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Unleashing the Power of Project Management

By Aaron J. Shenhar

Executive Summary

Projects are the engines that drive innovation and change. Yet they have been ignored for a long time by top managers. Thus many projects today do not meet their objectives. In order to unleash the hidden potential that exists in projects companies must learn how to manage project in a highly adaptive and flexible way. Once the new frameworks are adopted projects have the potential of becoming one of the most powerful competitive assets of modern corporations.

Why We Need to Deal with Projects

When you look at the Pyramids, the Great Wall of China, the Greek Pantheon and even Stonehenge, you realize that throughout history almost all societies have figured out ways to organize the efforts of large masses of people to build monumental creations, which have excited later generations for hundreds or thousands of years. Today we call these efforts projects. Yet not until modern times when companies began organizing work around projects; and when tools, techniques, and methods became standard across industries, a new discipline--project management—emerged.

As a formal discipline, project management as we know it was born in the middle of the 20th Century. The Manhattan Project, which built the first atomic bomb during World War II, displayed the principles of organization, planning, and direction that influenced the development of standard practices for managing projects. During the Cold War, additional large and complex projects demanded new approaches. Programs such as the US Air Force Inter-Continental Ballistic Missile (ICBM) and the Navy Polaris were used to develop the management control procedure called Program Evaluation and Review Technique (PERT). They evolved simultaneously with the Critical Path Method (CPM), which was invented by Dupont for construction projects. These methods led to network scheduling charts, which became standard planning and controlling tools of project management.

Although projects have been around for thousands of years and project management as a discipline about fifty years, there are two reasons why projects and project management are becoming more and more important today to almost all organizations and businesses. First, let's look at any

organization's activity as consisting of two parts – operations and projects. Operations mean repetitive, on-going activities that are being done over and over again, such as manufacturing or services; and projects mean one-time, non-repetitive initiatives or one-of-a-kind efforts. With this perspective you may realize that the share of operations in most organizations is on the decline, while the share of projects is rising.

This trend began already in the early 1900s during the industrial revolution, and it is accelerating in almost every organization or industry: Not only do product lifecycles become shorter; today's customers require greater variety and more choices, forcing companies to offer more products. In addition, market globalization is forcing businesses to respond to local markets and to low-cost competition around the world. Finally, the IT and Internet revolution is not slowing down– even in stable industries such as banking or insurance, organization are investing in new IT infrastructure to keep up with growing demand and competition. Each one of these trends intensifies the project activity in almost every organization.

The second reason why organizations need to look closely at their project management is that across the board you may find that most projects today do not meet their time and budget goals and many do not meet their business objectives. Study after study shows that only one out of three projects is really considered successful. Thus, if two thirds of the efforts going into projects do not create the expected value, there is clearly a reason for concern.

Yet is there an Opportunity

Ironically, during the last few decades many organizations focused on improving their operations, but not their projects. This trend goes back to the turn of the Century when Frederick Taylor developed his scientific management principles, which greatly influenced the evolution of mass production systems, and it continued to this date with more recent concepts such as Just In Time, Lean Manufacturing, Reengineering, Supply Chain Management, and of course, the latest one, Six Sigma.

Although operational efficiency is important, it has its limitations. With time, at least conceptually, all companies may reach a similar level of efficiency. Additional investment in efficiency may not bring the advantages that it has created in the past. At best it may help you stay in the game and not fall behind. For comparison you may look at quality, which during the last decade has become a must, rather than a source of competitiveness as in the past.

However, no business enterprise today can survive if it is only focused on improving its operations. Projects are the engines that drive innovations from idea to commercialization. But projects are also the drivers that make organizations better, stronger, and more efficient. And since most organizations today accelerate toward a project-based world, shouldn't companies ask themselves are they doing a better job than their competitors?

This situation presents a tremendous opportunity. The time has come to unleash the untapped potential that exists in projects. We believe that if managers and organizations will pay a greater attention to their project management practices, the rewards will be significant. If top executives will spend as much time on project management as they did on Six Sigma, they will make their organizations much stronger and more competitive.

Managing Projects by the Book

Yet the answer is not so simple. It is not simply a question of more effort and better attention to project management. The reality is that the current techniques as used in the discipline of project management form the necessary basis for learning and understanding what project management is all about, but they are insufficient to guarantee a project's success or to address the needs of today's dynamic and uncertain projects.

We have seen projects that were managed exactly as required "by the book"--and still failed. They followed a structured process of planning and execution, which is common in the profession, and even when completed on time, they ended up in disappointment to management and clients. And we have observed other projects that did not follow any acceptable structure or process, or did not have a full plan with all its elements, and yet they turned out to be outstanding successes, bringing-in value and fame to their performing organizations and great satisfaction to their customers.

To illustrate the point let's look now at two famous projects. The first one is the Sydney Opera House. This famous building known for its inspiring architecture was initiated in the late 1950s. The original project plan assumed six years of construction with a budget of $7M. Yet when the project was completed it took its builders sixteen years at a cost of over $100M. From a traditional project management standpoint this project would be seen as a colossal failure. However, today no one really cares how much it cost and everyone sees the Opera House as a success story – brining in fame and money to the city of Sydney when millions of tourists visit the building each year.

The second case involves the first section of the Red Line in a much larger plan of building a subway system in Los Angeles. This project ended in 1993, and it was completed on time, below budget and achieving all its scope, quality, and performance goals. It even won the Project of the Year Award from the Project Management Institute (PMI). Yet after the first section was completed, the rest of the program was abandoned. The reason was simply because too few people chose the subway as their preferred mode of transportation. Although the subway was the most modern rail in the US and it offered a reliable, quite, comfortable, and timely service, the residents of Los Angeles did not buy into the concept of leaving their cars at home and using the subway instead. So was the subway a successful project?

The discipline of project management is based on an outdated model that assumes that projects are successful if they meet their time and budget goals. Once the project is launched, it must continue to its end to meet time, budget and requirements goals. Rarely do projects focus on business results or on changing at mid-course to better adjust to customer needs.

The Critical Role of Top Management

Most of today's project problems are not technical, but managerial. When technical errors cause projects to fail, it is usually management that failed to put the right system in place so that these errors will be detected in time. We also realized that the current practices of project management are insufficient to predict project problems or to solve them. And we found that even if you do everything according to the conventional well-established practices of project management, you may still fail.

Ironically, these traditional practices remain typically unchallenged by top management. As a result, many project teams are left on their own without much guidance or help from the top. They often struggle to keep their projects on track while trying to fulfill unrealistic expectations of stability; often highly detached from dynamic business needs and changes in the environment.

Our conclusion is simple. There is more to project success than following a standard set of rules. It is not the tools or applications, nor is it the lack of process. The problem lies in the mindset and the assumptions that are driving the traditional approach to project management, rather than in process or practice. The critical questions are: can we help project teams make the right assessment before presenting their project proposals to top management? Can we show executives how to ask the right questions and foresee danger before they make a commitment to a project and before it is too late? And can we guide project teams on how to adapt their project management style to the right circumstances, environment, and task? It seems that managers at all levels need a new framework and a new language to communicate with each other about projects.

Traditional Project Management Drivers

As mentioned, the current, standard, and formal approach to project management is based on a predictable, fixed, relatively simple, and certain model. It is also generally decoupled from the changes in the environment or the business needs; once you created the project plan, this plan sets out the objectives for the project, and the project manager must execute the plan, using a "management-as-planned" philosophy. After the project is launched, progress and performance are assessed against the plan and changes to the plan should be rare, and if possible avoided. Consider the following two major drivers of project management today:

- *The triple constrain*t: Project managers see their job as successful when they are able to complete the project on time, within budget, and achieve performance (or requirements) goals. This has famously been named "the triple constraint" (or "iron triangle") of project management and deviations from it are seen as a negative sign, which must be prevented or corrected.

- *One size fits all*: Many executives and managers assume that all projects are the same, thus suffering from the "*project is a project is a project*" syndrome. They expect to succeed by simply following a standard set of activities as outlined in the conventional project management books, which currently do not include guidelines for distinction among projects and for selecting the right approach for the right project.

In their struggle to keep projects on track, both executives and teams get frustrated when they are trying to fulfill unrealistic expectations of stability. Worse, in their effort to focus the project on the triple constraint, project teams often lose sight of the business rationale behind their projects, that they must satisfy a customer and achieve business results, and not just meet project requirements. And when they try to follow a standard set of rules for all projects, they often employ the wrong approach to their specific project.

The classical drivers of project management are no longer enough for today's business environment. The traditional model fits only a small group of today's projects. Most modern projects are uncertain, complex, and changing; and they are highly impacted by the dynamics in the environment. Virtually every project we studied underwent changes that were unpredictable upfront, and none of the projects was completed exactly as planned. Furthermore, as we found, projects differ in many ways, and "*one*

size does not fit all." In order to succeed, projects must be adjusted to the environment, task, and goal, rather than stick to one set of rules.

Toward an Adaptive Project Management Framework

Based on our research we suggest changing the paradigm of project management and accepting things as they are. In this book we developed a new framework and a new language to understand what project management is all about. The new framework is success-focused, flexible, and adaptive, and we simply call it the "Adaptive Project Management Model;" it differs from the traditional approach in several ways, as shown in Table 1

Table 1: From Traditional to Adaptive Project Management

Model →	**Traditional Project Management**	**Adaptive Project Management**
Project goal	Getting the job done – on time, budget, and requirements	Getting business results – meeting multiple criteria
Project Plan	A collection of activities that need to be executed as planned to meet the triple constraint	An organization and a process to achieve the expected goals and business results
Planning	Plan once at project initiation	Plan at outset and re-plan when needed
Managerial Approach	Rigid, focused on initial plan	Flexible, changing, adaptive
Project Work	Predictable, certain, linear, simple	Unpredictable, uncertain, non-linear, complex
Environment Effect	Minimal, detached, once the project was launched	Affects the project throughout its execution
Project Control	Identify deviations from plan and put things back on track	Identify changes in the environment and adjust the plans accordingly
Distinction	All projects are the same	Projects differ
Management style	One size fits all	Adaptive approach – one size does *not* fit all

According to this model projects are not just a collection of activities that need to be completed on time. Projects are business-related processes that must deliver business results. They are not predictable or certain. Rather, they involve a great deal of uncertainty and complexity, and they must be managed in a flexible and adaptive way. Planning is not rigid, fixed, or done once and for all; instead, it is adjustable and changing, and as the project moves forward, re-planning is often

appropriate or even unavoidable. Project management styles must adapt to the specific project and its requirements, and one size does *not* fit all. While this approach represents a shift in thinking, it is inevitable to meet today's organizational challenges. While no framework could provide all the answers, we believe that every organization can significantly improve its business results and achieve more homeruns from its projects if it will consciously apply the adaptive project management frameworks.

Old versus New Project Management

One final word: We do not suggest, however, eliminating the traditional approach. Rather, we are building *on* it. Many elements of traditional project management continue to be useful; yet, the overall approach will be augmented. As established by the conventional approach, each project must have a work breakdown structure, a schedule, a budget, an organization and a process. All those are necessary building blocks for well-organized successful projects. These building blocks will only form the baseline to leading the project in a flexible way. Not only do projects have to monitor and review their progress, they must periodically examine the need for the product and the customer's position. Are the initial assumptions still valid? And if not, what adjustments does the project have to make in order to guarantee better success. Furthermore, in many projects it is impossible to build a clear and detailed plan. The uncertainty involved is simply too high to enable creating a clear project plan with all its bell and whistles. Instead, companies must initiate pilot programs, namely, small-scale efforts that will help remove some of the unknowns before the company can commit to the major large effort. In other situations, managers must create product prototypes that will be tested by customers before the final product requirements are set and determined.

In sum modern projects involve a great deal of uncertainty and complexity, as well as other constraints such as time, political pressures, economical risks, and many others. Each project is unique and it has to be managed it its own way that best fits it unique characteristics, risk and complexity. Only after companies learn how to manage projects in an adaptive and flexible way, will projects become the powerful competitive assets that they can be.

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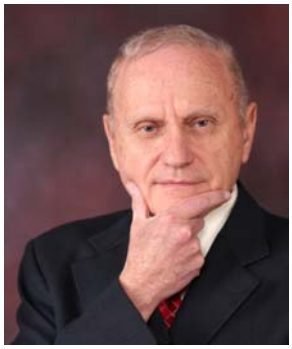

Bio

Dr. Aaron J. Shenhar is the Institute Professor of Management and the founder of the Project Management Program at Stevens Institute of Technology. He is also the CEO of the Technological Leadership Institute, a consulting and training company in technology and project leadership. Dr Shenhar holds five academic degrees in engineering and management from Stanford University and the Technion in Israel. He is the recipient of the Engineering Manager of the Year Award of IEEE, and the first PMI Research Achievement Award. Dr. Shenhar accumulated over 20 years of technical and management experience as an executive in a leading high-tech organization in the defense industry in Israel. In his academic career, he published over 150 publications in innovation management, project management, and the management of professionals in technology-based organizations. He served as a consultant to leading high-technology organizations such as 3M, Honeywell, Dow Jones, NASA, BMI, Liz Claiborne, IAI, and the US Army.