

Mission Driven Approach (MDA) of Managing Complex Projects

-Demistifying the new framework and its background-

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Summary

P2M is the Japanese version of project & program management, which has been the first standard guide for education and certification since its development in 2001. A specific finding of P2M framework may be characterized by “mission driven approach in managing projects” or programs (MDA). It has opened a new way to ill structured or open system issues of social and business needs from the conventional views of well structured system given by explicit goals and definitions. The framework focuses on “insightful values” of strategic and innovative views committed to a form of, more or less, “an implicit mission” by owners, sponsors and initiators. MDA provides a process of developing the mission of mind expression from program scenarios to reference modeling for more comprehensive architecture than a single technical system. This paper focuses on its basic thought, and its significant logics.

Key words P2M, mission driven approach, system, project management, insightful views, modeling,

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. The framework is separated from business strategy, in general, 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.

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. Rapid and broad applications are primarily due to similarity acceptable to managing process of technical systems. 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 clients’ business process. Typical advices for this limitation are summarized as follows:

- a, If the project has interfaces with business process, ambiguity of the boundary shall be clarified.
- b, If the project involves with a new business model, development process and risk must be considered.
- c, If the project interlinks with a complex business model, conventional approach is risky.

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1-3, Lessons in reality

In Japan, project managers seem to be working in front being little aware of this usage limitations. Despite the popularity and diffusion of conventional approach, project failures are being reported in a variety forms. Overruns in cost and delivery are causing vicious cycles of overwork and overburden to project teams. In a decade, these troubles had been explained to lack of unified knowledge, and the capability of skills. Nevertheless, it is not true, but is mainly due to lack of its view and framework.. Table 1 of inquiry survey partly shows the facts of failure causes in the phase wise analysis. It is a surprise that 59% of causes exist in the phase of project definitions. Apparently, this will affect internally to the failure of 32%. In plant engineering, project definition and configuration are, in general, outside of the role and scope of contractors' responsibility. In bids, the definition is given in complete documents. The fact of table 1 means clearly that clients and suppliers neither sees nor depicts the same landscape. Troubles relate to the definition gap of business practices between clients and suppliers. In IT industry, this gap expands further to the ambiguity of risk sharing issue. In the rapid cycle of model changes, system suppliers are more likely to exaggerate benefits, and to take risk of development without clear definition in strict competition. Therefore, alarms are suggested in the following:

- a, Project failures are not necessarily attributable not due to the capability of project managers.
- b, Project definition and development are critical factors of success, and more deliberately identified.
- c, Project troubles relate to the gap of business practices between clients and suppliers.

Table 1, Project manager inquiry style survey (held in 2003 by PMCC)

Affiliated types of projected jobs			
Project type	IT systems	Engineering/construction	R&D/consultation etc
Sharing ration (132)	49%	25%	26%
Stage wise causes of failures survey			
Project stage	Project definition	Project implementation	After project delivery
Causes of failure	59%	32%	8%

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:

- 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 content 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.

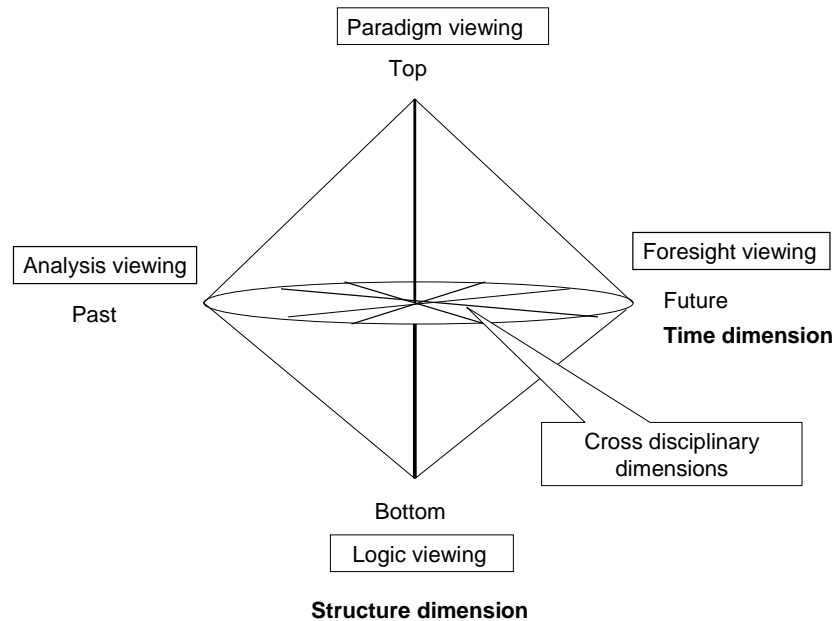


Figure 1, Insight capability definition for mission initiation

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, *Meta-model representation from divergence to convergence*

Mission is considered as a significant “*meta-model 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.

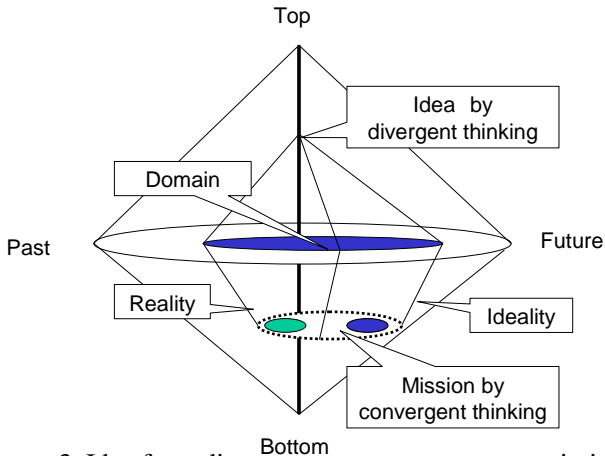


Figure 3, Idea from divergence to convergence to mission

3, Mission driven project management framework

3-1, Differentiated views for new paradigm

“Mission driven approach”(MDA) 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. 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, MDA covers a full set of knowledge and methodology to solution business.

b, MDA explores and includes a value creation activity underpinned by mission.

c, MDA is a challenge to encompass the lifecycle and scope from capital investment to recovery.

3-2 Mission map tool

Project or program is inspired from an idea to formulate mission in any form with commitment in its maturity in mind. For the implicit mission, the process is formulated from mission statement, development and finally to any form of scenario. In order to encourage its pragmatic use, the mission map is proposed for managers to structure the statement as a tool to further development depending on the output needs. Given an implicit mission for small and short scale of project, it must be clarified under symbolic naming at minimum in such four elements of objectives, conditions, outcome and issues to be solved as illustrated in the figure 3. This mission map is a basic form with certain remark chart of selective options. This systematic tool is further sophisticated by increase of elements for program with formats for complicated uses to be exhibited in MDA text to be published. Even for such popular initiations like marketing event, client’s solution, and small scale IT software development, the clarification are neither formalized nor evolved in pragmatic ways. Though implicit mission is inspired by creative idea, the assignee as well has to develop its context in depth for common understanding. This significant elaboration of clarification must be conducted further by team expertise of specialists. By practically applying common tools to cases in business, the new methodologies for management are being developed for the definition stages or mission profiling.

a, For the implicit mission, the process is formulated from statement, development and to scenarios.

b, To encourage pragmatic use, mission map is proposed to structure the statement as a basic tool.

c, The basic tool has been developed to more sophisticated way for managing project or program..

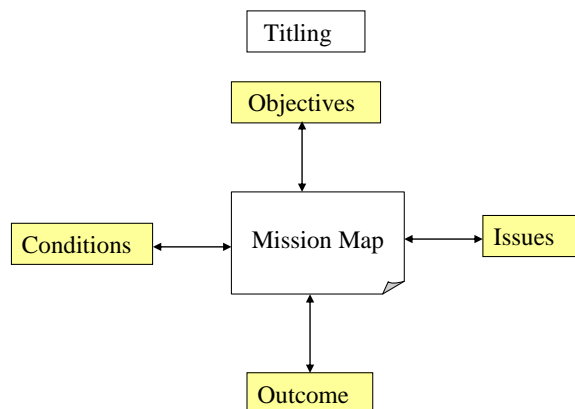


Figure 3 Mission map tool

3-3, 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.

3-4, P2M program reference model

“Modeling” idea has been introduced in P2M program management. A package of three 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 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 shortened, 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 MDA project management. 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 linked methodology

P2M has provided the extensive scope of knowledge area for its management. Nevertheless, the details of supporting knowledge linked methodologies (KLM) are not necessarily exhibited as it is compiled as a standard guidebook. Figure 4 gives the mapping of useful knowledge and methodology (KLM map) whenever MDA is required.

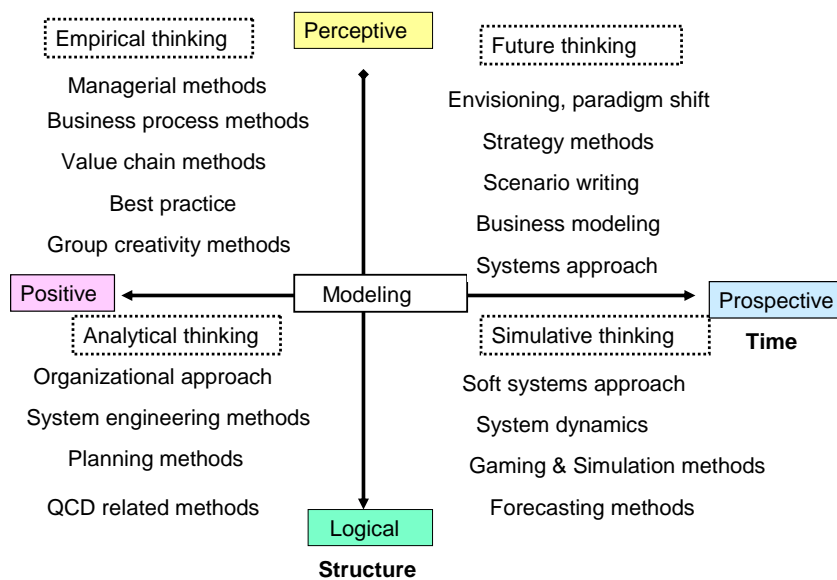


Figure 4, Knowledge and methodology map for MDA

The upper half of the KLM map in figure 4 is mostly covered by human intuitive type management, while the lower half focuses rather the analytic approach. The value of MDA is the holistic and balanced pursuit of problem solution, to which the overview of the useful knowledge may be needful to the new generation managers of handling complex projects. MDA has to explore “service science “of creativity by making extensive use of knowledge and methodology in hands. For achieving the goals, more efforts have to be exerted in improvement of KLM map. 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”. The left side of the mapping focuses empirical and data base approach, while the right side targets visibility to the future world of uncertainty. Very occasionally, implicit mission had been avoided in the project world by its attributes of complexity and ambiguity being unable to place in system structuring. Precious ideas or implicit mission might have wasted the chance of implementing innovation, though they could harness paradigm shift and creativity of value to enterprise innovation. KLM map is illustrated being conscious closely with reference to insightful capability dimensions in such the intent that MDA is accelerated to formulate the basic framework . This helps expedite modeling to project managers from

the implicit mission to actions. Modeling is a generic approach to integrate the interdisciplinary knowledge and methodology needed for MDA.

- 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
- 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. MDA has pioneered its paradigm and the way.

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