Project Leadership and Management System Assessment and Design

John R. Latham, PhD

Modern project leadership and management methods are important to success in the contemporary environment: unfortunately, they are not widely spread and often not implemented very well. Problem solving discussions at the typical project management staff meetings often swing from functional area to functional area (operations, finance, marketing). These conversations sound like the blind men who all formed a different image of the elephant because each was feeling a different part. The man who felt the legs thought the elephant was like a tree, and the man who felt the tail thought the elephant was like a whip, the man who felt the ears thought the elephant was like a large leaf, and so on. Each had an accurate picture or understanding of the individual parts but none of them understood how they were connected to form an elephant. This paper describes a technique to systematically understand, evaluate, and design project leadership and management systems tailored to the unique needs of the specific project.

The author has successfully applied this methodology: (a) as a senior examiner for the Malcolm Baldrige National Quality Award to assess the performance and management practices of entire commercial enterprises; (b) to assess the U.S. Intelligence Community's strategy development, implementation, and measurement system using the Government Performance and Results Act; (c) to enhance the strategic planning for a commercial client, and (d) to assess and design a project leadership and management system for a major international airline's brand relaunch project. In addition, the author has conducted original research including a case study and a quantitative and qualitative study focusing on total enterprise assessment using nonprescriptive criteria.

Project management principles increasingly underpin the creation and operation of the modern organization. Originally a professional specialty, project management is evolving into an integrated central task of middle management, only they don't know it yet (Stewart, 1995, p. 179). Although projects come in all sizes and shapes, they are often technically complex, cross-functional and involve multiple sub-projects. While program and *project* are often used synonymously, *program* in this context refers to a group of projects managed in a coordinated way to obtain benefits not available from managing them individually (Project Management Institute, 1996, p. 8). The methods and criteria presented in this paper are applicable to both programs and individual project. Projects must be led and managed to achieve the desired outcomes. Leadership is primarily concerned with "defining the future, aligning the people (and all of the systems and resources) with that particular future and then inspiring people to create that future" (Hall, 1997, p. 394). Management on the other hand, is primarily concerned with the planning and control of the execution of the project and the supporting projects. A systematic approach to both leadership and management helps ensure the project will be on time, on budget, and deliver the performance desired. How good is the current leadership and management system of your project? If the current system isn't as sound and systematic as it could be, it can be redesigned to achieve greater performance and reduce risk.

The Project Leadership and Management System (PLMS) Assessment using nonprescriptive criteria (appendix) is a systematic process of asking the relevant questions in order to understand, evaluate, and improve a project's leadership and management system. An assessment of this type is neither an audit nor an inspection where outside objective auditors review current procedures and performance the then compare the actual with a standard. The purposes of such audits are to identify and correct deficiencies and consequently result in improvement only if current practices are below standards. Although some experts use the word audit synonymously with assessment, the traditional audit paradigm does not fully explain assessment when using non-prescriptive criteria. The assessment criteria are made up of result-oriented requirements but do not prescribe specific tools, techniques, systems, or specific measures.

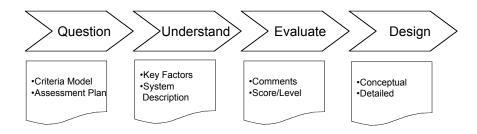


Figure 1. The PLMS Assessment and Design Process

The assessment and design/redesign process consists of four related phases: question, understand, evaluate, and design (figure 1). The Question phase is composed of the criteria model or questions and the assessment plan. The Understand phase establishes the context or key project factors and answers the criteria questions by describing the current system. In the third phase the current system is evaluated based on the criteria and the key project factors. Qualitative comments are written identifying the strengths and opportunities for improvement. A numerical score or level on the system maturity scale is then selected based on the comments. The Design phase is an iterative process of conceptual and detail design.

1.0 Question Phase

Good questions are the key to learning and understanding. The assessment and design process begins with a set of relevant questions. These questions, based on a leadership and management criteria model, are then answered through the execution of the assessment plan. The assessment plan is a detailed description of the activities that are needed to understand, evaluate, and design a new leadership and management system.

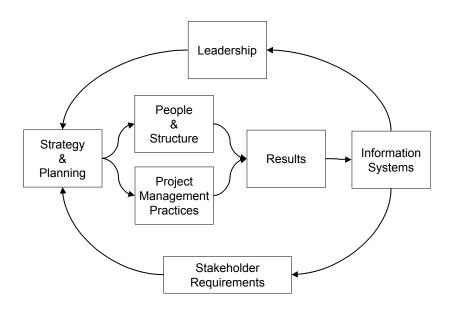


Figure 2. The PLMS Criteria Model

1.1 Criteria Model

The criteria model identifies what will and will not be included in the assessment. The PLMS assessment model is based on proven practices of industry leaders in program and project management. The model addresses six key areas: leadership, strategy and planning, people and structure, project management practices, results, and information systems (figure 2). Project management begins with stakeholder requirements which are woven throughout the model from strategy and planning to information. Leadership develops the project strategy and plans based on the requirements of the key stakeholders including customers, employees, suppliers and partners, and owners. The strategy and plan address three critical elements: common vision and goals, a detailed project management plan, and the project budget. People are then organized, roles and responsibilities identified, and the project executed based on the strategy and plans. Project management practices are designed to systematically addresses four essential elements: customer's requirements, project management practices, partnership and

supplier relationships, and risk management. The effectiveness of the people and management practices are measured and tracked in four key areas, including: schedule variance; performance/quality measures; project cost; and overall outcomes such as increased customer satisfaction, return on investment, or improved mission effectiveness. Finally, information systems are established to collect, analyze, display, and communicate the results data in a format that facilitates the management of the entire project.

1.2 Assessment Plan

The assessment is itself a project and as such requires planning and management to ensure the results are valid and the design credible and appropriate for the project and organization. The typical assessment plan consists of: (a) senior management needs, (b) resources, including assessors, (c) questions, and (d) a detailed data collection plan. The first step in any assessment is to determine the needs of the senior leadership team and secure their support. With the support and official sanction of the senior leadership team, the next step is to select the appropriate people to conduct the assessment. Selection criteria for assessors includes knowledge (management systems, project management), experience (assessment, functional, organization), skills (analytical, writing, interviewing), and motivation. A PLMS assessment is an intellectual task that is complicated by the lack of standards; consequently, assessor qualifications are critical to a high quality assessment and subsequent design. The assessors then develop the assessment instruments which are typically criteria questions tailored to the specific project. Data collection planning identifies the assessors, the types of information (interviews, documents, and observations), and the sources of information (senior management, project management, and project members). The use of multiple assessors, types of data, and sources, increases the validity of the assessment.

2.0 Understand Phase

Before a system can be evaluated it must first be understood. When assessing a leadership and management system, the parts are examined individually and as a system in the context of the overall environment.

2.1 Key Project Factors

The project leadership and management activities are not driven by immutable natural laws and do not exist external to the organization or context. Project leadership and management are accomplished by people in an organizational setting and consequently are dependent on the context to provide meaning. Key project factors provide the context for the assessment by identifying areas that are important to the success of the project. These factors identify the unique aspects of the project, the organization, and the environment (figure 3). The management system that is most appropriate for the project is, in part, determined by the unique characteristics of the project and the organization in general. Key factors provide the context for evaluation by identifying what is *relevant* and *important* to the organization. For example, the management practices that are

appropriate for a billion dollar high tech space project would not be the same as those for a \$10K project that involves only professional services and no hardware acquisition.

Figure 3. Typical Key Project Factors

Project Mission/Purpose

- Organization Strategy
- Desired Project Outcomes
- Outcome Measures

Organization

- Size & Locations
- Position within Company
- Workforce Demographics
- Structure

Products & Services

- Project Deliverables
- Technology
- Complexity

Stakeholders & Requirements

- Customers
- Key Suppliers/Partners
- Ownership

Environment

- Regulatory
- Schedule
- Key Competitors

2.2 Leadership and Management Systems Description

The criteria questions typically ask for a description of "how" project management activities are accomplished. For example, 3.1.b "How does the recognition and reward system support project success and encourage interdepartmental cooperation?" In this context, *how* refers to a system or group of related activities or mechanisms arranged so as to show a logical plan linking the various parts. Specifically, the description should outline key process information such as methods, measures, deployment, and evaluation/improvement factors. Although it is helpful to know who does the work, without a description of what is done and how, the strengths and weaknesses of the approach cannot be determined. When describing a management system, diagrams are useful to show large amounts of information in a relatively small amount of space. Remember the old saw: *a picture is worth a thousand words*.

3.0 Evaluation Phase

With a clear understanding of how the PLMS works, strengths and opportunities for improvement can be identified based on three dimensions: (a) the soundness of the approaches used, (b) how extensively they were deployed to appropriate areas, and (c) how they were systematically improved. The strengths and opportunities for improvement are the basis for the numerical score or maturity level.

3.1 Evaluation Comments

To be useful for making design changes to the PLMS comments need to be accurate, specific, understandable, and action-oriented. (Heaphy and Gruska, 1995, p. 304). Comments that do not meet these criteria are unlikely to produce the design changes necessary to improve project performance.

Guidelines for effective comments:

- 1. Comment on each assessment Item: the number of comments depends on the Item but is typically 5-8 comments of 1-3 sentences each.
- 2. Use vocabulary and phraseology from the Criteria Model and Scoring/Maturity Scale.
- 3. Use a polite, professional, and positive tone.
- 4. Avoid jargon and acronyms, unless used by the organization.
- 5. State observations; be non-judgmental avoid "good," "bad," "effective," "ineffective," "inadequate;" be nonprescriptive refrain from using "could," "should," "would."
- 6. Comment on what is relevant and important to the organization—answer the "so what" question; indicate the significance of the comment.

Examples:

An example of a *strength*: People at all levels of the project clearly understand the project goals and objectives, as well as their linkage to corporate strategy. This provides a common basis for decision-making throughout the project and aligns efforts between core functions such as marketing, operations, and engineering.

An example of an *opportunity for improvement*: The roles and responsibilities of the project senior leaders (Marketing, Engineering, Operations) are not clearly defined and communicated. This is a contributing factor to the confusion of roles and responsibilities throughout the project team which can lead to different parts of the team working in different directions. This lack of a clearly defined roles and relationships limits the team's ability to monitor and control progress toward delivery of the project on time, within budget, and with good quality.

3.2 Numerical Score – Maturity Level

The scoring scale is a "yard stick" to measure the maturity of the project leadership and management system (figure 4). Using the comments as the basis for the score, the assessor selects the band on the scoring scale (1-5) whose description best represents the project. The various assessment Items (e.g., 1.1, 1.2, etc.) are scored on three dimensions: (a) method or approach, (b) implementation or deployment, and (c) improvement. The methods or approaches are evaluated on how sound and systematic they are for accomplishing the overall purpose of the item. The implementation is evaluated on how extensively the methods are used in the appropriate project and project areas. The improvement dimension is evaluated on how the methods and their implementation are systematically refined. Often a project's approach will be at one level, the deployment at another, and the improvement at still another. The object is not to find the precise level but to find the "level of best fit." The result of the scoring is a profile of the levels of maturity for each assessment Item.

Figure 4. Scoring Scale – Levels of System Maturity

Level	Description				
1	no systematic approach evident; anecdotal information				
2	beginning of a systematic approach to the primary purposes of the assessment Item				
	 major gaps exist in deployment that would inhibit progress in achieving the pri purposes of the assessment Item 	mary			
	 early stages of a transition from reacting to problems to an improvement orientation 				
	 a sound, systematic approach, responsive to the primary purposes of the assessment Item 				
3	 no major gaps in deployment, though some project areas or project units may very early stages of deployment 	be in			
	 a fact-based improvement process in place in key areas; more emphasis is pla on improvement than on reaction to problems 	aced			
	 a sound, systematic approach, responsive to the overall purposes of the assessment Item 				
4	 approach is well-deployed, with no major gaps; deployment may vary in some project areas or project units 				
	 a fact-based improvement process is a key management tool; clear evidence refinement and improved integration as a result of improvement cycles and analysis 	of			
	 a sound, systematic approach, fully responsive to all the requirements of the overall assessment Item 				
5	 approach is fully deployed without any significant weaknesses or gaps in any areas or project/project units 				
	 a very strong, fact-based improvement process is a key management tool; strong refinement and integration — backed by excellent analysis 	ong			

Validity can be increased and bias reduced by involving additional assessors in the process. If additional assessors participate then the first cycle of evaluation (comments and scores) is completed independently without discussion. After each assessor has reached their own conclusions independently the group meets to reach consensus on the evaluation. After the consensus, the evaluation is validated by the client organization.

4.0 Design Phase

"As Herbert Simon (1969) has pointed out, the essence of the man-made sciences—whether engineering, medicine, or management—is design" (Mintzberg, 1993, p. 25).

While interesting and educational, without design changes assessment is a parasite that most organizations cannot afford. To help focus the design changes on the areas that need the greatest improvement, use the evaluation comments and scoring profile to identify: (a) the areas with the lowest levels of maturity; (b) themes that seem to show up in several areas; and (c) significant vulnerabilities that deserve immediate attention (e.g., a level 1 risk management process). Prioritize the areas and then focus the new design on the top few that will move the overall system to the next level of maturity. While some reengineering experts propose starting with a blank piece of paper, this approach builds on the current design and focuses on the next level of maturity. Why limit the design to

the next level? Unlike the physical world, the domain of management includes people and culture that limit the amount of change that can be effectively implemented at one time. When designing a custom PLMS, five key elements are addressed for each area: (a) purpose or objective, (b) approach (what and how), (c) deployment (who and where), (d) results (performance measures), and (e) evaluation and improvement (what and how) (figure 5). Although the management systems architect follows a logical flow from purpose, to conceptual design, to detail design, the process "is not, as some textbooks would have us believe, a formal, sequential process that can be summarized in a block diagram" (Ferguson, 1992, p. 37).

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System Element	Conceptual Design	Detailed Design
Purpose	Overall objective of the system	Purpose of the individual
		components
Approach	Macro flow chart of main activities	Sub-activities, procedures,
	and their interrelationships	frequencies, and explanations
Deployment	Relationship map of the key	Specific roles, responsibilities,
	players and how they are	relationship agreements
	structured	
Performance	Main outcome and output	Operational metrics definitions
Measures	measures identified	including: who, what, when, why,
		and how.
Evaluation and	Identify major methods for	Describe specific activities,
Improvement	evaluation and improvement	procedures, frequencies, and
		explanations including roles and
		responsibilities of the participants

4.1 Conceptual Design

The conceptual design establishes the boundaries and macro structure of the project. The conceptual design is based on the overall purpose or objective, what the system expected to achieve or accomplish (e.g., coordination of the activities of several functional groups to ensure efficient scheduling of resources and on-time delivery). Based on the purpose, a flow chart is developed identifying the main tasks required and their interrelationships. A relationship map is then constructed identifying the responsible groups and individuals and how their relationships to the activities and other groups and individuals. At this point the key outcome and output measures are identified based on the purpose and activities. Finally, the primary evaluation and improvement activities are identified.

4.2 Detailed Design

While a conceptual design is essential to a coherent system, by itself it is too abstract to construct: the devil is in the details! The actual implementation of an improved system requires: specific task descriptions; a schedule for accomplishing those tasks; a description of roles, responsibilities, and relationships; and detailed measures of performance. The detailed design typically begins with further development of the approach by identifying the sub-tasks needed to accomplish the macro activities including procedures, frequencies, and explanations. Based on the specific tasks and

schedule, specific roles and responsibilities are assigned and relationship agreements established. Next, operational metrics definitions are developed including: (a) who will actually collect the data; (b) what data will be collected; (c) when/how often the data will be collected; (d) why this data is collected; and (e) how the data will be collected, analyzed, and displayed. The operational definition should address these areas in sufficient detail to ensure consistent, repeatable, and valid measures. Finally, the specific evaluation and improvement activities, procedures, frequencies, and explanations including roles and responsibilities of the participants are described.

Although the design process appears to be sequential in the description, in reality it is a spiraling, iterative process that cycles between concept and details. As the system design is developed the "elements of structure should be selected to achieve an internal consistency or harmony, as well as a basic consistency with the organization's situation—its size, its age, the kind of environment in which it functions, the technical systems it uses, and so on" (Mintzberg, 1993, p. 3). During this iterative process the architect makes hundreds of judgements and assumptions based on tacit knowledge. The tacit knowledge that is behind the design should be made explicit by documenting the judgements and assumptions that were made during the design. This serves two purposes: (a) it is a basis for future design changes to the system and (b) it facilitates the application of the design to similar systems.

Assessment and Design Application at a Major Airline

The objective of the engagement with a major airline in January of 1998 was to design a program/project leadership system to ensure the coordinated relaunch of one of their Brands (economy class). This cross-functional project included aircraft technical modifications, passenger ground processing improvements, aircrew and galley changes, and marketing communications. Working together the author and Mark Wilson first developed the assessment criteria based on current program and project management principles and industry best practices from world class companies such as Hewlett Packard. Second, the airline's brand and project key business factors (e.g., purpose, strategy, work force, suppliers, etc.) were identified. These key business factors provided the context to understand and evaluate the existing project management system. With the criteria and context established, documents were reviewed and key employees interviewed in order to understand the existing management system. Based on the criteria and context, the existing system was evaluated and strengths and opportunities for improvement identified. Using this assessment, a new project leadership system was designed tailored to the unique needs of the brand relaunch project.

Conclusion

All too often we are so caught up in the day-to-day details of helping our customers manage their projects that we forget to step back and ask how they could lead and manage more effectively. Our PLMS assessment and design process is a structured way to understand, evaluate, and improve the project leadership and management system itself. As the system matures, project leaders are better able to anticipate and prevent

problems before they actually occur. The need for systematic approaches to leading projects, businesses, or governments is not new; it was recognized by Mo-Tze (a.k.a. Micius) approximately 500 B.C.E.

Whoever pursues a business in this world must have a system. A business which has attained success without a system does not exist. From ministers and generals down to the hundreds of craftsmen, every one of them has a system. The craftsmen employ the ruler to make a square and the compass to make a circle. All of them, both skilled and unskilled, use this system. The skilled may at times accomplish a circle and a square by their own dexterity. But with a system, even the unskilled may achieve the same result, though dexterity they have none. Hence, every craftsman possesses a system as a model. Now, if we govern the empire, or a large state, without a system as a model, are we not even less intelligent than a common craftsman? (Wu, 1928, p. 226)

Whether from the competitive market place or the Congress, our customers are faced with increasing pressure to lead and manage their programs and projects more effectively and efficiently. Using the assessment and design techniques presented in this paper, we can help them systematically meet these challenges head on!

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Appendix

Abbreviated Criteria Model

1.0 Leadership

- 1.1 Upper Management Support
- a. How does upper management support the project?
- b. How does upper management support an environment of cross-functional cooperation?
- 1.2 Project Leadership Team
- a. Describe the membership of the project leadership team including roles and responsibilities.
- b. How do the practices of project management differ from the practices of departmental management in the organization?
- c. How does the leadership team plan projects from concept to delivery?
- d. How is project progress reviewed and communicated to all stakeholders?
- 2.0 Strategy and Planning
- 2.1 Common Project Vision and Goals
- a. Describe the overall project vision.
- b. Describe the overall project goals; how do they support the vision?
- c. What are the expected benefits of the project?
- 2.2 Project Management Plan
- a. How does the project management plan address schedule, costs, and performance/quality?
- 2.3 Project Budget
- a. How does the project budget support decisions throughout the project life-cycle?
- 3.0 People and Structure
- 3.1 Project and Organization Design
- a. How does the organizational structure support project work?
- b. How does the recognition and reward system support project success and encourage interdepartmental cooperation?
- c. How are conflicts among stakeholders resolved?
- 3.2 Team Roles and Responsibilities
- a. Describe the project team roles and responsibilities.
- b. How is training and development designed to support the activities of project work?
- 3.3 Autonomy and Limitations
- a. What boundaries are imposed on the project manager's decision-making authority?
- b. What are the limitations of the core team members' decision-making authority?
- c. Does functional department leadership realize that giving up some control may be necessary to accomplish project results?

4.0 Project Management Practices

- 4.1 Customer Focus
- a. How is the voice of the customer incorporated throughout all project phases?
- 4.2 Project Management Processes
- a. How are the project schedule, budget, and quality monitored and controlled?
- b. How are problems identified, resolved, and future occurrences prevented?
- c. How are project management processes evaluated and improved?
- 4.3 Partner/Supplier Relationship Management
- a. How are supplier and partnering processes designed to meet overall performance requirements.
- b. How are supplier and partner processes, relationships, and performance managed and improved?
- 4.4 Risk Management
- a. How are project risks identified, analyzed, and mitigated?
- 5.0 Information Systems
- 5.1 Project Management Information System
- a. How does the project management information system provide project insight to upper management and project leadership/management?
- b. How is timely project information made available to project leaders/managers?
- c. How are suppliers kept informed of project requirements and status?
- d. How does the information system support evaluation and improvement of project management methods?
- 6.0 Results
- 6.1 Project Schedule Variance
- a. How well do the project actual milestones compare to planned milestones?
- 6.2 Project Quality Measures
- a. How well do project quality performance results compare to original expectations?
- 6.3 Project Cost
- a. How well do actual project costs compare to the original budget?
- 6.4 Project Outcomes
- a. How do actual customer satisfaction levels compare to those forecasted in the original business case?
- b. How well does actual market share compare to the forecast in the business case?
- c. How well does actual return on investment compare to the forecast in the business case?