

Preface

In the 1990s, Japanese companies experienced a deflationary depression called the “lost ten years”. To survive the depression, they looked for solutions in the *kaikaku* (reforms) of business management, organizations and technology, while struggling to regain their global competitiveness. We have observed that the companies that utilized the intellectual property of the entire organization were more successful in their reforms than those who focused only on their technological abilities. Specifically, such successful companies made efforts in the planning and execution of strategic businesses that would change the framework of value creation for the next generation. These companies had something in common: they applied a new project management paradigm. We call it Kaikaku Project Management (KPM).

Kaikaku is the comprehensive term used for a breakthrough program or project which may encompass a framework of the ingredients expressed in the three Japanese concepts of *Kakusin* (innovation), *Kaihatsu* (development) and *Kaizen* (improvement). In fact, these are significant elements for successful performance. The unique context is disclosed in terms of organizational view and platform for knowledge interaction.

Generally, project management has been recognized as a special management technique for engineers who build large, complex technical systems, including man-made creations such as weapons, factories, buildings and information systems. The main features of this project management paradigm are that it is designed to “build closed systems” and that the objectives, basic specifications, and injected resources are the “given conditions”. The project manager’s job is to hire multiple specialized engineers to integrate different technologies into a single system, while focusing on management by objectives (QCDS: Quality, Cost, Delivery and Scope). Thus, the closed system serves as the basic paradigm for thinking.

Meanwhile, the Japanese-style project management introduces the concept of *kaikaku* (reform). It is a concept based on comprehensive,

strategic “destruction and creation”. In KPM, the essential power of project management is twofold: the creativity supported by different kinds of knowledge brought together to overcome conservativeness, and the team power across the organization. Society, government and companies are looking in the field of project management for systematic human resource development solutions to train people to be *kaikaku* leaders. To compile a body of knowledge that satisfies such needs, we need to make a paradigm shift from the “closed technical system” to an “open value system”. Let us look at an example. Behind a plan to build a factory or an information system, there are strategic intentions and a strong determination to create new businesses or products and achieve organizational growth, while being aware of external changes in the ecosystem, market, clientele, competition, etc.

The traditional role of project management has focused only on the technical aspect, that is, “how we should build” a factory or information system. However, this perspective is only a part of the whole picture. In KPM, we need to consider the overall goal for strategic businesses from a top executive’s viewpoint, asking ourselves questions such as, “Why are we building it?” or “When should we recoup the investment?” KPM offers a body of knowledge based on the following concept: taking account of the lifecycle of a project from investment to its recuperation (i.e., planning, systemization and management of the project), the project organization injects the intellectual resources accumulated in the organization into the project to create value for the future.

1 Features of KPM

Some point out that the ideal leaders that KPM is seeking are top executives. Global competition has reduced the lifecycle of an organization to 5–10 years. This makes it difficult for companies to survive without *kaikaku* projects. The question is, can top executives really curtail many reform efforts according to their lifecycles? We have observed that many reform projects have “run out of gas” or “disappeared” in major companies. Accordingly, among rapidly growing companies, there are quite a few bankruptcies because of shortage of reform leaders. Meanwhile, KPM aims at training next-generation leaders who can link company-wide reforms to numerous projects, include such projects in business scenarios, and carry them out.

This book includes the theory and practice of KPM to help your understanding. The following are KPM's main features:

- *KPM is a project management practice which utilizes the perceptive ability that humans are born with.*

What is the starting point of a reform project? It is the strong desire to become better in the future. We humans are born with the perceptive ability that helps us draw a picture of the future from a comprehensive viewpoint and with a broad perspective. This is an ability that helps us create missions so that we can solve problems as a whole. Creative imagination and wisdom based on experience are integrated into this quality of creating missions, which serves as the key element of the project's success.

- *KPM promotes the creation of future value by utilizing a number of reform projects linked to strategy.*

Missions for a company's reform can be created not only by the top executives, but also by the entire organization. However, missions tend to be buried within the organization. KPM is designed to create a corporate culture that respects "missions", discover outstanding visions for reform from the entire organization, link such outstanding visions to the company-wide strategy, and use them in the creation of future value that promotes reform projects using project management.

- *KPM provides a body of knowledge to the training of core leaders whose responsibility is to recoup the investment.*

Core leaders' goal is to achieve the missions. They are also responsible for the management of the entire lifecycle (development, planning and result) of each mission that they are assigned by its creator or owner. The core leaders have the key responsibility for the reform. They play a role in promoting the reform by making the best use of "intellectual resources" that have been accumulated in the organization for the next generation. KPM promotes human resource development by providing a body of knowledge and methodology.

- *KPM proposes a methodology for avoiding risks of failure and resistance in the organization.*

A reform project tends to generate internal resistance because of conflict of interest, uncertainty, or a result of employee learning, etc., having the risk of failure. This can be solved in two different ways. The first is to introduce a HR system tailored to the project that is

designed to reflect the employees' reform proposals and efforts in their performance reviews. The second is to introduce company-wide human resource development. It is essential to train next-generation core leaders by providing our employees not only with usual organizational experience, but also with multiple career paths that allow us to reassign the employees based on their project experiences.

- *KPM provides a methodology for undertaking the solution of complex issues.*

In order to solve company-wide issues, it is essential to take an epistemological approach and promote the knowledge of project management. This book describes leading-edge interdisciplinary approaches, theories based on complex system science, and case studies. Agent-Based Simulation (ABS) is useful in explaining the structure, function and behavior of complex phenomena in project modeling based on hypothesizing and testing practices.

2 Structure of This Volume

2.1 *The orthodox, contemporary, and new categories of project management*

This volume consists of six parts for the purpose of introducing the holistic outlook and the most recent papers in applications of project management. A certain guide is implied to readers in terms of what the orthodox, the contemporary, and the new contexts of project management are. The orthodox context is engineering-oriented under closed system thinking. The knowledge is mainly for contractors engaged in the artificial systems. The contemporary context is the value-driven project management in open system paradigm. P2M often appeared in papers as the first Japanese standard developed in 2001 for project and program management belonging to the contemporary type. The knowledge is contrived for either the owner or the contractor for dual usages. Nevertheless, despite its uniqueness, new issues of slowdown and resistance to *Kaikaku* (reform) have emerged.

2.2 *KPM — the new Japanese Project Management*

To overcome the issue, the new context symbolized by KPM (Kaikaku Project Management) has been launched, and its thinking and methodology are being applied. Most papers are written in either the contemporary

or the new context or both, because they belong more or less to *Kaikaku*-type project management, which is further segmented to include areas of *Kakusin* (innovation), *Kaihatsu* (development), and *Kaizen* (improvement) solutions. KPM depicts the new knowledge framework improved from P2M by further clarifying the interface and linkage to strategy, role and competency model for mindset change, and knowledge platform in terms of the organizational view. All the papers in this volume cover, relate to, or paraphrase KPM partially or totally. The volume consists of six parts, titled as follows:

Part 1: Framework of Contemporary Japanese Project Management

The history and extensive applications of project management in Japan are overviewed. The paradigm shift from technical to value creation is explained as the birth of KPM version rooted in the first standard of P2M in Japan. In P2M/KPM, a mission-driven approach is adopted, which differs from the orthodox goal-driven approach. A “mission” is defined here as the expectation of realizing a future vision proposed by the owner’s initiative for *kaikaku* which is linked to a strategy. In P2M/KPM, the methodology is exhibited in 3S reference project models of scheme, system and service for expanded lifecycle program management. However, conservatism and bureaucracy resulted in frequent slowdowns. The mismatching of human resource allocation had discouraged team motivation in the experiences. In KPM, the new organizational consideration is introduced in 3K thinking of *Kakusin* (innovation), *Kaihatsu* (development), and *Kaizen* (improvement) as aforementioned. KPM thinking and methodology have proved effective and successful so far in improving company-wide learning opportunities, enhancing participation, and motivating consensus and awareness of core leaders.

Part 2: KPM in the Information and Communications Industry

Japan’s information industry is a growing industry with a market size of ¥40 trillion combining hardware and software products. In the IT industry, project management has been used for quite a while as a methodology for building technical systems. Nevertheless, it is facing two critical issues. The first issue is the low productivity in the simultaneous management of numerous small to mid-size projects. The second issue refers to development risks and inter-customer relationships. The former is about decision-making on internal authority and its role in a matrix organization. The latter is about mutual understanding of project context between

organizations. Concerning these two issues, KPM suggests from a project governance perspective a framework for information sharing, integration by program managers, project business models, platform design, etc., and explains its own framework.

Part 3: Project Management for Business Reforms Linked to Strategy

Business executives are seeking solutions for resource allocation and overall evaluation in reform projects. There are two issues involved here. One is the resource allocation of project value and the overall evaluation during the planning of reform strategies. The other is the evaluation of the performance of the strategy and its results. KPM proposes “project management that can recoup the investment” as its methodology and suggests an evaluation method using project balance scorecards and a control method using the Key Performance Indicator (KPI). Such control not only serves as a financial indicator, but also aims to establish a management approach that makes the reform successful because of multiple factors including the project owner, high learning ability across the organization, and business growth.

Part 4: Project Management for Knowledge-Based Development Strategy

For many years, project management for development has been used to manage technology development in research institutions, but it has not evolved into an independent PM paradigm. In strategic management of intellectual property and development projects in industry-government-academia collaboration, people are trying to overcome such management trend. While we live in a matured knowledge-based information society, new project management ideas and methodologies are increasingly receiving attention. KPM aims to be a comprehensive management solution while promoting the paradigm shift from the technical system to a “value system” and considering development, execution and implementation as a total lifecycle. Thus, the new KPM is used for the long-term, strategic development of technologies in the public sector, the development of new drugs, and the development of environment-friendly products.

Part 5: Application of KPM for New Value-Creating Activity

To solve a complex social problem, we need to take an interdisciplinary scientific approach because an individual science cannot solve such a problem. In KPM thinking, project management is categorized in the new disciplines as a holistic creative solution. The view is insightful by constructivist

thinking rather than analytical by positivist thinking. Perception has to interact with logic for realizing innovation into reality. The constructivist interpretation is guided by the mission-driven approach and *ba* collaboration platform. To link practice and science, KPM recommends and applies the simulation, agent-based modeling and methodology for hypothesizing, visualizing, and testing practices for logical supports. Here, research on the public project of superhighway and the customized product development of networked team are presented in KPM paradigm. The former research advances the methodology for complex project missions by demonstrating simulation of feasible or optimal toll rate calculation. The latter research deals with a networked project team working on frame boxes for personal computers. The project members in distant locations were obliged to exchange opinions frequently on profiling configuration and specification from design to manufacture stage of the lifecycle. The development process has been traced for project-based learning and modeling. Readers may be interested in media tools of CAD and groupware, and further attracted by progressive description of facts in digital and face-to-face communications.

Part 6: Project Management Infrastructures for Evolving the Standard

The most important elements of the infrastructure for advancing project management are threefold: standardization system, international use and organization-wide education. By strengthening these elements, the cycle of research, implementation and standardization will be ensured. As a result, the infrastructure and the promotion of knowledge become inseparable. Especially in colleges and universities, which have a dual role of research and education, KPM has recently been taught in their programs designed to train future reform leaders. Because of the advancement of global supply chains, more Japanese companies are becoming multinational. To do business in countries whose cultures, customs and languages are different from each other, it is essential to promote KPM so that we can make a complex context of business models adjusted to these countries to speed up business operations.

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