

Careers in Project Management



UNLIMITED HORIZONS

Exciting opportunities
within the project
management profession

Introduction

The PMI Educational Foundation (PMIEF), uses donations to bring the benefits and the power of project management to local communities and organizations in all parts of the world for social good through grants, programs, scholarships, awards, and educational resources.

PMIEF is building a better future by:

- Helping students and others realize their dreams through academic scholarships; training scholarships for teachers, nonprofits and unemployed workers; internships; doctoral research grants; and visiting professorships.
- Preparing youth for success in life through the use of projects and project management skills in primary, middle, and secondary school education.
- Helping nonprofit organizations use their limited resources more efficiently and effectively by increasing their project management capability.



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Excitement just ahead



however, you're reaching a point in your life where the decisions you make now will impact on your future.

So, with this in mind let us introduce you to the **Project Management Career Guide**. This guide will help you gain an understanding of project management as you begin to consider professional career options and plan for college, business school, or professional training. It will:

Have you ever wondered just how a mile-long suspension bridge gets built? Or how a 100-story skyscraper somehow rises magically from the ground? Or how a tiny cell phone can have so many intriguing high-tech features?

Much of the success of these accomplishments is attributed to the practice of Project Management. Project management is a growing profession that is only going to get bigger in the years ahead. It offers excitement, challenge ...and a good income. It's a field you really should consider. True, the prospects of a "career" may seem a long way off; in reality,

- Explain what project management is;
- Define the skills, knowledge, experience, education, training, and certifications required to enter the project management profession;
- Increase awareness and encourage students with little or no knowledge of project management to consider it as a career option;
- Provide students, whether they have already selected project management as a career or not, with specific information on the educational background and criteria required to attend college to become a professional in their career;
- Identify opportunities available in the project management profession.

So what is project management?

Project management provides organizations with the knowledge, skills, tools, and techniques to plan and execute projects on scope, on time, and on budget. Project management is accomplished through the use of processes like initiating, planning, scheduling, executing, controlling, and closing. Each of these processes are critical to managing the project team and the work that needs to be performed.

The primary objectives of project management are to:

- Meet or exceed client expectations;
- Produce a high quality product or service;
- Complete the project on time and within budget;
- Deliver a result that clearly meets the needs of the business;
- Enhance organizational communications and teamwork by fostering an environment of cooperation and reduced conflict.

Examples of projects in the business world include (1) planning and implementing the Olympics, (2) creating a Web application to support selling a company's products and services, and (3) relocating portions of a business from one place to another.

Most likely, you have already participated on several different types of projects. Whether it's participating in a sports event or the school play, organizing a prom, publishing a newspaper, or entering a science fair competition, you're involved in project management.

There are many similarities between involvement in school projects and working in project management in the business world. School projects very often provide experience in project management fundamentals such as planning, assigning tasks, creating and tracking schedules, team leadership, and ensuring you accomplish deliverables (what you set out to do on time, and within budget). In addition, school projects may create an opportunity for you to participate on a project team and learn team dynamics.

“Project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements and therefore help individuals and organizations achieve goals on time and on budget.”

– Mark Langley, President and CEO,
Project Management Institute

Let's talk sports:

A basic analogy for understanding project management

There are multiple roles involved with successful project management, and those roles are discussed in more detail on page 15.

Perhaps the easiest way to better understand the concept of project management and its related roles is through the use of a sports analogy. To make this analogy clearer, let's first list the multiple roles involved in project management. The analogy below will then shed light on several of these keys roles.

- Customer or Client
- Stakeholders
- Project Sponsor
- Project Executive
- Enterprise or Cross-Functional Project Manager
- Functional Project Manager
- Project Team Lead
- Project Team
- Subject Matter Expert

If you have participated in school sports, you have probably encountered situations and roles similar to those listed below. Let's assume, for example, that your school has a soccer team, and that the team's upcoming games for the season make up the **project**. The players on the soccer team are like the members of a **project team** within a **performing organization**:

they are responsible for doing the work of the project. The players collectively work towards a common goal of winning games or matches and, eventually, maybe even a championship. Each player assumes a unique **functional role**, with specific assignments to help the team win. In a sport like soccer, as well as with football, baseball, basketball, and hockey, the project team can be quite large and complex. In other sports like skiing, skating, tennis, and bowling, the project team may be very small or only include one person.

Regardless of project size and format, there are common challenges that players must face when completing the assignments associated with their roles.

Now let's consider the **stakeholders** of a project. Project stakeholders are individuals and organizations that are affected positively or negatively by project execution and/or project completion. They may also influence the project and its results. A good project manager must identify the stakeholders, understand their requirements and then manage those requirements to ensure a successful project.



In our sports analogy, stakeholders include everyone interested in the outcome of the soccer game. Stakeholders—or fans—may be a small group consisting of team members and their immediate families and friends, and maybe even fans in the local community, including the school's alumni and the coaching staff. Similarly, in a small business or an organization with a few volunteers, there may be a limited number of stakeholders.

There are other key stakeholders as well. In a professional sports franchise, two high profile stakeholders are the team's owner and the general manager (GM). In a sense, the team owner is the **project sponsor**, because he or she provides the financial resources for the team. The team's GM would be a **project executive**, the person who exhibits the strong leadership, decision making, and communication skills that ensure that the day-to-day and long-term operations of the team go smoothly.

For the team to be successful, both of these stakeholders must not only agree to the project, they must also express their expectations to the players and, when necessary, provide guidance and direction.

“Building one of the world's most luxurious stadiums (Dallas Cowboys Stadium, USA) was a large and complicated project that required meticulous planning; costing US \$1.1 billion and employing 2,200 workers.”

– PM Network, January 2011



Let's not forget another key stakeholder: the head coach. After all, he or she devises the overall strategy and game plan for a particular opponent. The head coach's functional role parallels that of the project manager in the business setting. A **project manager** is responsible for managing the project. In sports, a coach must evaluate the talent and skill level of the players and then adopt a style and employ a system that takes advantage of each player's abilities. This gives the team its best chance of meeting its objective—in short, winning the game.

Project management provides organizations with the critical skills, tools, techniques, and knowledge to plan and execute business critical projects on time and on budget.



Why consider project management as a career?

In the 21st century, the global demand for skilled project managers is at an all-time high as organizations continue to focus on higher productivity and greater customer satisfaction with minimum resources.

Project management is a universal professional skill – virtually all occupations and industries use project management and benefit from employees with these skills.

There is a global demand for project managers across all industries as evidenced by the estimated \$20 trillion invested in projects globally. Just browse the job boards on the internet for “project manager” in your area and you will be surprised with the number of jobs that will be listed!

This demand opens a wide range of career opportunities for men and women who are looking for well-paying jobs in a variety of industries. You may choose to work in an industry that is developing a cure for cancer, creating robotic technology or use your skill to help in disaster recovery.

What's in it for you?

For one, marketability and value. Said another way, your skills will be in heavy demand by organizations in multiple industries, governments and nonprofits. The organization you choose to work for benefits greatly when you routinely display the skills, knowledge, training, education and expertise necessary for successfully managing projects.

There are many other benefits as well. As a project management practitioner you will:

- Earn an excellent salary and benefit compensation;
- Be highly skilled in the tools, techniques and processes (industry standards) used to effectively manage projects and produce expected results;
- Have a clear competitive career advantage over those seeking positions within project management but who do not have the necessary skills and credentials;
- Work in a profession that offers seemingly limitless opportunities for growth and advancement;
- Have ample opportunities for ongoing professional development, meeting others in your areas of interest, and sharing information on a global level.

“32.6 million employees with project management skills will be needed in 2016.”
– Anderson Economic Group

What can you earn?

While salary levels will naturally vary by industry, geography, level of experience, and the amount of formal education and/or certifications one has, compensation may begin at \$30,000 (US) as an entry level project team member and go well into six figures as a project management executive.



Nowadays, with the explosive growth of project management, you can become a project manager or team member in virtually any field. Although project management is better established in aerospace, pharmaceuticals, defense, information technology, and large construction industries, organizations in all fields have begun adopting project management in key areas. As a skilled project management practitioner, you're part of that investment.

PMI Salary Survey Results*

Median salary for project managers
without PMP® certification:

\$96,063

Median salary for project managers
with PMP® certification:

After 1 - 5 years: **\$104,144**

After 5 - 10 years: **\$113,343**

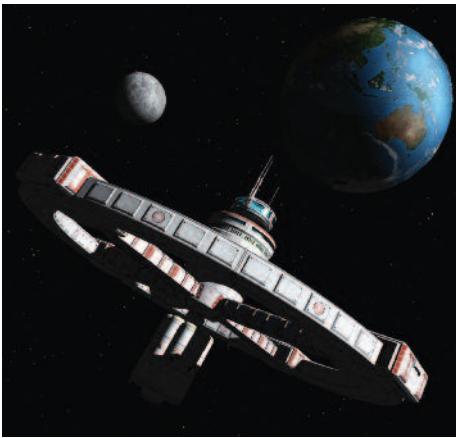
After 10 - 20 years: **\$124,045**

*2009 PMI Salary Survey, 6th Edition. Published in 2010

For one, it's *hot!*

Exciting career options in project management

Opportunity exists! Project management encompasses a broad range of interesting and rewarding career options from aerospace and defense to the planning and construction of mammoth skyscrapers, bridges, and energy plants and systems. Below are just some of the most popular career opportunities where strong and effective project management skills play an absolutely essential role.



Aerospace and Defense

Project managers in this field are dedicated to planning and improving projects in the key arenas by implementing proven project management techniques and principles.

improve educational processes, control workload and develop innovative educational programs.

Environmental Management

As a project practitioner, you'll have an opportunity to successfully plan, manage, and participate in projects aimed at solving environmental, social or developmental problems.

Financial Services

Use your acquired project management knowledge and expertise to effectively manage change and develop innovative business and customer service solutions in the banking, insurance, real estate, investments, and other financial service fields.

Automation Systems

Automation systems are an integral part of modern civilization and will be even more extensively utilized in the future.

Design, Procurement and Construction

Do you like to see things grow? In this field, you will be involved in the development, design, engineering, procurement and construction processes for projects involving buildings and facilities in the residential, commercial, and industrial sectors worldwide.

Education and Training

Project management lives and thrives wherever people and improvement are involved. Here you'll use your project management skills to

Healthcare

Here, project managers and other practitioners may work within the framework of health plans, health care providers, business partners or consulting firms; you'll also work with those who implement projects specific to information technology, regulatory obligations, and business process re-engineering.



Information Technology and Telecommunications

You'll be involved with developing and improving technologies that include voice/data/video transmission and switching (e.g., analog, digital, satellite, microwave, fiber-optic), end users of the deliverables and infrastructure providers.

Manufacturing

Modern project management plays an essential role in the planning, execution, and control of the manufacturing process including projects involving new product and process development, production upgrades, and efficiency upgrades.



New Product Development

Do you enjoy playing the latest video games? As with any new product in a highly competitive market, developing new and interesting video games or other products, requires strong project management to ensure timely delivery of innovative and appealing products.

Nonprofit and Non-Governmental Organizations

Nonprofits and non-governmental organizations implement and manage projects daily—from planning fundraising events to developing a staff orientation, to putting a new program together for clients. Using project management will help them be more efficient and use donor dollars more effectively.

Primary and Secondary Education

Project management is a professional skill that will help teachers manage their classrooms and projects and help states and ministries of education function better so they can deliver projects on time, on scope, and on budget.

Government

The demand for greater effectiveness and efficiency by government is a natural fit with project management. As a project manager or team member, communication and stakeholders relationships are critical along with project cost management and all other aspects of project management.

Urban Development

As a project practitioner in this arena, you will use your acquired knowledge and skills to facilitate the successful implementation of projects and programs that are deployed in an urban environment, including disaster relief and emergency management, civil affairs projects, building parks, and much more.



Hitting the books:

Preparing for your career in project management.

Until recently, project managers have acquired degrees in a functional field of study, i.e., marketing, accounting, engineering, construction, and technology. With the dramatic growth of project management as a profession, however, project management is becoming one of today's fastest growing degree programs worldwide. There are over 480 schools offering over 640 different project management degrees. There are project management degree programs at the bachelor's, master's, and doctorate level, generally available through on-campus participation or distance learning.

Bachelor's degree

Many engineering, construction, IT, business degrees and other degree programs are now incorporating project management skills into their curriculums. Ask the schools that you are interested in attending if they help students develop project management skills and knowledge at the undergraduate level.

Master's degree

Masters degrees are the most common form of project management degrees. Degree programs are typically found in engineering, construction science or business administration departments as well as project management itself.

The master's degree program typically presents an innovative curriculum that balances practice and theory in project management. Generally, the curriculum is carefully compiled—and is continually improved—to include the skills needed for making the transition from project team members to project managers. You'll

learn to integrate complex projects, motivate people, and achieve cost-effective results.

Doctorate in Project Management

The doctorate degree is the ultimate formal education level in project management and is currently offered by a small number of schools. However, many doctorate of business or engineering degree programs can be designed



to focus on project management. A doctorate degree establishes you as an expert in the field and qualifies you to teach at the university level or eventually hold senior positions in industry and government.

Obtaining your doctorate degree in project management will equip you with in-depth knowledge in specific areas of project management while developing your research capabilities, which can be applied in industry, government and academia.

In general, students entering a doctorate program without previously having completed a master's program may be required to take a specified number of credit hours of courses in the project management curriculum (which may include outside courses subject to approval) in addition to the graduate school requirement of a specified number of credit hours of dissertation research. Credit hours will vary by schools and programs.

Finding schools, colleges, and universities offering project management education

The number of project management programs in schools is growing, but they can be difficult to find if you don't know where to look. An excellent resource for finding programs is the

“Since I joined the program at University of Texas, I have received two promotions at work. I now manage a US \$250 million budget for a major bank division. These career opportunities were directly the results of the changes in my vocabulary and the tools I had in my pocket.”

– Richard Stockton, MBA

Project Management Institute Global Accreditation Center for Project Management Education Programs (GAC). The GAC provides a list of project management degree programs on PMI's website. Go to **www.pmi.org** and look for ***Accredited Programs***.

Another excellent resource for students is **PMIteach.org**. The Student Resources section of the website contains information about academic scholarships and awards from the PMI Educational Foundation as well as career and leadership development resources.

www.pmi.edu/foundation

What can I do?



Jobs that utilize project management skills can be found everywhere; in all types of industries, services, and businesses. With project management skills on your resume, you will stand out from the others.

A few examples of areas that use project management:

- Research
- Aerospace
- Technology
- Teaching
- Humanitarian Organizations
- Information Technology
- Urban Development
- Design, Procurement, and Construction
- Environmental Management

“My project management skills helped me to transform one of the most notorious gas guzzlers into a lean, green machine.”

US – Barry Shriever, Electric Cars, Oxford.



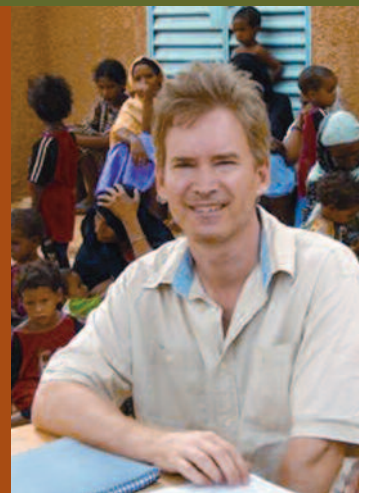
“My project management skills allowed me to transform a desert landscape into an urban center – with everything from a petrochemical plant to a mosque.”

*– Bechtel Corporation
Dr. George Dinic, Ph.D*



“I worked in Africa and helped illiterate and uneducated young adults learn a trade in sewing, basic entrepreneurship, and health issues. It is a wonderful feeling to use your profession to help those in need.”

*– Tim Mattimoe, Deputy Director
International Relief Organization, Niger*



Scholarships and awards

If you are currently in college or will be attending college soon, then you might be looking for ways to help pay for your education. The PMI Educational Foundation's Scholarships and Awards Program offers opportunities for financial assistance as well as awards to recognize student papers in the field of project management. Visit www.pmief.org to find the complete list of scholarships and awards.

Scholarships

Academic scholarships are offered to college and university students studying project management or a related field that contains coursework related to project management, such as engineering, computer science, business, and many other fields.

College-bound students who are finishing their final year of high school/secondary school are also eligible to apply. Scholarships are available for bachelors, masters, and doctoral students.

“Without the scholarship I would not have been able to continue my education. Thank you for providing me with this opportunity.”

– Beth Ardolino, Recipient
Dr. Harold Kerzner Scholarship



Awards

The James R. Snyder International Student Paper of the Year (ISPY) Award is available to undergraduate and graduate students for research papers in the field of project management. Award recipients receive US \$500 plus an expenses paid trip to attend the PMI® Global Congress in their region. The author will have a session at Congress to present his/her paper in front of an audience of Congress attendees.

The Donald S. Barrie Award is available to undergraduate and graduate students for research papers in the fields of engineering and construction. Awardees receive US \$500 and a chance to present his/her paper at The PMI® Global Congress–North America.

Certifications

Expanding your level of expertise

The learning process never stops in project management. The demand for projects to be completed on scope, on time, and within budget requires trained professionals who have project management knowledge, skills, and experience. That's why today's successful project management practitioners, regularly participate in project management certification programs.

“PMI certification offers financial benefits – the Project Management Professional (PMP)[®] credential increases your salary by up to 10% ...and helps you stand out and better market yourself to prospective employers.”

PMI Salary Survey - Sixth Edition, 2009.

PMI Certifications:

- **Certified Associate in Project Management (CAPM)[®]**

The CAPM is a valuable entry-level certification for project management team members.

- **Project Management Professional (PMP)[®]**

The PMP credential is the most important industry-recognized certification for project managers.

- **PMI Scheduling Professional (PMI-SP)[®]**

The PMI-SP demonstrates skill and competence in the specialized area of project scheduling management.

- **PMI Risk Management Professional (PMI-RMP)[®]**

The PMI-RMP fills the need for a specialist role in project risk management.

- **PMI Agile Certified Practitioner (PMI-ACP)SM**

Demonstrates level of professionalism in agile practices of project management.

- **Program Management Professional (PgMP)[®]**

The PgMP credential recognizes the advanced experience and skill of program managers.

To earn these credentials through PMI, candidates must meet specific education and experience requirements, and then pass an examination. In addition, those who have been granted the PMP[®] and the credential must demonstrate an ongoing professional commitment to the field of project management by satisfying PMI's Continuing Certification Requirements Program.

Certifications through PMI utilize *A Guide to the Project Management Body of Knowledge* (PMBOK[®] Guide), industry standards, and additional project management materials (CDs, books, videos, etc.) as key references. See **www.pmi.org** for additional information.

Going up?

Climbing the project management career ladder.

So maybe you're a little intrigued by this thing called project management. But, as a career, where can you go? And how quickly? Naturally, experience and education will play an important role as you progress into and through the project management profession.

For starters, let's look at entry level opportunities. Your credentials may include a certificate in a technical field (developer or analyst) or in a functional area (Web, accounting, human resources, etc.) or an undergraduate degree in project management. If you don't have an undergraduate degree, your background may include some college, or three years or less of work experience with no college background.

So you've landed an entry level position in project management. Now what? What's your next move? Truthfully, how you advance within

the project management profession is pretty much up to your ambition, interests, and the direction you want to go. One possible path of progression is outlined below.

Project Team Member

– supports the project manager in a knowledge area such as project schedule management or project risk management.

Project Manager I – oversees a small project or phase(s) of a larger project.

Project Manager II – oversees multiple projects or one larger project.

Project Manager III – oversees high-priority projects, which often require considerable resources and high levels of functional integration.

Program Manager – responsible for the coordination and management of multiple related projects, and in most cases, ongoing operations directed toward a common objective.

Portfolio Manager – responsible for the management of the entire organization or division's projects and/or programs for achieving strategic company goals.



“In today's fast paced corporate world, one needs all the advantages one can muster! In many ways, good project management skills translate into a competitive advantage in the workplace. I love to see my students using these skills to further themselves on the job.”

– Dr. John J. Byrne, PMP

Author of Polaris: Lessons in Risk Management

In summary

Few fields of endeavor offer the excitement, challenge, diversity, sense of accomplishment, and excellent income potential as project management.

If you like working with people, honing your communications skills, having direct involvement, managing projects from start to finish, and seeing the results of a true team effort, you will be genuinely excited about the opportunities awaiting you in project management. Commit now to learning more about this dynamic profession. Talk to your friends. Speak with your guidance counselor. Surf the Internet to find out more about schools offering an education in project management. Why wait one more day to begin planning for a lifetime of rewarding and stimulating accomplishment? Your career in project management is waiting.



For more information about opportunities in project management visit the PMI Web site at **www.pmi.org**

To find out how project management is being leveraged for social good visit **www.pmief.org**

Did you know?

- One of the world's most expensive projects was the construction of the International Space Center at an estimated US\$100 billion.
- Project management is being used to design the world's first zero carbon and zero waste city, Masdar City in Abu Dhabi.
- An average of 1.2 million project manager positions will need to be filled each year through 2016 (based on Anderson Economics Study).
- The modern era of project management began in the 1950s.

About PMIEF and PMI

The Project Management Institute Educational Foundation (PMIEF)

PMIEF, the philanthropic arm of the Project Management Institute (PMI), is a not-for-profit, non-political organization that champions project management knowledge and skills for educational and social good. Founded in 1990, PMIEF provides scholarships, confers awards, sponsors research, prepares and disseminates project management-related educational material and awards financial grants to support project management life skills and humanitarian programs. Please visit www.pmief.org for more information.



The Project Management Institute (PMI)

PMI is the world's largest project management member association, representing more than half a million practitioners and certificants in over 185 countries. As a global thought leader and knowledge resource, PMI advances the profession through its global standards and credentials, collaborative chapters and virtual communities and academic research. When organizations invest in project management, supported by PMI, executives have confidence their important initiatives deliver expected results, greater business value and competitive advantage. Learn more at www.pmi.org.



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