation needs and capability seeds. This test is mainly used for the examiners and examinees of the course exam to define the case workshop of a course test. The domain appraisal test uses a situation capability domain model (hereinafter referred to as “SCD”) developed by the Center.

■ Industry-related case

In a course test, applicants are given case exams of project management classified by industry groups in a well-balanced manner within a prescribed time. Such case exams include an information-related case, case on medium and small-sized businesses and a venture businesses-related case, an engineering-related case, an international plant-related case, a construction-related case, a regional case, an administration case, a financial case and other cases and the curriculum is periodically changed.

This model has the following usefulness in practical capability screening.

- (1) The model classifies relations between phenomena frequently occurring in project and management capability.
- (2) The model makes it possible to classify nine kinds of case exams necessary for the course test and prepare for it.
- (3) Coverage of complex problems is confirmed by several cells.

Situation needs Capability seeds	Situation of progress achievement: A	Situation of request changes: B	Situation of problem solutions: C
Basic orientation standards: L ₁	Coverage of the exam of an information system-related case, X coverage of the exam of the case, X		
		Coverage of the exam of a medium and small businesses-related case, Y	
Tactics-oriented standards: L ₂		Coverage of the exam of an information system-related case, X'	
Strategy-oriented standards: L ₃		Coverage of the exam of a social transportation system-related case, Z	

Diagram 10 Situation and capability domain

■ Explanations on the domain model

Project managers respond to situation needs (Sn) that they face in projects with their practical capability called capability seeds (Cs). Situation needs, Sn, are one of the central points that rely on project managers' capability for recognizing the situation and fall into three main categories of difficulty, namely, the situation in progress achievement (A), situation in request changes (B) and situation in problem solutions (C).

The other central point, capability seeds, are classified according to the levels of situation responding ability that is represented by practical capability. The capability seeds fall into three main categories, namely, basic-oriented level focusing on progress achievement skills (L_1), tactics-oriented level that mixes influence prediction and response arising from request changes (L_2) and strategy-oriented level that tries to solve problems for the accomplishment of missions (L_3). The method of classification of the situation needs and capability seeds shown in Diagram 11 is referred to as a situation capability domain model (SCD).

L_1 denotes mission-achieving capability and needs capability and skills concerning progress management such as planning, giving directions, motivation, and control. L_2 denotes capability for responding to uncertainty and centers on capability and skills concerning risk management. The field of L_3 overlaps with that of mission achieving capability. It needs strategy management, such as recognition of problems, analysis of problems, proposal of solutions, the priority order, and optimum proposals.

4. Screening of compound capability in practical capability

Screening method

Compound capability in practical capability is judged during a course period by a mixture of tests. The screening uses a compound capability pattern model (CCP) (See the next section) developed by the Center. The Center gives consideration to the period and method of screening according to need and optimizes the plan in accordance with the principles of the examination. This judgment does not include all of the screening methods, and its representative methods are shown below.

- (1) Homework assignment given at a case study workshop**
- (2) Mid-term individual interview**
- (3) Term-end individual interview**
- (4) Term-end screening by dissertations**
- (5) Questions and answers at the time of presentation of a dissertation**

Compound capability pattern model (CCP)

As an accurate judgment of practical capability, there is a verified method of detecting behavior characteristics. In the method, specialists accompany a subject at work for a long period of time and observe the subject's behavior and confirm relevance between their behavior and high record of performance. However, the number of applicants is large and all of them wish to have screening within a proper framework of time and cost. Accordingly, the Center developed a compound capability pattern model (CCP) as a demonstrative method of screening and applies the method to the judgment of practical capability. This method narrows down behavior patterns related to high achievements, which a number of specialists pointed out in a wide range of project management through their work and experience in connection with the P2M standard guide, to 100 elements and further reduced to 10 groups of compound capability patterns (hereinafter referred to as CCP).

The CCP, in which knowledge, capability and an attitude are integrated, is classified into an overall thinking pattern, a strategic thinking pattern, an integrated thinking pattern, a leadership pattern, a deliberative behavior pattern, an actual behavior pattern, an adjusting behavior pattern, a human relationship pattern, a result pursuit pattern and lifestyle, as shown in Diagram 11. The patterns can periodically be

changed and made public due to an increase in the database. These capability patterns can further be fractionalized as capability elements and put in order as a classification chart of judging elements. This system makes it possible to make assessment in five grades by the capacity elements and provide judgment with the benefit of giving a quantitative indicator.

	Compound capability pattern	Criteria
I	Overall thinking pattern	Mission pursuit (Mp) able to discover problems, take on problems and develop a process to realize solutions
II	Strategic thinking pattern	Strategic key perception (Sk) able to find strategic elements, prioritize orders and adopt measures against obstacles
III	Integrated thinking pattern	Value pursuit (Vp) able to learn changes, maintain value and apply options
IV	Leadership pattern	Leadership for innovation (Li) able to take on reforms, make a decision and change the present situation
V	Deliberative behavior pattern	Management in planning (Mp) able to make plans for goals and resources, form organization and frame rules
VI	Actual behavior pattern	Management in execution (Me) able to understand contracts, take systems into consideration and give directions
VII	Adjusting behavior pattern	Management in coordination (Mc) able to forecast progress, learn obstacles to progress and solve problems
VIII	Human relationship pattern	Human communication (Hc) able to maintain teams, to motivate their members and provide opportunities
IX	Result pursuit pattern	Attitude to achievement (Aa) mind and energy seeking results, ability to feel empathy, a sense of responsibility and ability to persuade exterior organizations, ability to think of value and feedback results
X	Lifestyle	Attitude of self control self-disciplined, to be able to observe ethics, take responsibility and to have a constructive attitude

Diagram 11 Compound capability pattern model

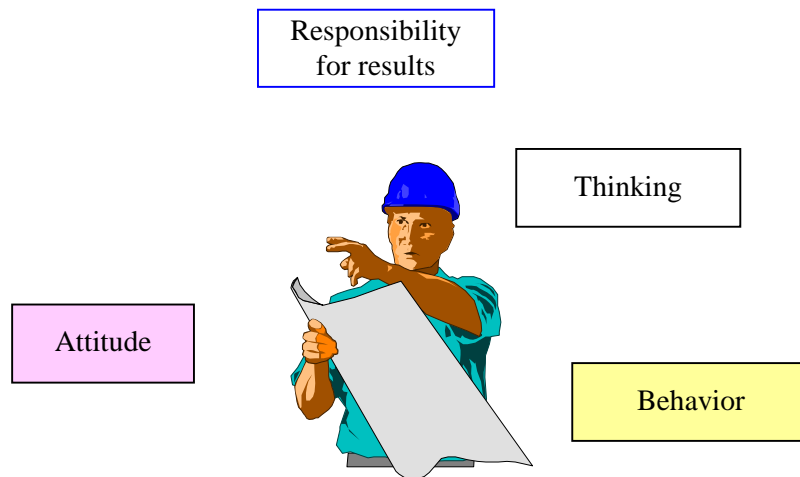


Diagram 12 Compound capability pattern model of PMR

This pattern model has the following advantages in screening.

- (1) Examiners can hold the coverage and details of the compound capability patterns making up practical capability in common.
- (2) Examiners can recognize components fractionized further by the compound capability pattern model.
- (3) Examiners can bring out applicants' compound capability by asking questions and confirm and evaluate it.
- (4) Examiners can confirm an unbalanced distribution of components in applicants' compound capability.
- (5) Examiners can ensure quantitative evaluation standardized by a unified indicator.
- (6) Examiners can establish a common judging ability in advance.

5. Marking one's own test

Out of the compound capability patterns, applicants can submit the result pursuit pattern and the lifestyle, which are closely related to individual talent and attitude, after marking their own answers. Whereas examiners attach importance to applicants' own marks, they can modify the marks by asking applicants questions. These two patterns cover twenty items and are given quantitative marks in accordance with the following criteria.

Method of evaluation

Evaluate item by item in five grades. If you answer the questions and explain your answers with confidence, you score five points. If you show your answers in actions of project management, though your explanations are not sufficient, you score four points. If you are unable to answer the question satisfactorily, you score three points.

- 5 points: Excellent**
- 4 points: Good**
- 3 points: Need to improve capability**
- 2 points: Lack of experience**
- 1 point: Unprepared**

■ Result pursuit pattern (10 items)

In this result pursuit pattern, an individual mind and energy that desperately seek the results necessary for project management, such as those of entrepreneurs, will lead teams. Also, applicants need to make their own evaluation of their capacity for empathy, sense of responsibility and persuasiveness if they wish to become project managers through their duties.

Criteria	Questions	Evaluation points
Mind pursuing results	What talent is required of entrepreneurs?	
	Please explain your experience in which your talent was displayed.	
Energy pursuing results	What type of leader are you?	
	Where does psychological energy come from?	
Capacity for empathy	What is required to produce empathy in a team?	
	What would you do if you cannot achieve empathy?	
Responsibility for results	What is responsibility for results?	
	What talent is needed for fulfilling a leader's responsibility?	
Persuasiveness	Please explain persuasion power inside a team.	
	Please explain your experience as to the persuasiveness to exterior organizations.	
Total		

Diagram 13 Result pursuing pattern

■ Lifestyle (10 items)

Project managers use the observance of a professional norm and trust as a professional basis. Their basis lies in their individual daily lifestyle and they need to devote themselves to the improvement of themselves in connection with self-discipline, professional ethics, socially accepted ideas, responsible behavior and an independently positive attitude.

Criteria	Questions	Evaluation points
Faithful to one's beliefs	What is your faith in life or profession?	
	Show an example of action taken without yielding to opposing forces.	
Professional norm	What is the most important discipline in this profession?	
	What do you do in your daily life to meet the norm?	
Leadership ability	Please describe your leadership ability by giving an example of your actions.	
	Please make self-assessment of your leadership ability.	
Self-restraint	Please describe your method of self-restraint by giving instances.	
	Please describe good ways and means of controlling your feelings.	
Voluntary and positive attitude	Please describe how your positive attitude helped you overcome difficulties at work.	
	Please describe the improvement of your attitude in your daily life, which helped you overcome difficulties.	
Total		

Diagram 14 Lifestyle patterns

Attached table - Disclosure of the classification chart

Disclosure of the classification chart

	Compound capability pattern	Criteria
I	Overall thinking pattern	Mission pursuit (MP) able to discover problems, conquer problems and develop a process to realize solutions
II	Strategic thinking pattern	Strategic key perception (Sk) able to find strategic elements, prioritize orders and adopt measures against obstacles
III	Value thinking pattern	Value pursuit (Vp) able to learn changes, maintain value and apply options
IV	Leadership pattern	Leadership for innovation (Li) able to taken on reforms, make decisions and change the present situation
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X	Lifestyle	Attitude of self control (Ac) self-disciplined, to be able to observe ethics, take responsibility and have a constructive attitude

Application form

Form 1 Application for the PMR examination

Form of application for taking PMR examination in 2004

		Column showing the acceptance of PMAJ	Column showing the re-acceptance of PMAJ
Examinee's number <small>(Leave this column blank.)</small>	Classification of examinee <small>(Leave this column blank.)</small>	Sex (Circle a letter.) Male / Female	
*	*	<div style="border: 1px dashed black; padding: 10px; width: fit-content; margin: 0 auto;"> Attach a passport-type photograph. </div>	
PMS qualification number	Date of certification	Date (AD)	
Indicate the reading of Chinese characters by writing kana beside them.		Date of birth (AD)	
Name		Date	
Indicate the reading of Chinese characters by writing kana beside them.		Telephone number	
Current address			
Indicate the reading of Chinese characters by writing kana beside them.			
Place of employment (school)	What is your department, division and section (or your major and year).		
Indicate the reading of Chinese characters by writing kana beside them.		Telephone/ Cell phone number	FAX
Address of your place of employment (address of your school)			
E-mail	Place of employment		
	Home		
Final educational record/major			
Current duty you are specializing in			
Past business background	What are your three main duties?		
(1)			
(2)			
(3)			
History of your project management activities		Year	
Project-related business activities Outline three of your main activities in an attached project-related business activity report.			
*Project field: See page 23.			

Important matters in filling in this form.

1. The applicant must fill in this form.
2. Please leave columns with an asterisk mark blank. Please fill in every column marked by a thick line.
3. If you are not a Japanese citizen, please fill in your name the way it appears on your alien registration card. (If you are a non-Japanese citizen and desire to use your ordinary name for your mail address, write your ordinary name in parentheses in the column above.)

Form 3 Outline of your dissertation(s)

- (1) Submit your dissertation(s) after giving an account of one or more project(s) set forth in the business history regarding project management.

- (2) Items to be included in your dissertation(s)
The following items should be included in your dissertation(s).
 - i) Purpose
 - ii) Mission
 - iii) Role played by you in the project
 - iv) Plan and achievement
 - v) Strategic positioning of the project
 - vi) Obstacles and methods for solving problems in the pursuit of the project
 - vii) Important matters in operating an organization
 - viii) Difficulty in communication
 - ix) Display of leadership
 - x) What results were produced from the standpoint of value creation set forth in bio-data?
 - xi) Other

- (3) To be prepared in 10 sheets of A4 size paper

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Published by : Project Management Association of Japan (PMAJ)

URL : <http://www.pmaj.or.jp>

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