

The Evolution of a Successful Project

The first step in having a successful project is to determine just what a project is. According to the latest PMI definition – a project is a temporary endeavor undertaken to create a unique product, service, or result. As such a project would have a specific start, proceed through a number of steps or parts to a conclusion or closeout. That could be as simple as giving a seminar, building a house, constructing a new plant or facility, modifying an existing facility, performing periodic maintenance for a factory or facility, launching a new software product, launching a new benefit package or any number of things. The key is that the project can stand-alone, it might have relationships or interfaces to other projects, activities or things but the individuals responsible for the performance of the project can control its success or failure.

Management guru Tom Peters has often shown that corporations are becoming more and more project oriented. He has urged that a greater number of organizational endeavors should be managed from a project perspective as opposed to a process or functional point of view.

The project-oriented environment as envisioned by Tom Peters is one that gathers personnel from both within the organization as well as outside the organization to form a team or staff whose goal is to accomplish the assigned project swiftly and efficiently. When the project is completed, this group of individuals is then reassigned to other projects to repeat the process anew. The individuals involved in the projects are exposed to new and varied challenges and hone their skills in a broad area of expertise.

As I stated earlier this has applicability across many disciplines.

1. Construction projects come to my mind first. The project staff is selected from the various departments of an organization, reassigned to the project to represent that department and given the authority to act accordingly. These construction projects can be totally new construction efforts, as well as remediation efforts or additions etc.
2. The project could be the development and launch of a new software product. The process for selecting team members would be the same. Once the members of the team are gathered and placed, the focus of the team becomes the successful completion of the project.
3. Some organizations use planned outages or maintenance shutdowns as projects. Someone is chosen as the project manager responsible for an upcoming outage and they plan it out in detail, in most cases on an hourly basis. This has been used successfully in the power industry for many years – due to the high cost of plant

down time, any means to shorten the outage period is pursued. Some of your companies may perform planned outages.

4. An outfall of the planned outage or shutdown is the concept of unplanned shutdowns. Sometimes despite our efforts to control things, they still go haywire. Operating plants and manufacturing operations experience unexpected breakage and shutdowns that occur out of sequence. If we have planned for the possibility of such an occurrence with planning packages prepared in advance and having the necessary parts already on hand, we can take maximum advantage of a bad situation and maybe shorten our next planned outage in the process!!!
5. I am sure we can probably think of many more applications that might apply to your particular situations. But you get the idea. Each of these can be treated as a project.

OK!! So we have these things called projects. What can we do to maximize the probability of having a successful project – one that is on time and within budget? A study conducted in 2000 by the Standish Group reported that only 28% of projects are successful. We know there are many tools and packages out there that use various processes and techniques to manage and control projects. Regardless of the tool you use it is extremely important to believe in it and utilize it. Our experience has shown that if you identify a problem area or impact within the first 10 to 20% of the beginning of that effort you have a chance to recover, after that point in time the impacts to the project due to that problem are rarely recovered. The key is to utilize the tool effectively and aggressively pursue the areas of concern, turning them into opportunities. Some of the project management software packages on the market are very complex and others can be, depending on the features of the tool you use. We believe in the adage “simple is better” – which is why we are presenting these 10 steps that should form the basis for any project, regardless of its complexity. Our intention is to briefly describe these steps and provide a general overview. Each topic could be researched in much greater detail than this space will allow.

Develop the project scope.

Every project must be adequately defined long before it physically begins. While simple in concept, it can be difficult to achieve. A key element in this scope development and definition is to involve all of the project stakeholders. Depending on the type of project, the stakeholders can be many and varied, representing a variety of perspectives concerning the project. Ultimately, however they must all agree on what the project is to encompass and accomplish – its scope. Once the scope is defined and documented the project manager must obtain buy-in / concurrence

(consensus) from all of the various stakeholders if the project is to succeed. This scope becomes the foundation upon which the entire project will be built and controlled. If someone or something does not agree with this documented scope of work, then it MUST be resolved and the project scope will have to be modified before proceeding. The time taken at this point to thoroughly define the scope will be recovered many times over during the duration of the project. Poor scope development has been determined to be the cause of most schedule slippages and the reason for the majority of schedule changes. We will discuss project changes later.

This is also an excellent time to develop a good Work Breakdown Structure (WBS) that can be used on the project. A good WBS will require an adequate understanding of the project scope, an idea of how the project can most efficiently be broken down into accountable parts, an idea of the projects major deliverables and a basic idea as to what level the project will be controlled and managed.

Create/develop a logical sequence of events (planning).

Once the scope and WBS are defined we can begin to focus on planning the project. The project team who will perform the work should also be the team that develops the schedule logic. This helps to ensure that the project plan, when completed, has validity and a reasonable expectation of being completed on time. The team should begin with the big picture of the project and then move to smaller portions as the logical sequence for the project becomes clearer. It is very rare to be successful in developing a detailed logical schedule on the first attempt.

The first step is to logically relate the major component or deliverables of the project, what comes first, second, third, etc. and determine whether these certain components or deliverables are dependant on other portions of the project. The team must also estimate the duration of these efforts to accomplish this portion of the project. This is often referred to as the highest level of the schedule. Subsequent schedule levels are developed and tied to this higher level creating an integrated seamless project plan.

The second step is to define the tasks or activities necessary to accomplish each major portion or component of the project. This will require the team to break down a specific component or deliverable into smaller more manageable parts/pieces; called activities. These activities need to be defined and logically linked to reflect how the work will be performed in order to accomplish the specific project component or deliverable. As part of this definition, the team needs to develop a realistic estimate of the durations of the projects' activities. This process is repeated for each component or deliverable identified for the project.

Once all of the components have been expanded, we need to look again at how everything fits together. During this effort, the team is looking for additional dependencies or interrelationships we could not see or understand before. This will allow us to improve and enhance the project sequence of events into a feasible project plan, one that is logically sound. Once the team is satisfied with the duration and logic of the activities you will have the road map of how to accomplish the project. This road map will show us the shortest logical path to achieve our project goals and objectives. Once the team is satisfied with the logical plan for the project we need to apply resources.

Match (define) resources to the project logic.

What are resources?

Resources can be people (by name or category), raw materials, equipment, money or other quantified things, identified at an activity level. So the next step involves assigning resources to the activities created above. This can sometimes be a tedious task, however the benefits far outweigh the costs. Once completed, most of today's modern project management tools will utilize this information to produce an almost endless supply of charts, graphs and reports that will prove invaluable to the project management staff. For example, if we have loaded all of the activities with the type of craft needed to accomplish the work then we can obtain valuable data based on the project plan. This data might be a graph that shows the required usage of that craft over the duration of the project, as defined by our plan, including peak demands and low usage periods. Using this information, we might adjust the projects' plan to account for these fluctuations and thus increase the likelihood of project success. Or we could use the data to determine when peak demands might occur and plan to hire extra people for that time period. Using this resource data, we can group and extend activities over time to smooth demand or conversely, supply twice the number of resources required in order to accelerate the project schedule. Resource control is essential to controlling the project and it must be tied to the schedule to be effective.

Establish a project budget.

So far, we have defined the scope, created activities and a project plan, and resource loaded that plan. Budget control is the next step for a successful project and as you might expect uses these first three steps in its creation. Project cost is intimately related to the project duration and the resources needed to accomplish its scope. The costs for the resources defined above and applied to the activities can be determined with great accuracy. Since that cost is also applied over time in accordance with our activities' durations we can estimate the project costs. And that value

becomes the project's estimated budget. By controlling the project's resources over time, you can control the project's cost. Therefore, if you have a specific budget to operate within you can make the necessary decisions to control the overall cost as the project proceeds through time, with the ultimate goal to complete the project on time and under or on budget. This can be accomplished through an infinite number of ways to adjust and modify the schedule logic and resources to obtain the desired outcome.

Establish methods for reporting progress and gathering actual expenditures.

You have done the hard part – logically planned your work. Now the easy part begins – working your plan! If you believe that, then I have some land in a southern state I would like to sell you – it's a little damp but it has great potential!

The first step is to decide how often the project will be scheduled – daily, weekly, monthly, every two weeks, hourly etc. This can vary from project to project and can also change as the project proceeds to various stages of development. For example, progress could be reported monthly during the design effort but shift to weekly reporting during the construction effort.

Regardless of when progress is reported, it must include some basic information: If something was supposed to start – did it? If it was supposed to finish – did it? If it was supposed to start but not finish - what is the remaining duration and percent complete and if it is taking longer than expected explain why. Lastly, what were the actual expenditures (costs) for this activity during this period?

Accurately reporting these simple items will provide your project with all the information necessary to properly status the project and evaluate performance. A crucial aspect to progress reporting is that the real honest status MUST be reported – good or bad. The intent is to determine how we are performing on the project and where problem areas are so they can be solved. If the reporters of bad news perceive they will be executed for reporting the bad news then they will withhold it! Management must guard against this tendency and strive to create an atmosphere of open, honest communication.

Armed with this data we can now schedule a performance review meeting to be held on some periodic basis. Most projects have a detailed status review meeting monthly to discuss overall project performance, with a shorter less formal meeting held weekly. However, detailed meetings can also be held weekly. This meeting is of key importance and reflects management's commitment to the project's success. During this meeting, specific team members will be asked to address their areas of responsibility and explain performance issues. This dialogue should be

informative and probing with emphasis on why things are occurring, corrective actions planned to solve these problems and the results of previous actions.

Remember the underlying concept here is that by controlling the sequence and logic of your project - you will control the project.

Establishing a method for controlling change.

The ability to control and manage a project often hinges on the ability to control or more properly manage change. Changes are the single most troublesome aspect encountered on a project. They account for most project slips and budget increases. While often discussed and cussed, their impact is seldom understood. We can take some of this mystery away by establishing a sound control process, one that tracks changes through the project from inception to completion. There are many software packages that exist to handle changes and their impacts but we should focus on some of the more basic requirements of a sound system.

A reliable change control process should:

1. Identify the change, creating a unique numbering system to track them.
2. Document how and where the change ties into the project.
3. Define the change in sufficient detail that a group of project team members can understand it.
4. Describe the impacts the proposed change will have to any and all aspects of the project.
5. Quantify the cost of the change or the cost of not implementing it.
6. Once all of this is understood then the project team must review it and recommend acceptance or rejection of the change.
7. Project management has the final decision concerning the change based on the team's recommendation, impact to the schedule, and cost impacts of the change or cost of not doing the change.
8. Once approved the change will need to be incorporated into the project schedule and tracked to completion.

Like taxes and death it is almost a certainty that changes will cost your project MONEY in the form of time and/or \$. So controlling these changes rather than letting them control us is critical to a successful project.

Execute the plan.

It sounds trite but it is critical. Now that we have these plans, systems and processes in place, we must use them. We have planned our work and now we must work our plan. Or as we have seen

with our change control process if our plan is not correct any longer then we must change it and proceed to work the revised plan. The key to execution is for everyone involved with the project to take ownership of the plan and believe in it! If the person responsible for the work does not feel this sense of ownership they will claim it was not their schedule and will not use it. Instead they will find alternative means to accomplish their portion of the work effort with disregard for the impacts to the project as a whole.

Perform analysis and review throughout project life.

The key component to working our plan is the analysis of the project's performance over time. We touched earlier on the concept of a project review meeting; let's look at that concept in greater detail. The management team must stay abreast of the project's performance at all times and this review meeting provides an excellent forum to accomplish this. Since the key team members are summarizing their areas of responsibility, management should use this opportunity to ask probing and investigative questions. These should not be interpreted as criticisms of individuals but as assistance in trying to determine the best course of action to resolve or prevent a problem. Focus on why something occurred or did not occur, determining if something is an isolated incident or a trend, determining how management can help to resolve the situation. If management does not actively participate in this analysis and review process then it will be perceived as not interested and then its productivity will quickly wane. However, continuous review and analysis will result in a well-informed project team - one committed to achieving its goals and objectives.

Adapt & adjust to protect opportunities as they arise.

As we stated earlier, change is inevitable. How we react to that change is what separates good projects from great projects. We need to view each problem as another opportunity to excel. Understand the newly discovered issue, understand its impacts, and look for its solutions. Given that it will not go away, how can I adapt or change my present approach to incorporate the issue at hand and allow the project to be better in the long run. A well-informed team can be especially effective at adapting to the changes and minimizing the impacts that these changes will have on the overall project plan.

Closeout and review project at completion.

Every project must complete the project paperwork. It must turn over files of documents, test records, logbooks and software to the client. Little thought is usually given to this effort, it just

happens at the last minute and is pressed and hurried as people are moving to new assignments. An often-overlooked effort during this busy time is the need for lessons learned. The project manager in conjunction with the project team should review the project's overall performance records one last time. Look for things that were done right and things that could have been done better. If we could do something differently what would it be and why? These issues should be documented and submitted to a central organization for incorporation into future projects. A famous person once said, "If we do not learn from history we are subject to relive it." Our project performance history should be used so that our future project will be even better and more successful.

We trust the reader will find these topics worthy of further research and will build upon them. This paper simply scratched the surface, but we feel extremely confident that if you employed these ten steps on any project its chances of outstanding performance will be greatly enhanced!

About the authors:

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