

Project Management: A Platform for Innovation

INTRODUCTION

Projects dominate our headlines.

Reform—in health care, in education, on Wall Street—is accomplished through projects.

Electric cars are a reality. Biodiesel, solar, wave, and wind energy are supplying an increasing proportion of energy. And the gadget factory is in high gear. Devices you'd never have dreamed of five years ago are already out of style. The constant drive to innovate makes the ability to deliver new products a core asset of technology companies.

Projects dominate our workplace.

Our project-based workforce creates advertising campaigns, repairs freeways, remodels homes, writes articles, revises compensation plans, and connects the world with cellular communication networks. We grow our organizations as we open new stores, merge with rivals, and expand or consolidate distribution networks. We are constantly transforming our global civilization in tiny increments.

Projects help us react, survive, and thrive. A global economy on the rise or in recession creates constant change, and the pace is increasing. The changes are disruptive for some: those whose companies and industries have become irrelevant faster than they could imagine. For others, it is an endless opportunity. For everyone, it is a challenge to

navigate and prosper in an environment in which we are forced to learn, to adapt, and to contribute our own changes.

In the past it was possible to leave the management and mastery of projects to innovation leaders like Boeing, Apple Computer, Ford, or Disney. But the new pace of change affects every organization, and those that don't adapt don't survive. Project management is a must-have capability for every organization and a personal job skill that will only become more valuable in the years ahead.

Projects Drive Innovation

Project management is not new. The pyramids and aqueducts of antiquity certainly required the coordination and planning skills of a project manager. While supervising the building of St. Peter's Basilica in Rome, Michelangelo experienced all the torments of a modern-day project manager: incomplete specifications, insufficient labor, unsure funding, and a powerful customer. Michelangelo was the exception in his day. Now, 500 years later, our global economy is powered by innovation. Although not every project aspires to be innovative, every innovation is the result of one or more projects.

To connect project management and innovation, we must first understand projects. Projects are all the work we do *one time*. Whether it's designing an aircraft, building a bakery display case, or creating a business logo, every project produces an outcome and every project has a beginning and an end. Fundamental to understanding the importance of projects is realizing that each one produces something unique. Designing and tooling up to build a new sports car is a project (actually a lot of projects), but manufacturing thousands of sports cars is not. Manufacturing and other repetitive processes are defined as ongoing operations.

Project management techniques cover a range of topics:

- Communicating with team members and stakeholders from project conception through completion.
- Estimating the effort, cost, and time it will take to deliver a project, and evaluating whether the benefits of the project will justify the forecasted costs.
- Rapidly building cohesive project teams that are highly productive even though team members have not worked together before.
- Coordinating the actions of a diverse workforce, assembled specifically for a project, to achieve the goal for the least possible expense and in a reasonable time frame.
- Accounting for progress and productivity to provide accurate forecasts of project completion dates and budget amounts.

- Managing the varying staffing needs that result from continually running multiple projects concurrently, all of which share a common pool of personnel.

With that understanding of project management, it is easier to make the connection between projects and innovation. For our purposes, innovation is a fresh, new approach to solving a problem that is important to people. Apply that definition to education, transportation, or telecommunication, and you'll find many projects driving innovation. Clayton Christensen¹ classically identified two kinds of innovation: disruptive and sustaining. Disruptive innovation will destroy a current paradigm or market, in the way that online universities could change traditional on-campus college educations. Sustaining innovations make our current products and services better and more valuable to our customers.

The world is experiencing a fundamental shift from rewarding excellence in ongoing operations to rewarding the ability to chart an effective path of change and deliver on the goals. The discipline of project management provides the methods and techniques to meet the challenge.



PROJECT MANAGEMENT IS KEEPING PACE WITH GLOBAL CHANGE

Project management is a discipline—a set of methods, theories, and techniques that have evolved to manage the complexities of work that is unique and temporary. Even as the discipline continues to evolve, it can claim a proven track record. Millions of projects around the globe routinely rely on the concepts found in this and other project management books. The Project Management Institute (PMI), headquartered in the United States; the International Project Management Association (IPMA), serving Europe, Asia, and Africa; and other standards organizations have formalized this discipline over the past 60 years.

The proliferation of projects has led to substantial growth in the number of people who call themselves project managers, and project manager is now a common role in nearly every kind of organization. The related phenomenon is the rise of the certified project manager. PMI and IPMA both offer professional certification programs to formally recognize skills, knowledge, or both.

Examples of how project management is spreading to new parts of our global workplace can be found in the profiles at the end of this chapter on two organizations, OrthoSpot and PM4NGOs. The first is a business start-up, and the second is a nonprofit that is promoting the

use of project management in developing countries by aid agencies. In both cases, these organizations have used the proven project management framework as a starting point, and then adjusted it to meet the needs of their unique audience.



PROJECT MANAGEMENT IS AN ESSENTIAL LEADERSHIP SKILLSET

Given the importance of thriving in a project-driven world, the people who lead projects—who turn visions of what might be into tangible products and services—stand out. But it has been proven that project managers alone can't carry the burden of creating mature organizations whose project management capability produces a strategic advantage. In fact, as the pace of change continues to increase, leaders at every level must be able to speak the language of project management.

- *Executives* select projects. They also stand behind projects as champions or sponsors, overseeing project progress and providing advice to the project manager and team. Every major project or program has an executive who is ultimately accountable for its success. Executives are also accountable for the project portfolio, the collection of all active projects that have been selected as the best way to achieve the organization's goals.
- *Functional managers* sponsor, lead, or oversee projects within their departments. They make decisions about project priorities as they assign their staff to project teams.
- *Team members* who understand project management make the entire project run more smoothly. They make the project manager more effective because they make better estimates, identify risks, and participate in planning and problem solving.

How does project management fit into your personal career goals? In an economy that is pushing each of us to learn and adapt, how much change do you expect in your job over the next decade? If the new normal is continuous transformation, isn't the ability to navigate new territory the most enduring skill?



SUCCESSFUL PROJECTS DELIVER VALUE

Twenty years ago, the project management community could agree that a successful project was on time, on budget, and delivered to specification. But times change. Too many projects have "delivered to specification" without actually being valuable to the

organization that paid for them. The most common offenders have been expensive information technology (IT) projects that produced reports or systems that didn't make a positive difference to the business, either because the system was rejected by the users or it didn't solve the real problem driving the project. But IT isn't alone. Any project team that focuses only on delivering the specified product or service, but loses sight of the context of the project can be guilty of failing to deliver value.

A more current definition of a successful project is one that delivers business value. The implication is that the project manager should understand the business case—why was this project approved? It has also broadened the perception of who is a project stakeholder. After all, if a solution to my part of the organization causes pain to your part of the organization, have we made things better or worse?

Another aspect of delivering value is the realization that if our solutions are not really accepted and used, they probably aren't achieving their potential impact. Therefore, the practice of change management has a growing role on project teams. Change management, as the term is used here, refers to assisting affected people to change their behaviors in support of the project goal. This should not be confused with change control, which addresses controlling changes to scope, schedule, budget, and other previous agreements.

When project managers see their job as *leading change that delivers business value*, they see the bigger picture and increase their contribution to their employer and to all stakeholders.



THE ART AND SCIENCE OF PROJECT LEADERSHIP

Project management has been called both an art and a science. In these pages, you will see how mastering the science of project management provides a foundation for the art of leadership. The necessary skills are common to both. There is no question that the best project managers are also outstanding leaders. They have vision, they motivate, they bring people together, and, most of all, they accomplish great things.

Indeed, when we characterize the attributes of the great project managers, their skill can seem mysterious and magical, as though the good ones are born and not made. Fortunately, that is not the case. Through over 25 years of listening to many thousands of professionals and observing the most successful project leaders, it has become very clear to me that project management is a skill that can be taught and learned. Far from magical or mysterious, I've learned that certain characteristics are consistently found on successful projects in every industry. Boiled down, they consist of these five project success factors that drive the design of this book.

1. *Agreement among the project team, customers, and management on the goals of the project.* The importance of having clear goals seems so obvious that it's almost embarrassing to bring it up. Yet thousands of projects, at this very moment, do not have clear goals, and the results of this fuzziness can be devastating.
2. *A plan that shows an overall path and clear responsibilities and that can be used to measure progress during the project.* Since every project is unique, the only way to understand and execute it efficiently is with a plan. Not only does a good plan show who is responsible for what and when, but it also demonstrates what is possible. It contains the details for estimating the people, money, equipment, and materials necessary to get the job done. And because the plan is the basis for measuring progress, it can also act as an early warning system for tasks that are late or over budget.
3. *Constant, effective communication among everyone involved in the project.* People—not plans or software—complete projects. A successful project is a result of people agreeing on goals and then meeting them. From concept through implementation, success depends on the ability to come to agreement, coordinate action, recognize and solve problems, and react to changes.
4. *A controlled scope.* Success is in the eye of the beholder. This is why, from the very start, the successful project manager will ensure that everyone involved understands exactly what can be accomplished within a given time frame and budget. This is called managing stakeholder expectations, and it is an important, ongoing task throughout the project, especially if changes are introduced. Stakeholders must not only agree to the original scope of the project, but also understand any changes in scope.
5. *Management support.* Project managers rarely have enough formal authority to make all the decisions it takes to complete a project. They rely on people in traditional management roles to supply people and equipment, make policy decisions, and remove organizational obstacles. Even the most enthusiastic, creative, motivational project leaders will stumble if they do not enlist the people with authority to act on their behalf.

Far from being mysterious, these five essential factors can be achieved through the diligent, persistent use of the science of project management. That is not to say that success comes without art—on the contrary, art is immensely important. Art encompasses political and interpersonal skills, making creative decisions when complete information is lacking, knowing intuitively when to

delegate work, and more. But learning the basic science is requisite to practicing this art.

That's important for all of us, because it means that success at leading projects is not reserved for the lucky few born with the skills; rather, it is a discipline that can be taught and learned.



Processes Are Not Leadership

Project management can be viewed as a science composed of techniques and methods, and even software. It can also be viewed as the ability to inspire a team to achievement, to make tough choices, and to act with integrity when mistakes are made. In fact, project management can be all of these things. To grow, we must recognize the difference between knowing the science and practicing the art.

The art of project leadership embodies skills that are gained through experience, sensitivity, and a thorough knowledge of the basic science of management. Learning the basics of project management can be your first step on the road to becoming a skilled and inspiring leader. While developing all these skills will take time, the basic science can be learned fairly quickly; able students can read and practice the lessons in this book on their very next project.



A PRACTICAL CHECKLIST FOR SUCCESSFUL PROJECTS: HOW THIS BOOK WILL HELP YOU

This book is written for people who need to understand the time-tested techniques of project management and how those methods are being put to use on projects every day. It is for people who need a complete foundation in the discipline, whether they are recent graduates, experienced executives, midlevel managers, or team members wanting to be team leaders. This book is primarily about *how*: how to get agreement on goals and how to reach them, how to enlist team members and project sponsors, how to negotiate schedules and budgets, and how to reduce risk and increase the odds of success.

The five project success factors introduced earlier in this chapter drive the content in this book. As the workplace has become more project-driven, other factors that influence projects also needed to be addressed. The following checklist expands on the five factors and shows you where to look in this book for practical advice.

1. Agreement among the project team, customers, and management on the goals of the project.

- It is apparent why this project is worthwhile. The benefits that will be realized from the project have been balanced against the costs, both tangible and intangible, and we understand the urgency. *Chapter 4 addresses the minimum content of a project proposal.*
 - We know who needs to be satisfied and who will judge the success of the project. *Chapter 5 explains who our stakeholders are and how to find them.*
 - What will be delivered, and the actions required to complete the project have been described at both the macro and micro level. *Chapter 6 explains how the statement of work establishes agreements on a common goal. Chapter 8 introduces the work breakdown structure, the detailed view of tasks and deliverables.*
2. A plan that shows an overall path and clear responsibilities and that can be used to measure progress during the project.
- We have planned for the unexpected and for factors beyond our control. *Chapter 7 demonstrates how risk management techniques reveal potential threats and opportunities, allowing the team to proactively influence or prepare for these future events.*
 - The schedule is constructed using a detailed understanding of the work to be performed and the sequence relationships between the tasks. *Chapters 8 and 9 use a step-by-step approach to breaking down a project and building a realistic schedule.*
 - The schedule is based on work reasonably assigned and the people responsible for the work have not been over-burdened. *Chapter 9 provides task estimating guidelines and an explanation of resource levelling, the process of evaluating a schedule to find unrealistic assignments of work in any time period. Look for tips on communicating clear task assignments in Chapter 14.*
 - Progress against the plan is measured with a steady rhythm. *Chapter 16 contains formulas for calculating the progress against cost and schedule baselines. Chapter 10 provides an overview of the Scrum method of planning and monitoring a project.*
3. Constant, effective communication among everyone involved in the project.
- We know who will be actively engaged in the project to accomplish the work and make decisions. *Chapter 5 gives us stakeholder identification techniques, and Chapter 6 describes the RACI matrix that clarifies project roles.*
 - Our project team has the trust and commitment to tell each other the truth and to work together to solve problems. *The attributes of cohesive project teams are described in Chapter 13.*

- We are prepared to assist those who will be affected by the changes that the project creates so that they contribute to achieving the project's goals. *Chapter 14 introduces the discipline of change management.*
 - Our project infrastructure contains risk logs, issue logs, visible schedules, and other practical methods that team members can easily access and update. *Chapter 14 focuses on team communication and Chapter 22 introduces tips for leveraging Microsoft's Project and SharePoint tools.*
 - We have established a rhythm of project reporting that is appropriate to the size and pace of the project and will keep our team and management synchronized. *Chapters 14 and 16 present a communication plan and guidelines for reporting status graphically. Every technique in this book promotes more effective communication among project stakeholders!*
4. A controlled scope.
- A practical approach to documenting and managing requirements has been adopted, so we deliver on the real business need. *Chapter 19 introduces the discipline of requirements engineering, explaining the different kinds of requirements and how each helps us move toward the goal.*
 - We know who must approve changes to schedule and cost, and what authority the team has for accepting changes to specifications and scope. The people who will approve changes have agreed to the process, so that change requests will be processed in a timely manner. *Chapter 15 describes the steps for maintaining the proper balance between what is delivered, how much it costs, and when it arrives.*
 - Cost and schedule estimates and commitments were created using reliable models developed from similar past projects. *Read about techniques for making accurate estimates in Chapter 11. Chapter 18 presents the role of a Project Management Office in creating repeatable project management practices.*
 - We have realistic expectations about the potential for deviating from the plan when our assumptions turn out to be wrong. *Chapter 12 is full of strategies for catching up, cutting costs, and shifting the balance between cost, schedule, and quality. Chapter 17 contains classic project problems and reasonable responses.*
5. Management support.
- The project sponsor is accountable for project success and has planned to meet with the project manager on a regular basis to

provide support and guidance. *Learn about the role and responsibility of a project sponsor in Chapter 5.*

- The people with the right skills and availability have been assigned to the project. *The planning process in Chapter 9, particularly task estimating, reveals the necessary skills. Functional managers are responsible for assigning people to the project, which is discussed in Chapter 5.*
 - Our sponsor and management team has met with the customer and other key stakeholders. All are committed to regular communication. *Chapter 14 covers the project communication plan and team kickoff.*
 - Escalation thresholds are in place to raise issues and risks up to the proper level of management. We know our allowance for cost and schedule variance before higher level management will intervene. *Chapter 16 shows how cost and schedule variance boundaries create escalation thresholds.*
6. Strategic alignment drives prioritization.
- This project is prioritized and sequenced relative to other projects in the firm, and therefore has been assigned resources that are sufficiently available to complete the project. *Chapter 18 and 20 address multi-project management factors, including portfolio management.*
7. Technical competence and mature development practices.
- Our team has up-to-date skills. *The techniques in Chapters 8, 9, and 11 on planning and estimating reveal the skills that are required to perform the work.*
 - We use industry best practices to clarify our customers' goals and to design, build, test, and deliver great products and services. *Read about traditional and iterative development lifecycles and the benefits of a consistent development approach in Chapter 3.*

This checklist is available as a downloadable form at www.VersatileCompany.com/FFMBAinPM.

BEYOND THE BOOK: TOOLS FOR APPLICATION AND CONTINUOUS LEARNING

In addition to practical advice applying proven techniques, this book has several additional features that make it easier to apply this advice:

- Access to webinars describing new developments in project management or expanding on topics within the book.
- Downloadable forms of common project management deliverables.

- Tips for using Microsoft Project, the most popular project management software application.
- Practice questions and advice for passing the Project Management Institute's Project Management Professional exam.

Webinars to Explore New Topics or Learn in a New Way

Books are one medium for learning. Live, interactive webinars with the author and his team provide another medium to stay up-to-date on new trends or explore a new twist on topics within the book. Be notified of free webinars by registering for updates at www.VersatileCompany.com/FFMBAinPM.

Downloadable Forms for Putting the Discipline to Work

The distance from concept to application can be shortened for all of us by using standard forms and templates. This book contains more than 20 checklists, forms, and templates for managing your own projects. We've titled these forms the *Fast Foundation in Project Management*, because together they form a basic project management methodology. Download these forms from www.VersatileCompany.com/FFMBAinPM. Look for them at the ends of Chapters 4, 5, 6, 7, 9, 11, 14, and 15. Since these forms were first included in the second edition of this book, many firms have used them, adjusted them to fit their own projects, and adopted them as their own standards.

Microsoft Project Best Practice Tips

There are many effective project management software tools in the market, but by far the most common is Microsoft Project. This book has three resources to help you gain the most from Project: Chapter 22 contains recommended practices for getting the most value from Project with the least effort when planning and managing projects. In addition, purchasers of this book are entitled to download tutorials for the basic use of Project from www.VersatileCompany.com/FFMBAinPM. The third resource is live webinars conducted by leading experts on Project.

PMP Exam Preparation Guidelines and Test Questions

Many project managers benefit from earning PMI's Project Management Professional certification. One requirement for earning this certification

is passing a lengthy exam. As an aid in exam preparation, sample exam questions are provided at the ends of Chapters 2 through 9, 11 through 16, and 18. These exam questions, along with Chapter 21, which contains general advice on preparing for the exam, have been contributed by Tony Johnson, author of a leading PMP exam preparation course series.



Every increment of change in our rapidly transforming economies and societies is brought about by a project. As projects dominate the way we work, it is critical to understand project management.

Projects are defined as work that happens one time only and has both a clear beginning and end. This kind of work may be contrasted with the ongoing operations of an organization that involve repetitive work—such as manufacturing or retail—with no defined end.

As our workplace becomes increasingly project-driven, organizations are investing in the ability to select and manage projects. Managers at every level play a role in creating successful projects. Project managers, in particular, must understand and practice the proven discipline of project management.

Innovation is created through projects, by project leaders that understand the real benefit the project brings to stakeholders. These leaders know their job is more than delivering to specification, they must be conscious of the original business goals that justified authorization of the project.

The purpose of this book is to help you gain these skills. Learn them and you will have every chance of steering a project from its planning stages through to its successful conclusion. For, while employing art and creativity are also important, the tools put forth in this book—the science of project management—provide the foundation for the success of any project.

Stellar Performer: OrthoSpot **Entrepreneurs Leverage Project Management**

Entrepreneurs are the ultimate project managers. They start with an idea and create a company. The founders of OrthoSpot knew they were playing against the odds when they set up their company, which offers an Internet-based inventory management solution to orthopedic surgeons. But they made it. Within a few years they had hundreds of orthopedic practices across 44 states relying on OrthoSpot's distribution network to supply over 60,000 products.

CEO Bill Schafer attributes the company's survival and continued growth to using fundamental project management techniques from the start. "We didn't have any idea how to start a business—how to get funding or bring our product to market." So the prelaunch months were spent in planning, building a detailed picture of the work ahead of them.

They started with a fundamental question: "What do we have to do to make money?" They built an answer from the top down. "We needed a product, business infrastructure, and sales and marketing distribution structure. Our first three major tasks became: get a business model, raise money, and set up an office." Shari Cohen, vice president of customer relations, had offered her home's basement as the original offices. "The wall's were covered with sticky notes and string, showing all the tasks and what had to be done before what."

Venture capital is two-edged sword for a start-up, providing the means for growth but also giving away the future fruits of the founders' innovation. So OrthoSpot used venture capital sparingly, limiting the number of employees who could be brought on board. Schafer relied on the detailed plan to accomplish a lot with a small team. "The early-stage mentality of overcoming obstacles by intensity can lead you astray if you don't have focus and keep your eye on the objective and allocate resources appropriately."

Schafer also relied on the plan when making strategic decisions. He found that the new thinking OrthoSpot was bringing to orthopedic practices attracted other opportunities. "When you're changing the way business is done and you're making headway, a lot of opportunities present themselves—for example, do this for cardiologists. But we don't have enough people and hours to do it all, so a focus on the plan keeps energy directed. The payoff is that the team stayed incredibly energized. When they are focused they can do incredible things."

The early focus on executing against a plan has seeped into every operation at the firm. New product development efforts and system implementations for customers are driven from detailed work breakdown structures (WBSs). "It's in our DNA—project planning and accountability," says Schafer. As a result, he believes OrthoSpot is positioned to be incredibly competitive. "We compete and win against companies that have a hundred times our capital."

Orthopedic practices across the United States rely on OrthoSpot to bring efficiency and lower costs, enabling them to offer better value to their patients. OrthoSpot relies on fundamental project planning and execution to serve its growing customer base and enable the OrthoSpot founders to enjoy the fruits of their vision and hard work.

Source: Interview with Bill Schafer.

Stellar Performer: PM4NGOs **Extending the Practice of Project Management to Accomplish Social Change**

"Let's not try to solve world hunger" is an oft-used warning about scope creep. Don't tell World Vision, Oxfam, Inter-America Development Bank, CARE, Catholic Relief Services, and the hundreds of other nongovernmental organizations (NGOs) working around the globe in developing countries to improve living conditions. Their efforts promote education and increase access to basic health care, clean drinking water, cheap solar energy, and other essentials that citizens of the developed world take for granted.

For those of us in the project management profession, it is easy to see this work as a never-ending series of projects. Key people in the NGO community have come to the same conclusion. Their passion for project management and development has created PM4NGOs.

PM4NGOs was launched in 2010. This nonprofit's stated mission is to maximize the impact of project investments for donors and beneficiaries. To do that, PM4NGOs pursues two primary strategies:

1. Promote and enable professional project management practices to be contextualized for the development and humanitarian environments.
2. Develop and maintain standards for project management in development and humanitarian agencies.

To meet these goals, PM4NGOs has created a certification based on a description of project management that bridges the gap between the realities of development projects and the existing standards such as PRINCE2 and the Project Management Institute. The certification is called Project Management for Development Professionals, but is usually referred to as PMD Pro. The accompanying standards document is called *A Guide to the PMD Pro*.

How do another standard and another certification make a difference? Mike Culligan is one of PM4NGOs founding board members and a principal author of the standard. He explains the genesis of PM4NGOs: "After 20 years of working on projects in the development sector I was introduced to the project management standards that were commonplace in industry. That was a revelation. But it wasn't easy to apply them. I found that they simply didn't connect with the way development workers were running their projects." Other seasoned development project managers felt the same way. Culligan and his PM4NGOs colleagues want to promote proven best practices, but know that to be accepted these practices must be contextualized, described in a way that makes sense to development projects. Culligan, along with all other PM4NGOs board members, is a volunteer. His full-time job is providing learning opportunities to 59 major NGOs around the world. "*The Guide to PMD Pro* creates a global standard that development workers will recognize. It can be adopted by international NGOs or small, local NGOs." The standard can also be promoted by independent training and consulting firms, just like the PMI and PRINCE2 certification.

PM4NGOs puts a special emphasis on serving its unique audience. One board member explained it this way, "A very important role of PM4NGOs is to make certain that access to the new certification is broad and the price affordable. We work in an environment where professional credentials are very important but not often available. We want to make sure the PMD Pro reaches all project managers that are interested."

The members of PM4NGOs have donated their time and money to write the standard, to develop the certification exam, and to have both translated into multiple languages. They also strive to make the certification accessible by keeping the cost of the exams to a minimum, as low as \$20 per applicant in some cases.

By early 2015 PM4NGOs had certified over 9,000 people. The *Guide to the PMD Pro* has been translated into Spanish, Portuguese, French, Arabic, and Dari, with plans for Italian, Russian, and Mandarin later in the year.

Projects undertaken to achieve social change need proven project management practices, such as planning, risk management, and scope control. They also need optimism, persistence, passion, and imagination. The founders of PM4NGOs have a grand vision and the hard-won experience to make it a reality. To learn more, visit their website: www.pm4ngos.com.