

# The Art of Project Management: A Competency Model For Project Managers

By Mark Gould and Rick Freeman

*“If you do not change some rooted human behavior on projects, you cannot improve anything because humans lie at the heart of any organization and its systems.”*

*Gerald I. Kendall, PMP and Steven C. Rollins, PMP  
Advanced Project Portfolio Management and the PMO*



**CORPORATE EDUCATION CENTER**

From Potential To Performance

## Synopsis

Project management is both an art and a science.

The tendency to overlook the “art” of project management is one reason why so many projects fail. By developing an expertise in the art, as well as the science, project managers can increase the success rate for their projects, and will be better able to complete projects on time and on budget, without sacrificing quality.

A new competency model developed by the Boston University Corporate Education Center (BUCEC) will help organizations determine the skills their project managers need, and plan their training and development to fill any gaps.

The new competency model captures the needed technical and personal skills, as well as business and leadership skills that are necessary for project management success. A competency assessment tool can identify competency gaps, which can be filled by training and development.

Organizations that combine the art and science of project management into a best-practices process, and apply it throughout the organization, can improve their project success rate.

Project management improvements have tremendous implications for economic performance. According to the *PMI® Fact Book*, the U.S. spends \$2.3 trillion a year on projects, or about a quarter of the country’s gross domestic product.

## Art Meets Science

Perhaps because project management is so closely associated with information technology (IT), many associate the term “project management” with technical skills.

Corporations typically ensure that their employees have the technical skills they need to work on whatever tasks they are assigned, but, as Jim Johnson, Chairman of The Standish Group International, Inc., has said, “When projects fail, it’s rarely technical.” Projects, like businesses, often fail because they are not properly managed.

Many organizations give little thought to project management, let alone the appointment of project managers. According to the *PM Network*, only 17.6% of organizations used standardized project management processes throughout their organizations in 2002, compared with 22.5% in 2001 and 9.3% in 2000 (the decrease in 2002 was likely the result of 9/11 and the recession).

The employee appointed to manage a project may be the person who suggested it, a volunteer, an individual perceived as having the time to manage the project or the person with the most in-depth technical knowledge needed for the project.

Managing a project may require technical knowledge, but, like managing a business, it also requires business knowledge. The project manager must be well organized and self-confident, and must have the right attitude. Technical knowledge is important, but so are business acumen, an understanding of the corporate culture and an ability to lead people to do what is expected of them.

In other words, knowledge is important, but so is the ability to execute it.

## Project Mismanagement

No one would claim that every project that fails is the result of poor management. A poorly funded or ill-conceived project will fail regardless of the skills of the project manager or project team.

Projects that lack buy-in from top management are doomed, as are projects that lack ties with company objectives or that have no clear return on investment. Sometimes a shift in business priorities requires that certain projects be abandoned.

But project mismanagement plays a significant role in many project failures.

The high failure rate for projects has been well documented, although signs of improvement are encouraging. In 1995, The Standish Group reported that 31% of all information technology (IT) projects were canceled before completion, that only 16% of projects were completed successfully, and that 88% of all projects were over budget, over schedule or both. Standish also reported an average cost overrun of 189% and an average time overrun of 222% of original estimates.

In its most recent report, in 2001, Standish found that time overruns have dropped to an average of 63%, cost overruns have dropped to an average of 45%, and the percentage of IT projects that are completed successfully has climbed to 28%.

We believe more projects are succeeding because of the development of Project Management Offices (PMOs) and greater attention being paid to the management of project management portfolios. But a success rate of 28% is still nothing to be proud of.

It means that, in spite of tremendous improvement from 1999 to 2001, nearly three out of four projects are still failing.

So how can corporate America deal with project mismanagement?

*“As professionals, we are in our infancy in establishing guidelines for excellence in supporting the entire project management organization . . . Project managers lack models and support mechanisms to meet their critical needs within the organization.”*

*Gerald I. Kendall, PMP and Steven C. Rollins, PMP  
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## The Project Management Competency Model

Regardless of technological development, it is still true – and will always be true – that “humans lie at the heart of any organization and its systems,” as Kendall and Rollins note. It takes a combination of business systems, providing strategy, structure and control, and human systems, providing clarity, competence and commitment, to create business success.

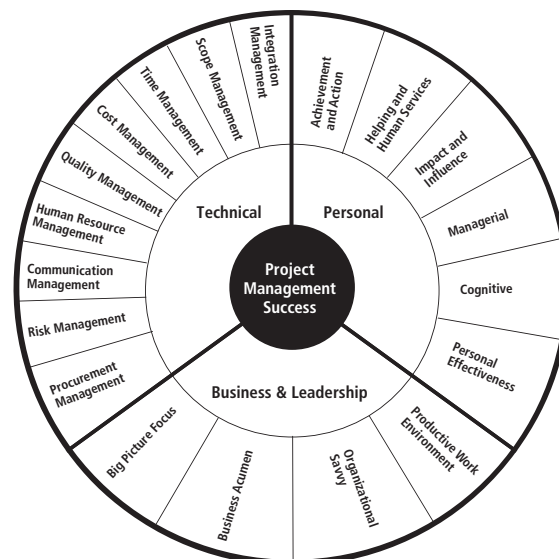
As such, it is important to choose the right people to manage projects. As much care should be given to the appointment of a project manager for a mission critical project as is given during the hiring process for a key position within the company.

And yet, most organizations have no process for choosing project managers. They also have little idea what skills and personality traits are needed by project managers to help them succeed.

One reason corporate America has relied on technical abilities to identify project managers is that it has lacked a competency model for determining the necessary skills to succeed as a project manager.

The Boston University Corporate Education Center (BUCEC) has developed a Project Management Competency Model in conjunction with Fox Consulting, Inc. of Annapolis, MD, based on its many years of experience in the field to help organizations overcome this barrier to performance. The characteristics of a successful project manager are consistent, regardless of industry sector, corporate culture or other factors. The model (see chart 1.) divides project management skills into three major Categories – “technical,” “personal,” and “business and leadership.”

**Chart 1: Project Management Competency Model — Categories**

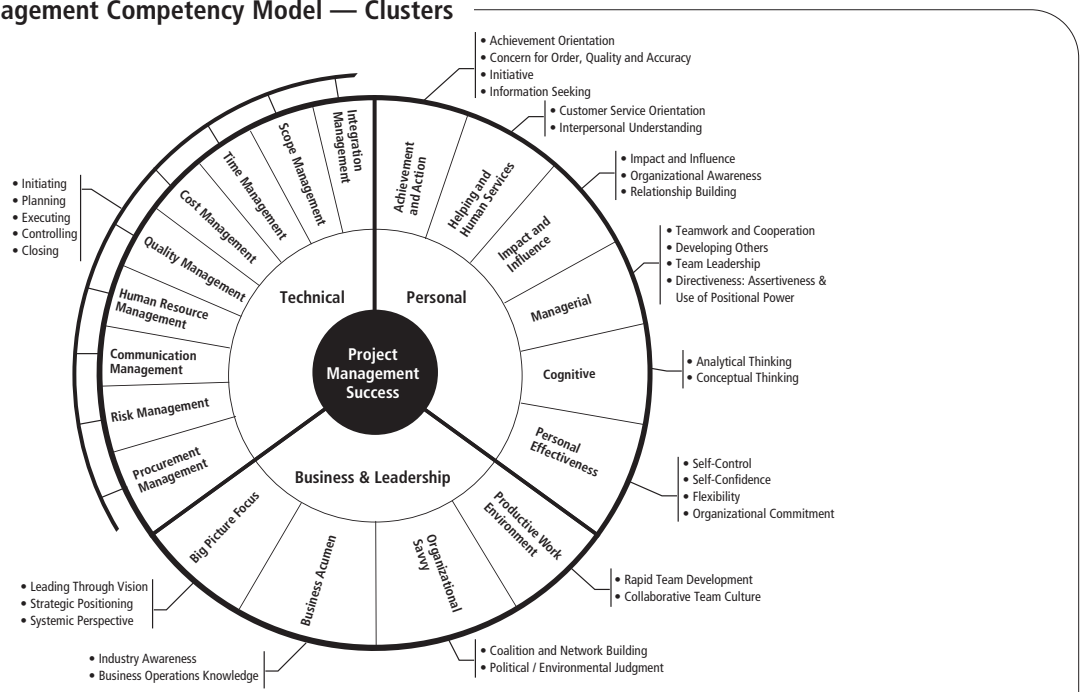


These three Categories combine the art and science of project management. The technical skills focus on the science of project management. The other two thirds of the model – “personal,” and “business and leadership” – focus on the art, adding “management” to project management.

Even those organizations that follow best practices for project management and have highly developed PMOs often fail because they ignore the art of project management. Think of project management as an iceberg. Above the water are the technical skills that are needed. They are easy to measure and demonstrate. The art of project management is more difficult to recognize and measure. You have to find out how people work with other people to complete projects and build a competency model around their skills.

To accomplish this, we’ve broken down the three skills Categories into Clusters that further describe the specific behaviors required for successful project management (see chart 2.). The Clusters are divided into Units, which are then broken into Elements and finally into their corresponding Performance Criteria.

**Chart 2: Project Management Competency Model — Clusters**



As you assess potential project management leaders, you will not find anyone who perfectly meets all of the criteria outlined in the model. Such an individual may not exist. However, the model can help you identify likely candidates that embody many of the skills needed for project management competency, after which you can provide the training necessary to make them effective leaders. The model can also help you identify development gaps in your current project managers.

## Technical Skills

We've divided technical competency into the nine widely accepted skills identified by the Project Management Institute that make up the Project Management Body of Knowledge (PMBOK®):

- > Integration Management
- > Scope Management
- > Time Management
- > Cost Management
- > Quality Management
- > Human Resource Management
- > Communications Management
- > Risk Management
- > Procurement Management

The project manager must understand: how to manage procurement and human resources, so that the resources needed to implement a project are available; risks, ranging from technical to political challenges that can ground a project; cost, time and quality, so that the project can be completed on time and on budget, while maintaining or exceeding the necessary quality; communications, so that progress is reported accurately and knowledge is shared with all stakeholders; scope management and integration management, so that the project is understood in its proper context and is aligned with business goals.

The nine knowledge areas are used to carry out 39 processes that make up the PMBOK®. Each process uses information from the previous process, and, with the help of various tools and techniques, enhances it before beginning the next process.

These processes are divided into five phases: initiating, planning, executing, controlling and closing. Review these phases, and you will recognize that they require not only technical skills, but business skills, embodying both art and science. Planning, for example, requires technical expertise to understand and implement the processes involved, but it also requires an understanding of business strategies. Tying the project to the overall business strategy and understanding its impact on the company's bottom line, for example, should be part of the planning phase.

Kendall and Rollins, authors of *Advanced Project Portfolio Management and the PMO*, recommend adding Senior Management Oversight, PMO Management and Portfolio Management to the nine project management qualities. These skills, and others, are assumed in the competency model developed by the BUCEC.

## Business and Leadership Skills

Just as the technical skills outlined in the BUCEC project management competency model overlap with business skills, the business skills outlined by the model require a degree of technical competency. To be an effective communicator, for example, the project leader must understand technical language and jargon, but must also have the business skills to translate such language to business strategies and objectives for non-technical management.

Business and leadership skills are needed by project managers to link their projects to the relationships, resources and infrastructure of the organization. These skills, as identified in the competency model, include:

- > A big picture focus
- > Business acumen
- > Organizational savvy
- > Productive work environment

These Clusters are defined by their corresponding Elements as follows:

A “big picture” focus requires leading through vision, strategic positioning and a systematic perspective. “Leading through vision” and “strategic positioning” are the ultimate business attributes. They measure the success of a project manager, just as they measure the success of a chief executive officer. Project managers can’t live in a silo. It is not enough for the project manager to focus on a specific project. An effective leader must also be able to align the project with the needs of the enterprise. A “systematic perspective,” the “science” part of this Cluster, integrates strategic planning with business processes.

“Business acumen” divides into the Elements of industry awareness and business operations knowledge. Industry awareness is self-descriptive and relates to an individual’s knowledge of the company’s position relative to its competitors. By comparing technology, marketing efforts, financial strength and management strength, the project leader should have a grasp of his organization’s competitive advantages – and disadvantages.

Business operations knowledge complements industry awareness, and is as internally focused as industry awareness is externally focused. It requires intimate knowledge of the company’s culture, its organization, and its business processes and practices. In addition to understanding the business, the project manager needs to know how to change it.

Organizational savvy requires an understanding of the company’s politics and how to use them to advantage to advance the project. It also requires an ability to build coalitions and networks, which can create interdepartmental project support. While company resources can fund only a limited number of projects, it is important for project managers to remember that their co-workers are not their competitors. Project managers must be able to sell ideas, not only to their project team, but also throughout the organization. To accomplish this, they must understand how to motivate stakeholders.

To create a productive work environment, the project manager must be able to rapidly develop an effective project team and establish a collaborative culture within the team. Speed is critical. Completing projects on time is the number one factor in determining project success, because it improves time-to-market, which can create a competitive advantage and increase market share.

## Personal Characteristics

Personal characteristics include:

- > Achievement and action
- > Helping and human services
- > Impact and influence
- > Managerial
- > Cognitive
- > Personal effectiveness

An achievement-oriented person is typically someone who is always ready to take action, rather than procrastinating until just before a project's deadline. Such people seek the information they need to take action, rather than waiting for the information to come to them. They show initiative, but maintain a concern for order, quality and accuracy.

Helping and human services characteristics include a customer-service orientation and strong interpersonal understanding. The individual shows compassion, and would feel comfortable mentoring or coaching others. His or her people skills extend beyond the project team to the customer. Project deadlines are met not only to satisfy managers, but also to satisfy customers.

The ideal project manager is a role model for others, demonstrating a positive influence on other employees and making an impact on their productivity and performance. Organizational awareness and the ability to build relationships are also part of this Cluster. The project leader must know who to go to for project resources and how to obtain those resources, which might otherwise be used for other projects.

Managerial skills range from an ability to be assertive and use positional power effectively, to cooperation and teamwork. Team leadership, directness and an ability to develop others are other characteristics identified for this Cluster.

Cognitive skills combine analytical and conceptual thinking, requiring a balance of right-brain and left-brain skills. It is, again, art and science in balance.

Finally, personal effectiveness includes self-control, self-confidence, flexibility and organizational commitment. The effective project manager is loyal to the organization, the project team and the project goals. Effective project managers lead by doing.

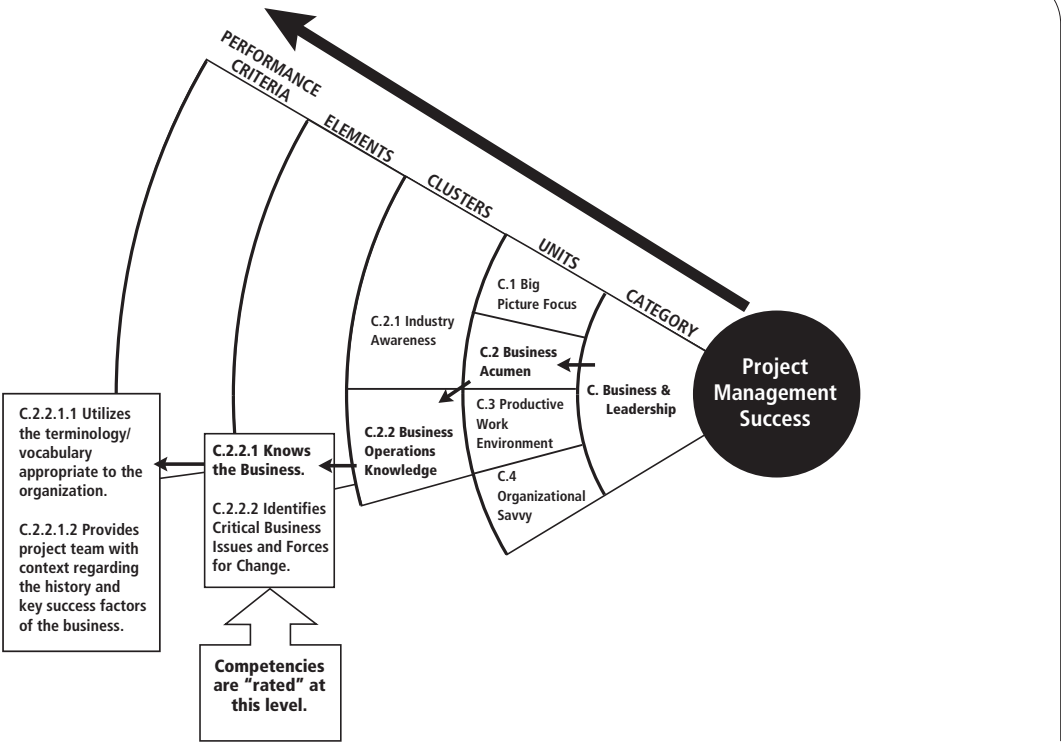
# Performance Criteria

We've divided the three Categories of skills needed for project management success into Units, and divided the Units into Clusters of skills. These Clusters can be further divided into Elements, which can finally be divided into Performance Criteria.

For example, within the "business and leadership" Category, we've described the "business acumen" Unit as including the Clusters of "industry awareness" and "business operations knowledge." The Elements of "business operations knowledge" include "general knowledge of the business," and "the ability to identify critical business issues and forces for change." The Element "business knowledge" can be divided into the following Performance Criteria (see chart 3.):

- > Uses the terminology and vocabulary appropriate to the organization
- > Provides the project team with context regarding the history and key success factors of the business

Chart 3: Project Management Competency Model. Performance Criteria



These skills enable the project manager to make the project meaningful for all team members, while enhancing their understanding of their role. Most important, the project manager helps team members understand why they are undertaking the project by relating it to the organization's business strategy.

# Competency Assessment

Identifying the competencies needed for successful project management would have limited use without a tool for assessing these competencies in potential project leaders.

BUCEC has developed a competency assessment tool that provides managers with an opportunity to assess competencies at the Elements level. Performance Criteria serve the important role of clarifying and defining performance before assessment.

Competencies are assessed based on employee performance to date, as well as answers to situational questions designed to gauge employee competencies. Results of assessment at the Elements level are then gathered and rated at the Cluster level, based on the following scale:

**Unaware.** Do not recognize this knowledge or skill in the candidate.

**Aware.** Candidate has knowledge and is familiar with the concepts, but has not applied the knowledge to a real situation.

**Functional.** Candidate applies knowledge or skill to routine situations, occasionally requiring guidance.

**Proficient.** Candidate exercises a breadth of knowledge and skills to address complex situations without guidance.

**Expert.** Candidate coaches and supports others using a breadth of experience or specialized depth of expertise.

Using this scale to assess potential project managers at each Cluster level will enable the Project Management Office to score candidates and determine who has the most appropriate abilities to lead each project team.

The scale demonstrates the importance of practical experience, in addition to training and development. An individual who is certified as a Project Management Professional (PMP) will acquire many of the skills needed for project leadership – especially the technical skills – but may still lack many of the business skills needed to manage a project successfully.

Note that the most advanced project leaders have the ability to mentor or coach others. Mentoring and coaching, in combination with other training and development, can help prepare the next generation of project leaders.

## Measuring the Value of Project Leadership

As with any project, the best way to measure the success of a project manager is by return on investment.

An organization that wants to measure ROI after adopting our Project Management Competency Model should benchmark the success or failure rate of previous projects and compare it with changes taking place after adopting the model.

While the model is too new to determine its impact, the impact of project management on organizations that previously had no project management process has been documented.

When asked by the Center for Business Practices to rate the value of project management, 50% of respondents rated it “very valuable,” 25.6% rated it “valuable” and 22.1% rated it “moderately valuable.” Only 2.3% rated it as “of little value” and no one rated it “not valuable.” The benchmarking study took place over nine years and included 500 companies.

We believe the results will only improve when organizations begin taking more care in defining the competencies of their project leaders. Toward this end, if we are to develop the most effective project leaders possible, the BUCEC and other leaders in corporate education must adjust their curriculum to take the art of project management into consideration.

## Author Biographies:

Rick Freeman is the Chief Business Development Officer at Boston University's Corporate Education Center. He has been providing marketing, training and technology solutions for 20 years. Rick has been a speaker at many conferences and on radio and television. He is often quoted in trade publications, including *Computerworld* and *CIO Magazine*. Rick is the Chief Business Development Officer of TrainingTrack, a Boston University enterprise that has a network of Boston University Education Affiliates in over 40 Metro regions. Before starting Boston University's TrainingTrack, he was the Director of the Training Consultant Group at the Boston University Corporate Education Center. In 1999, Rick received special recognition from Microsoft Corporation for his contribution to "Worldwide Excellence in Training." Before joining Boston University in 1992, he was a Vice President of Sales and Marketing for seven years in the film and video production industry. Rick helped conceptualize and deliver over 100 successful corporate videos on new technology products. While working at Rampion Visual Productions, he established the company as a "Preferred Vendor" for many corporations, including Computervision, Hewlett Packard and Boston Scientific. Rampion has won over 20 national and international awards, including best audio/visual presentation at Comdex and the internationally prestigious "Communicator's Award."

Mark Gould is Director of Management Development Programs at Boston University's Corporate Education Center. Mark has more than 15 years of experience in development, acquisitions and mergers, marketing and implementation of management training and professional development programs in a corporate environment. Mark is a frequent speaker at national conferences, such as the Conference on Management & Executive Development, the Effective Seminar/Conference Marketing Conference, LERN Conference, and University Continuing Education Association. He has been a featured guest on talk radio and has also been quoted in, and written articles for, publications such as *Computerworld*, *PM Network*, *Projects@Work*, and *ASTD's Training Scene*. Mark earned a B.S. in Business Administration with a concentration in Marketing from the University of Maine, an M.B.A. from Southern New Hampshire University, and an M.Ed. from Boston University.

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