B-21 P2M Paradigm towards Program Management Development

·Mission Driven Approach Framework·

Shigenobu Ohara

Summary
P2M is the first version for Project and Program Management in Japan. Its major paradigm is based on the epistemological approach in opening wider participation to complex issues in the contemporary world. A specific finding of P2M is characterized by "mission driven management of projects" or a program which harnesses problem solving and value creations observed in the interface between technical system and business model. Heuristics, cognitive psychology, gaming simulation, value assessment, and systemic vision are new arenas for deepening P2M framework. P2M is a pioneer to get in touch with the prospective issue by way of unique program management. This paper focuses on its basic thought, and its significant expansion.

1. Basic thoughts for framework
1.1. Project management framework
The conventional project management focuses the delivery of engineering systems complying with requirements of time, cost, and quality. This knowledge framework had been built for the guidelines of project contracts to system suppliers or contractors of military weapons, public works, and plant engineering. This view reflects the targeted profile in contracting well structured system. Project management is initiated from the entry after definite requirements are developed, defined, and given from the clients to contractors in form of specified documents. Apparently, the framework is separated from business strategy and planning by a client. Therefore, the primary role of project manager is limited to the job for engineering and building of the technical system. In brief, basic thought of the current framework lies in the following:

a, Project management framework had been built specifically to contractor's job guide,
b, Client's job for the project is basically deleted from the framework
c, It is limited for the well structured technical systems.

NII-Electronic Library Service
Graduate School of Management of Technology Professor of Nippon Institute of Technology

1-2, limitations for its usage

After late eighties, project management framework had been applied to the arena of IT networks, and software as well. Its rapid and broad application is primarily due to its similarity acceptable to managing technical system. In fact, its framework had successfully contributed to world wide thanks to its standard. Nevertheless, it is also true that its application had limitations if it had any relations or interactions with client business process. Typical advices for this limitation are summarized as follows:

a. If project has an interface with business model of a client, ambiguity of the boundary shall be clarified.
b. If project involves with business model of a client, business consulting shall be needed for development.
c. If project interlinks with business model of client, program management shall be applied.

1-3, Lessons in reality

Despite of popularity to the standard, project failures and troubles are being reported in software development, and IT network industries. Overruns in cost and delivery are causing worse cycle of overwork and overburden to project team. A boom of project manager training is ongoing globally to acquire its knowledge framework to cope with these failures. Measurement is being made by maturity model to check organizational capability for further improvement. In the industry, technology innovation is rapid to produce new software packages or systems for business. System suppliers are competing in explaining clients how they are good for improving business performance. In Japan, project managers are working in front being little aware of limitations. Lately, clients have become more nervous than before in evaluating the package. It is frequent that they requests overall explanation on economic viability and warranty for the technical system. This trendy pressure is changing attitude and mindset to go beyond the limitations of project management framework. Lessons in reality are exhibited in the survey charts which are self explanatory that project definition gives rise to major causes of failure affecting to the subsequent implementation stage. The alarms are suggested in the following:

a. Project failures are attributable not only to its capability, but also to its contractor sided thinking.
b. A role of system integrator and system supplier shall be clearly distinguished by
project manager.
c. A leader for system integrator is an emerging player vitally needed in complex project management field

Figure 1, Project manager inquiry style survey  
Affiliated types of projected jobs

<table>
<thead>
<tr>
<th>Project type</th>
<th>IT systems</th>
<th>Engineering/construction</th>
<th>R&amp;D/consultation etc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharing (132)</td>
<td>49%</td>
<td>25%</td>
<td>26%</td>
</tr>
</tbody>
</table>

Stage wise causes of failures survey

<table>
<thead>
<tr>
<th>Project stage</th>
<th>Project definition</th>
<th>Project implementation</th>
<th>After delivery</th>
<th>project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Causes of failure</td>
<td>59%</td>
<td>32%</td>
<td>8%</td>
<td></td>
</tr>
</tbody>
</table>

Data base of PMCC survey held in 2003

2. Mission driven project management

2-1. Life cycle and mission

System suppliers rush to solution business in Japan. Nevertheless, little efforts are made for mindset change of project managers. It is evident by survey that their eyes shall be opened broader in project span. To eliminate barriers and gaps between a client and a contractor, project managers of the parties have to stand at equal footing in this business, and to see the same landscape in “life cycle and mission” view. First, a project manager of the system supplier thinks of its project life cycle from the contract to its closeout, while a project manager of the client is responsible at all time span of its capital life cycle from its decision to recovery. Second, in the current framework, it is assumed that clear definitions are given in the contract for a limited scope, but in the solution business, mission is given or shared in ambiguity rather than the definite goals with the system specifications. Mission is not uniform and versatile in its property as the solution embraces the linkage of business models and technical systems to form complex project. This is the major reason why the mission driven framework is advocated by P2M. Unless sharing complex project view and methodology, system supplier could neither perform its role nor get chances to grow a system integrator. The term of “mission” is a key word in the field of corporate strategy, where it expresses raison d’être or “value of business”. It is more specifically used for expressing “the client needs” in terms of a strategic business unit. The concept of mission is deemed to be a useful tool to share essential content of value and needs in message for complex project. The essence is in brief written as follows:

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a. System suppliers have to review its role and project life cycle in solution business.
b. Mission is given or shared in ambiguity rather than clear definitions in solution business.
c. In P2M, mission is defined as an origin for projection, and positioned to the first primitive document.

2.2. The Implicit mission and the explicit mission
In P2M, mission is defined as “an origin of value for projection”. Mission is described in a statement of overall request to solution expressed by a client. Despite the simplicity or complexity of expression, mission is important to be read in care, breath and depth. It harnesses a variety of concept, content, and context to transfer the totality to transfer its message in terms of values, vision, objectives, implications, premises, constraints, and requirements to realize aspired level of its value. The mission is classified in several types. The holistic mission has an “implicit” attribute, which captures a “complex world” in a short but essential message. Regardless of the size for projection, it implies the initiative of creative framework built of key components of ideas, but provides a room to look for further clarification. It is worthy to note that the innovative type of projects in business harnesses implicit mission as it requires new thinking and knowledge. On the contrary, most of the specific mission has an “explicit” attribute, which requires less procedure for development to bring to implementation. Speaking of emerging needs for project management, more than 70% of project issues are occupied by the “implicit missions” and 30% by “explicit missions”.

a. The new framework is needed for implicit type of mission project.
b. The current framework is adaptable to explicit type of mission project.
c. Implicit type of mission project is increasing, and the new framework shall be developed.

2.3. Insight capability and its mental space
Mission is an initiative for problem finding, and requests for solution perceived by a client, and/or sponsor, who commits resources for its achievement”. Mission is a creative output by human capability. The figure 2 exhibits “insight” mental space in P2M definition, which could compose of four integrated capabilities of paradigm, forecasting, analytic and logical viewings.

Figure 2, Insight capability definition for mission initiation
In long years, analytic culture has placed its faith in explicit, rational and narrow system view even in project management. It placed value placed on logic, precision and evidence. Facing the complexity and uncertainty, human mind exhibited in the upper part of mental space in figure 2, has been attracting attention to scientists of perception, psychology and management. Comparing to analytic part, it is non linear, apprehensive, relational, synthetic, holistic, creative and even foresighted part of human brain working. The central part of circle exhibits integration of multiple value dimensions. This perception is important to fix core domain of project relating to the affiliated knowledge to be integrated for solution. Project management for the next generation shall be more cross disciplinary in capability building if it advances the way to business and social contribution.

The points are summarized:

a, Analyst culture has placed its faith in explicit, rational and narrow system view even today.
b, Human “insight” capability is more consciously defined, and trained to the new project management
c, Project management for the next generation shall be more cross disciplinary in capability building

2-4, Metamodel representation from divergence to convergence
Mission is considered as a significant “metamodel representation” by several reasons. First, it represents multiple values for aspiration. The central objective of mission initiative is profiling of ideality in the future from reality, which all stakeholders are glad to accept and share. Second, it shall be within a stretch of
efforts, and not beyond or outside of the realization. Though it looks like unique, it has to depict a solid foundation. The pragmatic sense of equilibrium between innovation and adaptation is required for the mission. Third, it shall imply a rough sketch for solution to critical issues for problems in reality.

The figure 3 shows a symbolic picture how an idea crystallizes to mission in "insight mental space". Idea is born all of sudden by idea generator, but it is still primitive. In the lapse of time, it is inspired to be realized. The convergent access is expedited in the first step to relate the idea to "targeted domain" shown in the circle of the figure by 3A factors of altitude, angle and attitude. The 3E motivation factors of enthusiasm, mental energy, and efforts trigger convergence to crystallize its idea from domain to mission. In innovative organizations, tiny ideas are respected in culture, and implemented regardless of employees' position.

a, Mission is a meta-model representation of the future ideality in the complex world.
b, There exists a rationale that innovative organizations respects tiny ideas and crystallizes to mission.
c, Training for Insight capability shall include both divergent and convergent thinking.
3, Mission driven project management

"Mission driven project management" is a new interpretation that managing project starts from mission initiation to its achievement. It is essentially a core conceptualization to a world of complexity and uncertainty. At least, three differentiated views are incorporated to form a new paradigm. First, it provides a full set of knowledge and methodology to solution business. A client and a contractor shall apply and share "mission concept as an origin of projection value" jointly and severally. Second, it is essentially "a value creation activity" for improvement and innovation underpinned by either explicit or implicit mission. Third, it is a challenge to encompass the lifecycle and scope from capital investment to recovery. Essence is easy to understand, but challenging to explore treasures in the fields.

a, Mission driven PM covers a full set of knowledge and methodology to solution business.
b, Mission driven PM explores and includes a value creation activity underpinned by mission.
c, it is a challenge to encompass the lifecycle and scope from capital investment to recovery.

3-2, Program management perspective

"A program" is a group of projects integrated under a single mission. A program is therefore a higher level of concept of a project. In managing a program, holistic optimization of mission value is superceded to a partial value of component projects. Another benefit of program management is proven to generate the synergetic value by prescribing strategic intent. Today competitive strategy and concurrent engineering are interlinked for synergy. In shortening lead time to
market, product, process and market innovation are integrated in a program under single strategy. Building supply chain is also a typical program driven by implicit mission of complexity. Business model, network system and its operation shall be managed under a single strategy as well. Regardless of the sizes, rationality for flexibility to risk aversion exists as well in managing a program rather than phased approach of a single project where “complexity and uncertainty” are dominant in missionary context and rapid external change. First, managing program is beyond capability of a role of ordinary project manager. Occasionally, a project manager is overestimated. Second, phase approach by a single project is limited to be replaced by optional substitute in complying with external changes. Third, broader knowledge and capability is required to manage a program for the hybrids of business model and technical system.

a, In a program, holistic optimization of mission value is superceded to a partial value of projects.
b, Benefit of program management is proven to generate the synergetic value by strategic intent.
c, Regardless of the sizes, rationality for flexibility to risk aversion exists in managing a program.

3-3, P2M program reference model
“Project modeling” idea has been introduced in P2M program management. A package of three project models of “scheme”, “system” and “service” are given as a reference type program. This reference model represents a generic lifecycle of project combination from mission to capital recovery. A business program is initiated by producing deliberate business plan in the scheme model, implemented subsequently by installing engineering system, and finally placed its use into service operation until the capital is recovered. Though naming of program was used in extremely large sized public projects, it had been neither popular nor explored in project world frequently. But, even in small scale, a program way thinking is taken place. As aforementioned, like concurrent engineering conducted in manufacturing, strategic linkage of product, process, and business is proven as an effective mode in complex, short cycle, but innovative jobs. In this mode, competitive modeling is a key architecture to bring into practice and success. In the business field of digital electronics products, this program lifecycle is within 12-18 months, and its components within 8-12 months. This clock speed business is a typical in manufacturing and service interface.

a, Three project models of “scheme”, “system” and “service” are given as a reference type program.
b, The reference program is a generic lifecycle of project combination from mission to capital recovery.
c, Program lifecycle is getting short, and program management thinking is being applied in business world.

4, Insightful knowledge and methodology
4·1, Profiling and modeling methodology
Profiling and modeling are core methodology in P2M. The concept of "profiling" offers a good implication of opening a gate to "implicit mission" as meta-model representation in thinking modes and methodology. Profile means outlook in essence and outline in depth to complexity of the targeted object at a glance. Profiling is an appropriate concept to grasp "holistic, but complex world". Another meaning of profiling is an analogy in approach style of methodology. It is well known that the term of profiling is used in criminology of imaging a virtual figure of the target criminal for searching and tracing a real one. The approach style is powered by "a hybrid of human insight, and scientific analysis". This synergetic style is an effective way of breakthrough to discover ambiguity of complex of business issue or social problem of "ill-structured system". As aforementioned mission is an output of "meta-model" by which it is further developed for "a reference program model" in item 3·3.

a, Profiling is a central concept to grasp "holistic, but complex world" in P2M.
b, Profiling approach is powered by "a hybrid of human insightful capability, and scientific analysis".
c, Profiling is the only way to breakthrough ambiguity of complexity of "ill-structured system".
4.2, Knowledge & methodology

P2M provides the extensive knowledge scope of project management and the program management composed of profiling management, strategy management, architecture management, platform management, lifecycle management, and valuation management. Though the details are not explained, the full knowledge in the figure 4 illustrated with insightful capability overlap is covered to augment project and program manager capability.

Figure 4, Knowledge and methodology for mission driven project manager

The analytic centered project management has had little respect for tacit knowledge, group creativity of teamwork, and unconscious ways of assimilating knowledge. In this map, Future thinking, and simulative thinking are worthy of attention in the context that complexity is harnessed by modeling and uncertainty is forecasted to make fair decision making by simulative thinking. The upper half of the map in figure 4 is mostly covered by human intuitive type management. Henry Mintzberg, a strategy scholar, points that there is a fundamental difference between formal planning and informal meaning. “Planning is associated with an analytical. ordered, and sequential approach, whereas management normally involves responding to complex, ambiguous, and uncertain situations which may need a different sort of thinking”. His idea hits the core in thinking. Though the map is created by the author, human face is appearing more in future thinking and empirical thinking. This human face is being enhanced by simulative thinking and methodology. Modeling is a generic approach to integrate the interdisciplinary knowledge and methodology needed for the mission driven project management.

a, The current project management is likely centered to the analytic and empirical thinking paradigm.

b, Management involves to complex, ambiguous, and uncertain situations in need of insightful thinking.

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c. Modeling is a generic approach to integrate the interdisciplinary knowledge and methodology.

Conclusion
The current project management deals with complexity in engineering systems and boundary. Risk knowledge is limited within the range of project execution. In applying project management to business or social issues, nobody could go away from complexity of business and systems interactions. Business risks like capital recovery is a primary agenda in management. Unless the new paradigm, framework, knowledge expansion and methodology are considered, application of project management will be limited. The mission driven project management of P2M has pioneered its paradigm and the way.

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