Project Management: Tips, Tricks, and Traps

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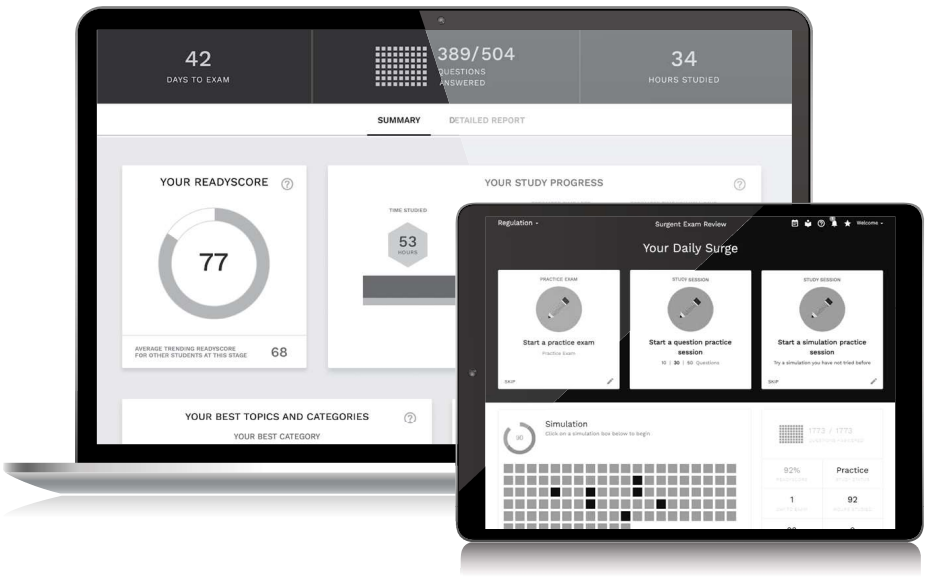

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Organization Types and Project Management

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Learning objectives

Upon completing this chapter, the reader will be able to:

- Understand organization types;
- Know why certain types of organizations are better at project management;
- Relate the type of organization in which the reader is working;
- Understand what politics can kill a project; and
- Know how to work through various political systems.

I. Understanding the organization

If we are to be more successful project managers, we need to better understand the organization of which we are a part. If we understand the organization, we are in a better position to work within its culture to achieve a better end.

As we explore this issue, we should understand that nothing is either one extreme or the other. While we will refer to two different organization models, we must remember that any organization is actually a combination of several. But, if we look carefully at how the organization operates, we will find that it tends to operate more like the bureaucratic or the post-bureaucratic model.

A. Bureaucratic model

Before the industrial revolution, organizations were small and mostly led by owners. When larger corporations sprung up, the owners discovered that it was more difficult to manage a larger group of people, so the bureaucratic model was formed. It was a top-down model with the boss at the top, the line workers at the bottom, with several levels of middle management in between. The system worked well to get directives and orders from the top to the bottom, but it took a long time and the bureaucracy didn't move very efficiently. But, in a time when the world wasn't changing too quickly, that may not have been a problem.

The bureaucratic model was based on a couple of very important assumptions. First, it was assumed that people at the top of the model were smarter, were more educated, and had the organization more at heart than the people at the bottom. Consequently, unions developed to protect the people at the bottom, and a type of antagonism began to develop between labor and management.

As the world progressed, workers gained more knowledge and education. More importantly, the jobs became more complex, requiring a smarter worker. As this occurred, the organization found that gaining the input of the worker was important for better decisions, and the old antagonism was hurting the organization.

B. Post-bureaucratic model

Sometime in the 1970s-1980s, a new organizational model began to develop in an effort to help with some of the problems occurring with the bureaucratic model. Organizations recognized that workers were smarter, jobs required smarter workers, and those workers had a lot of good input for decisions. More

importantly, people recognized that change would have to happen at a faster rate if the organizations were to keep up with the economy. In addition, people began to find that people without the required credentials were often better in those positions, and that title was not as important as thought.

C. Specific differences

1. Titles

Organizations using the bureaucratic model tend to have a lot of titles that designate one person as above another in the pecking order. In post-bureaucratic organizations we often see fewer titles. This is important for project management. On a project team in a bureaucratic company, we often see several people with very different titles on the same team. In project management, it is usually better to have a team leader and team members with little concern about who is of higher rank. The entire team has the same goal of completing the project well, on time, and within budget.

2. Identity

In the bureaucratic organization one's identity is usually as a part of the organization and the title held – e.g., "I am a bank vice president." In the post-bureaucratic organization, people's identity tends to be more about being a member of a particular team – e.g., "I am a member of the finance team."

3. Leader

Most bureaucratic organizations have bosses, but most post-bureaucratic organizations have coaches. In a project-oriented team, the success of the project will often hinge on the project manager being seen as a coach and facilitator rather than the one who hands out the assignments.

4. Goal

The primary goal of the bureaucratic organization is to keep bosses happy. In the post-bureaucratic organization, the goal is more about achieving the task of the team.

5. Change

Change is an interesting thing in any organization. Almost all change in the bureaucratic model is set from the top, and then cascades down through the organization until it is filtered to the front lines. In the post-bureaucratic organization, change often starts from the bottom and is discussed by the teams. Then, the teams will either implement the changes if they are empowered with that amount of authority or recommend the changes upward. Generally, the post-bureaucratic organization is able to change far faster than the bureaucratic.

6. Control

Every organization needs to be able to control itself; however, the methods of control will differ with the culture of the organization. In the bureaucratic organization, control is primarily through rules, regulations, audits, compliance, procedures, and policy. These methods of control will have a tendency to be about the process that leads to the result. In the post-bureaucratic organization, the primary control method will tend to be more about the past data or performance of the item. For example, to control possible overspending on financial items such as travel and entertainment, the bureaucratic organization will have numerous rules about how much a person can spend on a certain thing, what hotels can be booked, or limits on airfare. In the post-bureaucratic organization, you are more apt to see ratios of expenditure vs. sales to spot where overspending might be taking place.

This concept is very important for project management. Project teams generally are more successful when they are not burdened by a lot of rules, but where all team members focus on the goals of the team. Consequently, team members will tend to police each other in an informal way and the result will be a more successful and efficient project.

7. Learning

In the bureaucratic organization learning will often be through a training program. On the other hand, in a post-bureaucratic organization there is a greater tendency for learning to be from others on the team and through less formal methods such as YouTube videos, TED Talks, and similar venues.

8. Trust

Trust is a key to success for any organization and any project team. In the more bureaucratic organization, members place a lot of trust on the rules and regulations, but not as much trust on the other people in the company. In the same way, often customers and suppliers are not trusted – a similar dynamic to when management doesn't trust labor and labor doesn't trust management. In the post-bureaucratic organization trust is much higher. As people work among teams, they recognize their differences, but also recognize that trusting each other with a common goal is important for the team.

9. Hiring and promotion policy

The bureaucratic organization will tend to favor credentials and experience as reasons to promote. In the post-bureaucratic organization, skills and results will trump credentials and experience. The post-bureaucratic organization tends to be more of a meritocracy based on results.

10. Work rules

In the bureaucratic organization are found many work rules involving how long, from where, and other specifics about how work is to be done. In the post-bureaucratic organization, we find more flexibility about work rules with accountability about results rather than about the process. For example, in the bureaucracy, the collection people report to work at a particular time, work in a certain way, have regular breaks, and leave at a particular time. In the post-bureaucratic organization, the results of the collection activity tend to be the measure of how good a job a person is doing. Consequently, the collector may be able to work from home and/or work any hours (as long as they are in the legal time of collection) and will be judged on the results.

11. Information

In the bureaucratic organization, information can tend to be power and is often hoarded into silos. In the post-bureaucratic organization, the information is more apt to be shared freely and made available to all members of the organization.

Questions to ponder:

From this description of bureaucratic and post-bureaucratic organizations, which would you say your organization would be?

Can you see any correlation between bureaucratic, post-bureaucratic, and successful organizations? Make a list of successful and unsuccessful organizations, and then determine whether they tend to be bureaucratic or post-bureaucratic.

II. Politics that can kill the project

There are several issues of a political nature that can easily kill a project or the morale of the project team. In all cases, you, as the project manager, must look for signs that they are occurring on your team and quickly do something about them. Most importantly, be careful not to be the cause.

A. Constantly blaming others for problems

Problems will occur in a project, and probably some people will cause more of them to happen than others. If one person is too much of the problem, then probably he or she should be removed from the team. But, in most cases, it's important to concentrate on the solutions to the problems and not who caused them. In team meetings it's more important to say something like, "something happened," rather than "Harry caused this to happen." Remember the key rule: Praise in public but correct in private.

There are two specific things that happen when blame goes around the team. First, it hurts the team trust. There is a direct correlation between team success and team trust, and you don't want to hurt it. Second, blame will cause future cover-up. For the team to work correctly, you need members to be open and quick to tell you and the team about problems that occur. If they feel too much blame, then there is a natural but unfortunate tendency to cover up problems until the point where they are exposed in a much greater amount.

B. Seeking relationships with higher executives

This particular problem is most often caused by the project manager but can be true of anyone on the team. Project team leadership, and sometimes team members, often have a higher visibility role in the organization as the project system sometimes cuts around several layers of management. Consequently, people interface with different people, some of which are more senior. If people work to cultivate these relationships in an attempt to move ahead in the organization, resentment can develop on the team and the team dynamics can be damaged. As team leaders, it is our job to attempt to feature and promote our team, not ourselves. If we do the latter, it will hurt the team.

C. Causing barriers between the team and management

On the other hand, it's important not to construct any barriers between the team and management. A project environment needs open and direct communications between a person working on a project and other members of the organization who may be providing important help or information. As a project manager, you cannot require that everything go through you, but you must allow and promote the idea that communication will travel directly from the team member to the stakeholders.

D. Bring problems without solutions

My father was an executive and had a favorite bit of advice for me as a young businessman. His advice was that I should never go to my boss with a problem without a proposed solution. Personally, I took that to heart, never went to my boss like that, and required my employees to practice the same principle.

Are there exceptions to this rule? Obviously, but they should be rare. You want your team to be open and call to your attention any problems, but you also want the team to be a "we can do it"-type organization, and you want your people to have creative ideas to solutions. As a team leader, you will need to work your way through this issue.

E. Leaders playing favorites

This is an obvious thing both in department management as well as team management. We will all have personal views, hobbies, interests, and similar preferences. We will find other team members who share many of those things. But we need to be careful not to appear to favor one person over the other due to a similarity of views or interests.

I was once leading a project and had a person on the team who shared my interest in photography. Often before or after meetings we would discuss the hobby, but I discovered that some on the team resented the extra attention this person seemed to receive due to the common interest. Was that incorrect on their part? Yes, but it didn't matter. If it hurt the dynamics of the team, I couldn't do it and I stopped. We still conversed about our mutual interest, but I was careful not to do it in front of the team.

F. Destructive behavior within the team

This can be one of the most important responsibilities of the project manager. He or she MUST maintain harmony and productivity within the team, and if a member demonstrates destructive behavior, it must be stopped! Obviously, you should attempt to head this one off when selecting the team, but that may not always work. If you have a team member who complains, is vindictive, is always negative, and demonstrates similar behaviors, you must go to them and ask that they change their behavior. This is not easy!

I have found that the best way to do it is with the "I've got a problem" line. If I have a team member who is behaving destructively, I will go to him or her directly and in private, and say, "**I've got a problem**." When they ask the nature of the problem, and they will, I tell them how the result of that behavior is hurting the team. I try very hard to not use the word "you," since that word tends to promote guilt. If the person is always being negative about everything, I might say something like, "I'm having a problem with too much negativity on the team." Good people will want to help me solve my problem, and will normally, at this point, say that they will try and change their behavior. If so, that's great. If they don't see their part in the problem, I may have to ask them something like, "Can you see how your behavior might be contributing to this problem?"

Generally the "I've got a problem" line can be used with almost every type of destructive behavior such as timeliness, failure to communicate, negative behavior, argumentative behavior, talking too much, and similar things. As a project manager, you absolutely cannot allow such behaviors to hurt the team. It will cost you success in the long run.

G. Hoarding knowledge with the idea that "knowledge is power"

In a team environment, we need to promote the free flow of information and not allow anyone to hoard it. If this happens, you as a leader should apply the "I've got a problem" technique and confront the person. This behavior will destroy the success of the team very quickly.

H. Gossip

All teams and organizations have a tendency to gossip, and it's always destructive. A little of it is inevitable, but if too much, it must be confronted. Usually the best way is with the plain truth about any situation. More information is almost always better, and the truth is usually the best cure for gossip.

I. Taking credit for success

The project manager should take all of the blame and none of the credit. I know that is hard, but it is the best way to lead a team to success.

Question to ponder:

When have you seen destructive behavior on a team, and what solution did you see work to mitigate it?

III. Politics, power, and position of the project manager

A. Understanding the political landscape

When we start a project, it's important to understand the politics in the organization, who wields the relative power, and how decisions are made. If the project manager is within the organization, he or she most likely has the knowledge. But sometimes the project manager is a consultant or outsider, and the success of the project will have everything to do with the manager knowing the politics.

Knowing the key stakeholders and how they fit into the management system is key. For example, if the project owner is a part of senior management, and considered by many to be the "right hand" of the CEO, then you can probably be assured that the project will get a lot of attention from the management team. If, on the other hand, the project owner is a department that is tolerated but not necessarily highly valued by senior management, then the project will not receive the attention, and often the resources, that it may deserve.

B. Understand political power

Power in the organization can usually come from one of two different directions, and sometimes both.

1. Positional power

This is power that is achieved as a result of a person having a particular position or title within the chain of command. A vice president will generally have more positional power than a front-line worker. This type of power is far more important in the bureaucratic organization than in the post-bureaucratic organization. That is why the bureaucratic organization tends to have many more titles than the post-bureaucratic.

Positional power can also be economically based. If a person draws a higher salary or is responsible for a larger department with a larger budget, then that person often will have more positional power.

The third part of positional power can result from hidden power. For example, I once worked for a large bureaucratic organization, and one of the most powerful people in the organization was the CEO's secretary. She controlled access to the boss, and as a result wielded a lot of power despite her relative lack of formal title.

2. Personal power

This kind of power results from personal relationships, personality, political skill, and similar personal attributes. It can evolve from several specific directions:

a. Whether you are a friend of the people in power;
b. Expert power – your skills and abilities;
c. Knowledge power – what you know; and

d. Alliances power – who, and which groups, you know.

C. Building political capital

1. Understand the power structure

You will be a more powerful person in the organization if you understand and are willing to work within the present power structure. The best way to explain this is from my own experience. I was in a new and fast-growing part of a large organization. There was a peer of equal title who ran one side of the business, and I ran the other. Our mutual boss, Dale, tended to be a “night” person. He would get in late in the morning, but still be in his office well after the prescribed closing time. The other manager was a “morning” person who loved coming in early, but he was anxious to get out of the office at closing time. I quickly recognized how Dale liked to work, and often got my best “quality” time with him at 5:30 or 6:00 PM, but the other manager missed this opportunity.

In another organization I worked directly for the CEO. I quickly learned that if I wanted something, I COULD NOT ask him during the week of the board meeting, which was on a Thursday night. But, if all went well, I could get him to approve almost anything if I presented it on that Friday.

2. Attract people to you

Following is a quick list of qualities that people should practice exuding in order to gain power by attracting others to them. These enhance personal power:

a. Positive attitude;
b. Enthusiasm;
c. Can-do attitude;
d. Confidence;
e. Being a team player;
f. Being inspirational; and
g. Combination of being both task- and people-oriented.

3. Create your own reputation

While being a “nice” person is important, it is key to develop a reputation as a person who gets things done. People in the organization will look at results, not effort. In fact, constantly telling people how much effort you are putting into a project can be self-defeating. It is often viewed as complaining or playing the “victim” card. Instead, people will want to see the result.

As a result, each of us has greater skills in some areas and less in others. Consequently, play to your skills base. If you are very analytic and do a great job analyzing data, for example, be sure that you are the one to volunteer for those kinds of assignments rather than for assignments of a more personal and social basis.

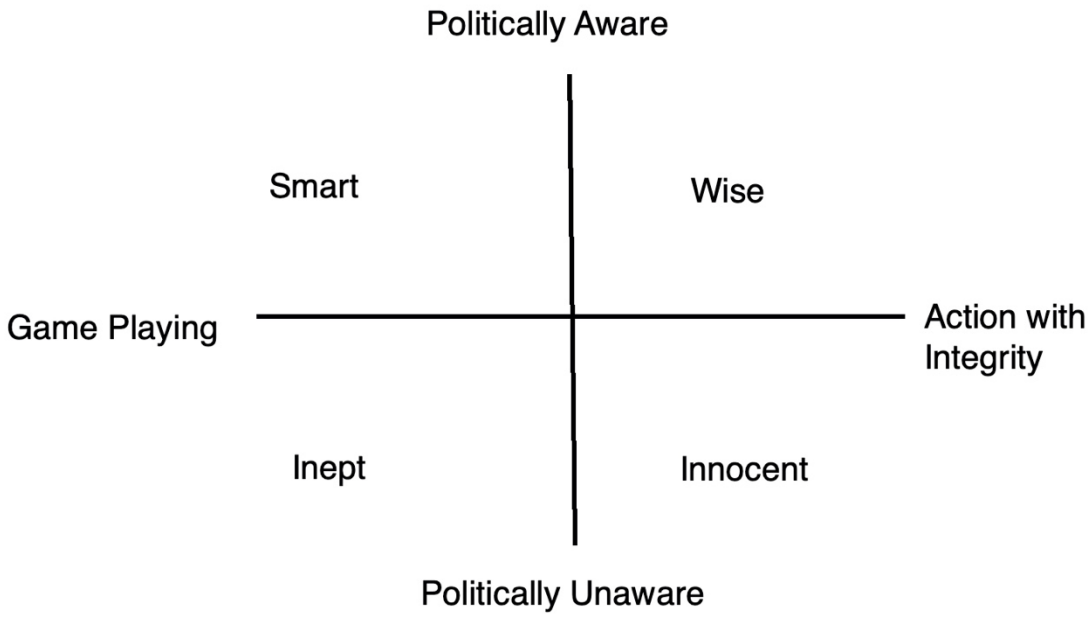
4. Build alliances

Successful project managers will have successfully built alliances both within and without the organization. How do we do that?

a. Sharing goals.
b. Exchanging favors.
c. Working together.
d. Building partnerships.

IV. Political skills

An interesting way to look at our political skills within the organization is the following matrix.



Question to ponder:

Think of a few people in your organization. Rate them from the standpoint of game playing or having integrity, and then from the viewpoint of whether they are politically aware or unaware. Where are they on the political spectrum?

Types of Project Management

Types of Project Management

Learning objectives

Upon completion of this chapter the reader will be able to:

- Understand the different types of project management;
- See the advantages and disadvantages of several types;
- Know why agile project management was developed;
- Understand the key ways that agile and scrum project management work; and
- See how to combine several types of project management for the small business.

I. Traditional or waterfall project management

Some people will argue that project management started at least by the time of the building of the pyramids, but most say that modern project management started in the 1950s. Since then, there have been several changes and iterations of the discipline. What is often considered the traditional method is also called “waterfall” project management because it is top-down, with the parts falling much like a waterfall.

A. Specifics

Waterfall project management has a:

1. Specific scope

The project is not “never-ending,” but has a specific start and end date and a specific scope of what it will cover. For example, if we view the purchase and installation of new software for the company as a project, it will have a specific scope to the assignment including evaluation, purchasing, installing, and training. But, after that is complete, the project will be closed, and those involved will disperse. One of the important things to avoid in project management is “scope creep,” where the original scope of the project is expanded during the project. Especially in waterfall project management, this is considered to be very bad. It’s interesting to note that in other types of project management the practice of scope creep might be more tolerated.

2. Specific schedule

Prior to the start of the project, the schedule will have been planned out. By doing this, we can see in the form of a chart when one part starts, and another should be complete. This is very important when one part cannot start until the other is complete such as in the building of a house. In that case, the builder cannot erect the walls until the wires and pipes have been installed. Or, obviously, you can’t paint the walls until they have been erected.

3. Specific set of resources

As part of the planning process of the project, we try to determine, ahead of time, all of the resources that will be needed for the project. These will include materials, manpower, sub-contractors, and especially money. Through this process we are able to construct a project budget.

B. Phases of the project

1. Initiating

In this phase, we evaluate the potential project estimating its importance to the organization, its return on investment, and if we really want it. This obviously involves politics, as many people in the organization have their pet projects that they would like to see developed. Usually senior management will be the ones with the final decision on what projects are pursued and which are not. The output from this phase is a decision to move forward with the project.

2. Planning

Once we have decided to move ahead, we have to do the planning. This is probably the most important stage of the project because here is where we will consider each and every part of the project and what has to be accomplished before the next part begins. It is also where we plan the resources needed from which we construct the project budget. What comes out of this plan is the "WBS," or work breakdown structure, of the project. For each part of the project, we will see the schedule, the recourses expected to be expended, and the deliverables from that part.

An important part of the planning process is to recognize the various stakeholders of the project including the project manager, project team, executives, project sponsors, and customers. It's important that each group is identified and a plan for each group is developed including what their needs are, how to communicate with them, and how they will fit into the project.

3. Execution

Here is where the work is accomplished. In this phase, the project manager is mostly involved with tracking progress and motivating the team or teams to accomplish the various parts of the project. For this phase, the project manager must have strong leadership skills in working with people in addition to the technical skills surrounding the project. For example, a general contractor can have wonderful technical skills about constructing buildings, but if she doesn't have the leadership skills to lead a team, the project will either fail, or go over budget and not meet schedule.

4. Closure

The closure phase is an important step to not only close the project by doing the final things, but also to carefully evaluate the processes – what worked, what didn't work, and how we could improve if we were to do a similar project again. This is also the phase where we check to see that the project has been properly documented.

C. Linear sequential design

From the above, it's obvious that traditional project management is linear in nature and designed so that all of the pieces fit nicely together. From inception through closure, we see how the steps flow from top to bottom.

D. Relate project management type to culture

As our earlier chapter noted, the traditional culture of an organization is bureaucratic, which is also a top-down system. From that, it's easy to see that the waterfall system of project management goes well with the more bureaucratic culture of the organization. It thrives on rules and regulations, loves documentation, and thrives on order and predictability. There is, however, a very important aspect where

any project management tends to differ from the bureaucratic – and that is the concept of team. Even in traditional waterfall project management, the project generally operates in a team environment with people of many different levels on a team. Consequently, that aspect of its operation is different from the traditional bureaucratic structure. That may be the primary reason why bureaucratic companies adopted project management to help them get things done faster and more efficiently.

E. Speed of process

Because traditional project management is heavy with planning, documentation, and protocols, there can be a problem with being slow. Born from the bureaucratic culture, this is not surprising; however, it is predictable and generally gains a good result.

F. Flexibility

A well-planned project has a major advantage and a major disadvantage. The obvious advantage is that everything is planned in advance; thus, we have a better chance of not missing anything, and we are more sure of the result. The disadvantage is that the project becomes somewhat rigid and there is less flexibility. Consequently, when we choose a method of project management, we must take our need for flexibility into account.

G. Documentation

The waterfall or traditional method of project management is usually very well documented. Documentation is very important should a worker leave the project. With proper documentation, another worker can usually fit in and the project goes on. Documentation also makes after-project reviews much simpler and it is easier to practice continuous improvement in the process. The other side, however, is that the required documentation can slow down the process and also make the project more expensive.

II. Agile project management

While modern project management started sometime around the 1950s, agile project management came on the scene in the 1990s primarily in the software development industry. More recently, the technique has spread throughout the economy. The reasons for the development of agile project management generally revolve around the need for flexibility, nimbleness, and speed. If we look at some of the details of the traditional method, we see that speed and flexibility can be a problem. Consequently, many organizations played around with different methods that would keep some of the benefits of project management but gain both speed and flexibility. When we realize that the pace of the changing world sped up a lot between the ’50s and ’90s, it’s not surprising that a different model was desired.

A. Agile defined

Agile project management is a method that relies on collaborative effort and self-reliance more than anything else. While waterfall is specifically top-down, agile is bottom-up with the teams being empowered to make many more of the decisions including designing the processes. The process uses the system of splitting the larger project into smaller bits, called iterations, and working them out one step at a time.

An interesting description of the difference between the two is that traditional management will follow these steps:

- Define target.
- Take aim and do the planning.

- Launch.
- Hope that the target doesn't move.

The agile system's steps will be:

- Obtain the vision.
- Start in a broad direction.
- Learn and adapt to conditions.
- Home in on the target.

Agile project management works best when there is a significant amount of uncertainty about the future and when things could easily slip out of hand if the project does not remain flexible. In today's world, it may be difficult to find a project that wouldn't fit into that description.

B. Scrum project management

There are many different variations to agile project management, with scrum being one of the most popular. This is derived from the original agile but enhances its main philosophy by adding to it the "daily scrum," or "scrum meeting."

While we recognize that there are some differences between scrum and agile, since there are primarily similarities, and since scrum is an outgrowth of agile, we will mostly use the two terms together.

C. Teams in scrum

Purists in scrum will argue that the teams must be well disciplined and completely self-reliant with no team leader. My personal experience with self-managed work teams is less than positive, and I firmly believe that teams must have leaders. In fact, usually with self-managed teams, a person somewhat evolves to the top and becomes the leader even if not formally defined as such. Consequently, I strongly believe that the team leader should be defined. As we will see in a later chapter, the duties of the team leader are many and I question if it is possible for the team to succeed without someone fulfilling those duties. It is said that the leadership responsibilities can be divided by the team, but I'm not sure that it is a good way. Without question, the team must be disciplined, and the members must be self-disciplined to work together well for it to function.

D. Four core values of agile

The "manifesto for Agile Software Development" was produced by 17 software developers during an outing to Colorado in 2001. The developers, who called themselves the Agile Alliance, were seeking to overhaul the software development process that they felt was too focused on documentation requirements.

1. Individuals and interactions over processes and tools

The members of the Agile Alliance were saying that the human element of software development will always serve as an important role in any kind of project management. If the team overly relies on processes and tools, the result will be the inability to quickly adapt to changing circumstances.

2. Working software over comprehensive documentation

The developers were not saying that documentation was not important, but they were saying that the results of a good project were more important than the documentation. In a non-software environment, we might say that this would be something like results ahead of rules and regulations.

3. Customer collaboration over contact negotiation

This value is about the importance of the customer, both internal and external to the organization, and how involving customers throughout the collaborative process is much more important than proper negotiation. Another way of saying this is that the customer should be viewed as an important part of the team wanting the same result rather than seen as another side.

4. Responding to change instead of following a plan

This is one of the greatest departures from traditional project management. Historically, project management has been extremely focused on planning, with change being seen as an expense to be avoided if at all possible. Agile project management recognizes that change is going to occur throughout the project, and therefore the team must be prepared for it.

E. Twelve principles or working guidelines of agile project management

These principles are sometimes presented in different order or stated differently, but generally all descriptions lead to the same ideas.

1. Satisfy the customer

Clearly with agile project management, the customer is the key to the project. Thus, we must satisfy the customer with continuous delivery of valuable work. Since agile was originally conceived for software development, often the customer was an internal team working on another part of the project, but the same principle goes regardless of whether the customer is internal or external.

2. Welcome change

Traditional project management tends to look at change requests as a burden and something to be avoided. In agile, the idea is that change requests are for the benefit of the customer and allow the customer to be more competitive with the project. One key is to react to change quickly.

3. Deliver frequently

While this is especially true with software development, it is also true with other types of projects. When we can deliver smaller incremental parts of the whole project, we are more able to receive feedback from the customer to correct any wrong turn or improve the end product. Spotting problems early is obviously a goal of this concept.

4. Work together

Stakeholders of the project must work together daily throughout the project with the customer becoming an important part of the team. This system emphasizes that both the producer and the customer of the project are on the same team in that they both want the project to be successful.

5. Build projects

Agile believes that projects are built with motivated individuals who are given the environment and support that they need and then empowered to manage themselves and their work. Agile project management does not tolerate micromanagement.

6. Encourage face-to-face time

Agile project management focuses on collaboration. It is believed that conversations between team members are much more important than just the words; true creativity and synergism are developed when people can read expressions and nuances easily. For this reason, co-location of the team is valued; however, when that is impossible, teams work hard to communicate as much as possible with frequent on-camera online meetings.

7. Measure progress

Projects are judged by the amount of completed work. In the software project, that would be working software, but it would be something else for a project in another field. The important thing is that the project and team are judged on the result and not on the effort or process.

8. Prioritize sustainable development

Agile teams pace themselves with work/life balance in such a way as to maintain the pace of the project until completion. Where some other systems of project management are focused on deadlines, thus causing poor work to be completed in a last-minute push, the agile system seeks to be sure that the pace is sustainable over the course of the project.

9. Pay continuous attention to excellence

Continuous attention to technical excellence and good design enhances agility. Agile project management stresses good design that not only works well but can also be adapted to changes in the environment. Quick obsolescence represents a poor project.

10. Keep it simple

Simplicity is the key to a successful project. Often projects are over-engineered to the extent that a large portion of the project is never used by the customer. Agile project management is ruthless about cutting functionality that does not lend value to the customer.

11. Organize teams

Agile will use the various stakeholders as a team to continuously review what is being accomplished and suggest and brainstorm solutions to upcoming problems.

12. Reflect for effectiveness

At regular intervals, the team members reflect on how things are going and how they can be more effective as a working unit. While traditional project management completes the project with the closure phase, agile project management looks at what worked and what didn't at each iteration of the project.

F. Scrum roadmap

1. Not a lot of planning

While traditional project management is heavily about planning, agile and scrum project management is all about speed. This system will break the project into manageable chunks that can be delivered quickly, with the team receiving feedback as it progresses.

2. Works for almost any project

Though developed for software development, the system can be adapted for any type of project that can be broken into smaller parts.

3. Culturally dependent

Bureaucratic cultures have a more difficult time with the agile or scrum method because they are used to having people with specific titles and roles. With agile and scrum, everyone is a member of the team and the duties may shift on a daily basis depending on the needs of the team and the project.

G. Six steps in the agile methodology

1. Project planning

The primary idea is not overall planning, but rather the keys are fast changes and nimbleness. Consequently, throughout the planning process, it is expected that the scope of the project will change. Change is seen as a good thing, not a bad thing.

2. Product roadmap creation

As we plan and create a roadmap for the project, we break down the features that will make up the final product. Then, the team will build the features during each iteration, often called a “sprint” in scrum. In some types of this system, the features and deliverables that will make up the final product are listed as Post-It notes and together, they make up the “backlog” of the project. Then, one by one, the notes are brought into the active part of the project and worked on by the teams.

3. Release planning

With traditional project management there is one final date of delivery of the project. With agile, the project uses shorter development cycles, often called sprints, where the features are released at the end of each cycle.

4. Sprint planning

The team will decide what will be accomplished by each team member during the sprint.

5. Daily meetings about the sprint (no longer than 15 minutes)

Daily the team will meet (scrum) to talk about:

- What was done the day before;
- What will be done today; and
- What changes need to be made, as assessed by each person.

6. Sprint review and retrospective

At the end of each sprint we meet with all stakeholders to show completed work and determine what worked, what didn’t work, and what should change for the next sprint.

H. Questions to be answered in scrum

Following is a list of questions that need to be answered by the project manager along with the teams:

1. What are the priorities of each initiative?

2. When will we work on each initiative?

3. Do we have deadlines for any sprints?

4. Are there internal or external dependencies we need to consider?

5. What teams work on which sprints?

6. What resources are needed for the sprints?

7. How best to serve the team?

I. Meetings in the scrum system

1. Daily scrum

2. Backlog grooming

This refers to periodically meeting to be sure that the future sprints are ready for more detailed planning. Note that in traditional project management, this type of planning would be accomplished far earlier in the project.

3. Scrum of scrums

For larger projects with several different teams, periodically everyone on the project should be brought together for an update on what's happening.

4. Sprint planning meeting

Before each sprint, the team will meet to plan the sprint.

5. Sprint retrospective

Following the sprint, hold a quick meeting to discuss what worked, what didn't work, and what should be done differently next time.

Question to ponder:

In your organization, would traditional or agile project management be better? Why?

III. Other types of project management

A. Kanban

Kanban is a variant of agile and was developed on the production line of Toyota. It is a visual system that paints a picture of the workflow so that bottlenecks can be identified and mitigated. The system uses a Kanban board, Kanban cards, and Kanban swim lanes, which are more detailed views of the workflow. The system focuses on early releases of parts of the project, is collaborative, and uses self-managed teams.

B. Lean

This method focuses on increasing customer value while minimizing waste, thus giving more value to the customer. It is a derivative of lean management and was also developed in the Japanese manufacturing industry. Like most of the systems from that part of the world, the system is mostly about processing with a high emphasis on trimming fat and eliminating waste.

C. Six Sigma

This system was introduced by Motorola in 1986 and is built around the idea of identifying what is not working and eliminating it from the process. It is heavy about continuous improvement and creating a better result. Two important acronyms come out of Six Sigma:

1. DMAIC

Define the problem.
Measure in detail the aspects of the current process.
Analyze data to find the root defects.
Improve the process.
Control how the process is done in the future.

2. DMADV

Define the project goals.
Measure critical components of the process and the producing capabilities.
Analyze the data and develop various designs, picking the best one.
Design and test details of the process.
Verify the design by running simulations.

D. Prince2

The prince2 method of project management is focused on minimizing risk and errors. It is a detail-focused method and chunk-based to focus each chunk on perfection. The principles are:

1. Continued business justification

2. Learn from experience

3. Defined roles and responsibilities

4. Manage by stages

5. Manage by exception

6. Focus on products

7. Tailor to suit project environment

Question to ponder:

What type of project management does your company use?

Project Management Software

Project Management Software

Learning objectives

Upon completing this chapter the reader should be able to:

- Know what things project management software will perform;
- Understand what software might be best for the reader's organization;
- Know how to find software information; and
- Detect the trends of project management software.

I. Reviewing project management basics

Before we dive into looking at software to help us with the project management process, it might be helpful to review some of the basic concepts of the discipline so that we can tie them into receiving help through software.

A. Work that goes better with project management concepts

As we have said before, project management can be considered a different way of thinking. One of the greatest criticisms of business, especially large and bureaucratic businesses, is that they don't change quickly. In fact, over history many have not changed with the changing markets, and therefore they were left behind, and many went out of business. Consequently, organizations must change.

But often they do not – and for various reasons. All too often the internal politics favor a risk-averse culture where taking a risk can get you fired, while not taking a risk is the safe position. Other companies have great sums of capital invested in certain methods that they are unwilling to change to another system. That happened to Kodak.

One can look at project management as having to do with change. In fact, it is often said that operations management is what runs the company but project management is what changes the company.

1. Differences between operations management and project management

a. Operations management runs ongoing operations, but project management runs projects with specific beginning and end dates.
b. With operations management teams stay together, but with project management teams disband after the project is complete.
c. Operations management keeps the business going, but project management introduces change in the organization.
d. In operations management work is repeatable, but in project management work is unique.
e. Operations management has a fixed annual budget, but in project management the budget represents the tasks and resources required for the project.

2. Examples of work that would be best managed as a project

a. Launching a new website;
b. Starting a new product or service;
c. Opening or closing an office;

d. Staging an event; and
e. Making business changes to comply with a new regulation.

B. Phases of project management and software

1. Initiation

This is where the project is started and evaluated, and a charter is developed that sets out exactly what the project is going to deliver and how it will get there. This stage culminates in a kickoff meeting where the project team members, along with other stakeholders, are brought together to schedule and process how the project will operate.

This work can happen with a white board or flip chart in a room full of individuals, or it can happen with software that is either working within a room or in a virtual room with participants anywhere in the world. Obviously, the latter would require software. While project management literature usually separates initiation from planning, actually they are similar in that they both involve collaboration and creative thinking by groups of people. For this reason, a great amount of this work could be considered idea management.

2. Planning

In this phase, the work is broken down into smaller chunks estimating how long the parts will take, what steps are required, and what resources will be needed for completion. The output from the plan will usually be a detailed Gantt chart, which is a visual diagram of the path of the project with its various steps. In addition, the software can have various other modules that will help construct the plan for resources. As in the above phase, the planning phase must involve collaboration by individuals on the team, and therefore involves idea management. The work can be accomplished in a room with a white board, or by using some kind of software to help structure the thoughts.

3. Execution

This is where the bulk of the work is accomplished. You have a plan, and now you and the teams will execute the plan. This part will also need idea management as you collaborate, but will also involve tracking resources, budgets, and manpower, and will also show the percentage of completion and other important data.

4. Closing

The project needs to be closed down carefully to make the most of what is achieved, saved, and accomplished. It's important to have data that will assist you in evaluating the deliverables and seeing if the customers are pleased with the results. This phase will need both idea management and data management in addition to various methods of communications, evaluation, and surveying.

II. Features of project management software

It is important to recognize that we will talk in somewhat general terms about features that are contained in many, if not most, project management software packages. We need to stress that not all software has all features, and that it is important to evaluate what features you need and then make sure that the software you are considering has the features. Later we will list some of the more popular software, but it is not a complete listing. Such a task would be impossible for two reasons. First, software is being

developed on a daily basis so such a list would be considered obsolete before these materials would even be published. Second, the list is so large, it would take up the entire course.

A. Idea management

Probably one of the most important aspects of project management over operations management is the idea of team. The traditional bureaucratic system makes the assumption that the boss is always more knowledgeable, more skillful, and better able to make decisions. The post-bureaucratic system, and also the main concept of project management, is that the team as a group is better able to make decisions. This means that the project will have to harness the creativity of the team members and get their ideas when making decisions.

For instance, when the team is making a list of the various steps that will be needed for a particular project, the brainstorming system is often used, allowing each member of the team to add to the list of needed steps. The more effective the process is, the better chance that all required steps will be considered. If we don't follow this process, then something is probably going to be left out – such as forgetting the cake at the birthday party.

The traditional way of doing this would be a white board or flip chart in a room, but with idea management software, such as mind mapping, we can produce the list of steps in a more collaborative method. Many mind mapping software applications are available, and many of the complete project management systems offer mind mapping or something like it as part of the package. Some of the systems require everyone in the process to be in one place with one computer in one room. In other cloud-based systems, the team members can be in any location and together they can create the same mind map with each one able to manipulate the software.

B. Project planning

Once we have used some kind of idea management system to determine the various parts of the project, we can add more information to the plan by determining how many people, and who, will work on various parts of the project. In this section, we will look at the estimated required time, other resources needed, and the estimated cost of that section. Assuming that the software is able to perform relatively simple arithmetic, then the total of the planned expenditures will roll up to become the total planned cost of the project. One of the important outputs of the planning function will be some type of graphic chart showing the project and the steps with start and end times for each. This is often the Gantt chart, which is included in most project management software.

C. Project tracking

Once planned, we will need software to help us keep track of the progress. Yes, we could do it on a spreadsheet, but project tracking is probably the most basic and most important project management software allowing the user to see in what stage is each part of the project. This function should be able to identify bottlenecks, determine where we are with respect to the schedule, and even identify high and low performers with respect to the project.

D. Budget tracking

As part of the project tracking, most software packages will have a budget module allowing us to see how each part of the project is doing with respect to the original financial plan. Consequently, we should be able to see, at any time, how actual compares with plan with respect to schedule, as well as with respect to cost.

E. Communication

One of the most important aspects of the project plan is for the various teams to decide how they will communicate with each other on the team and with other teams. Many project management software systems will have a specific communication module allowing communication to occur within the software rather than through general email. This is especially important as we all wind up with overloaded email inboxes.

F. Documentation

Since tracking the project involves documenting the knowledge gained throughout the endeavor, proper documentation is key to the success of the project. A good project management system will allow the team to simplify the process of documenting changes, technology, project updates, and new intelligence.

G. Dashboards for reporting

Software is only as good as its ability to report information in an easy-to-understand, and often graphic, view. The software should be sufficiently flexible in its reporting so that the organization can determine what reports are needed, and what information will sit up front on the dashboard of the computer.

H. Collaboration tools

Project management software should have tools allowing team members to work in collaboration with each other in a shared space. The tools should allow each team member to focus on his or her activities while, at the same time, seeing what else is happening on the team. Project managers should be able to observe activities of several teams at once.

I. Document sharing

Part of the real-time collaboration feature is the ability to share and work on documents with other members of the team. This tends to be easier with cloud-based systems having cloud storage ability.

III. Types/locations of project management software

There are several types of software, but for this part we will break them down by the installation location of the software and the intended size and utilization of the application.

A. On-premise

These software solutions are generally located on the organization’s servers. This means that access to the system is restricted to devices that are connected to the servers and are generally called locally hosted project management applications. In some cases, these applications are accessible through remote computers, but they will generally have some kind of software allowing such a connection.

B. Cloud-based

These systems are housed on cloud servers, meaning that users generally access the system through a web browser. This type of system can have a distinct advantage in that it is usually accessible through many more types of devices than desktop computers, such as cell phones and tablets.

C. Individual

For those who are wishing for relatively inexpensive project management software, and are willing to have fewer features, individual systems could be the correct answer. Sometimes the larger, more feature-rich cloud-based systems are available in a scaled-down version for an individual. This could be an excellent way to "test" a proposed purchase.

D. Open API

These types of project management software provide their end users with the capacity to add to the already existing application. The systems are great for large organizations with strong IT departments to develop and support the system but are generally not used by small businesses.

E. Trends

We are seeing a trend of systems moving from server to cloud-based. This is occurring because people are more comfortable with the security of the cloud systems as well as the advantages of accessibility from multiple platforms.

IV. Examples of popular project management software

Following is a list of some applications. It is by no means meant to be an exhaustive list, nor is it meant to be any sort of endorsement for the software. If a person were to do a Google search on project management software, different applications would come up almost each time.

A. Project (Microsoft)

Microsoft Project started the whole thing. It was actually developed by Microsoft as internal software to track and streamline ongoing tasks for the company. In 1984 it became available to the public, and it has remained one of the most popular project management software applications. It has gone through several iterations, and presently is available both as a server-based application and more recently cloud-based. This software is well suited for traditional project management and useful for companies of all sizes.

B. Monday.com

Some people feel that this is one of the best project management applications available on the market. It is cloud-based, makes a lot of use of color, and is said by many to be both fun and easy to use. The system uses project boards that allow users to stay on top of the schedule and track task and project progress from start to completion.

C. MindView

Mindview is a mind mapping and project management software owned by the company MatchWare. Since it starts with mind mapping, it is heavy in idea management, and will build out a work breakdown structure, timelines, Gantt charts, organizational charts, and other visuals. This software also has a good budget section.

D. Wrike

Used by several large companies, this software is a user-friendly system that will be easy to understand for the team. It is a very feature-rich program, able to identify bottlenecks in the project and cross-reference tasks with other tasks in order to determine dependencies.

E. Asana

This is known as an all-in-one solution – communications is included within the system, thereby email is not needed. Each user has his or her own workspace within the system that they can arrange to their own specifications, making it possible for great personalization. The software is known for flexibility.

F. Trello

This software is known for its simplicity. It uses boards for projects and cards for tasks, which are presented in an easy-to-understand graphic interface. It is cloud-based, allowing team members to discuss tasks with the cards via the commenting feature. This also works as a documentation tool. This system is very good for agile project management and also suitable for a smaller company choosing the first project management system.

G. Podio

Podio is a cloud-based software that is known for being flexible and has an intuitive layout that makes planning large projects relatively simple. It enjoys several large companies as clients and is highly reviewed; however, some reviews have indicated that project support could be improved.

H. ClickUp

Clickup has a very intuitive platform offering many features including documents, reminders, goals, calendars, scheduling, and several others. The program can be both server-based and cloud-based.

I. Vivifyscrum

This is an agile project management tool that simplifies and streamlines the agile workflows and processes. It is a comprehensive platform, especially developed to meet scrum and agile project management needs.

J. Azendoo

This is a collaborative web platform enabling organizations to increase their productivity, align their teams, and get project management work done. The program is available as server-based and cloud-based. It is especially known to handle communication outside of the normal email application.

K. TimeLive

This is an online time tracking software built to help organizations track the performance of their staff along with related expenses and other budget items.

Question to ponder:

What project management software are you using, or have you used? What is good and what is bad about it?

Earned Value Management

Earned Value Management

Learning objectives

Upon completing this chapter, the reader will be able to:

- Understand the concept of earned value management (EVM);
- Apply EVM to the reader's business; and
- Know the formulas within EVM.

I. Introduction

Over and over we have said that the goals of a project are to accomplish it well and also to keep it within the financial plan and within the planned schedule.

Our previously discussed ways of measuring the success of a project have primarily dealt with the budget or the schedule, but not with bringing the two metrics together. The most common measurement would be budget vs. actual, but this says nothing about the schedule. For example, if a project was ahead of schedule, but also over budget, is the variance due to where it is on the schedule or just due to people overspending on the work? EVM attempts to answer that question.

The terms "earned value management" (EVM) and "earned value analysis" (EVA) are often used interchangeably with EVM being the concept of the study and EVA being the actual analysis. EVA became a fundamental approach to project management in 1966 when the United States Air Force mandated it in conjunction with planning and controlling requirements on Air Force programs. The system was called Cost/Scheduling Planning Control Specification (C/SCSC). Over the years the concept became an accepted management approach and has changed relatively little. Some, but not all, project management software system is set up for EVM.

II. Earned value

Earned value is a value assigned to work that was accomplished during a particular period of time. The value can be stated in any appropriate measurable unit such as hours or dollars. Earned value analysis thus can be used to analyze the progress of a project comparing the planned budget and schedule to the actual budget and schedule.

Certain terms are used as standards when using the system:

A. Budgeted cost for work scheduled (BCWS) or (PV)

This is sometimes called the planned value. It is the amount expressed in dollars or hours of work to be performed as per the schedule plan. This would be the BAC * % of planned work at that point in time.

B. Budgeted cost for work performed (BCWP) or (EV)

This is sometimes called the earned value. It is the amount expressed in dollars or hours of the actual work performed. EV=BAC*% of actual work at this point in time.

C. Actual cost of work performed (ACWP) or (AC)

This is the sum of all costs in dollars actually accrued for the task to date.

D. Budget at completion (BAC)

This is the total cost of the project.

E. Estimate at completion (EAC)

This is comprised of the cumulative to date of actual cost of work performed plus the estimate to complete the remaining work.

F. Cost variance (CV)

This is calculated as BCWP minus ACWP. A result greater than 0 is favorable whereas a value less than 0 is unfavorable.

G. Schedule variance (SV)

This is calculated as BAC minus EAC. A result greater than 0 is favorable, indicating being ahead of schedule; and a result less than 0 is unfavorable, being behind schedule.

H. Variance at completion (VAC)

This is calculated as BAC minus EAC. A result greater than 0 is favorable and a result less than 0 is unfavorable.

III. EVA example

For this very simple example of earned value analysis, we will use a hypothetical situation of a company working on a project painting a small building. In the planning phase of the project the company had planned that the project would cost $18,000 with the work distributed over the three months as shown on the spreadsheet.

		Earned Value Analysis					
				Jan	Feb	March	Total
How much work will be done (Plan)	Planned value	PV	BCWS	$ 5,000	$ 7,000	$ 6,000	$ 18,000
How much work was done (Earned)	Earned value	EV	BCWP				
How much was spent on work done (Actual)	Actual cost	AC	ACWP				
Percent complete							

Now, let's say that we look at our project at the end of January and determine that 22 percent was done, but the cost of doing that work was $6,000. We see that the PV or BCWS is the planned amount that would be done in January was $5,000. Since only 22 percent of the plan was actually accomplished (earned), the earned value or BCWP is $3960, and we know from looking at our receipts that $6,000 was spent.

		Earned Value Analysis							
				Jan		Feb		March	Total
How much work will be done (Plan)	Planned value	PV	BCWS	$	5,000	$	7,000	$ 6,000	$ 18,000
How much work was done (Earned)	Earned value	EV	BCWP	$	3,960				
How much was spent on work done (Actual)	Actual cost	AC	ACWP	$	6,000				
Percent complete					22%				
Cost variance	CV=EV-AC			$	(2,040)				
Schedule variance	SV=EV-PV			$	(1,040)				
Cost performance index	CPI=EV/AC				0.66				
Schedule performance index	SPI-EV/PV				0.79				

From those metrics, we can now do some calculation to analyze how we are doing. First, we look at the cost variance (CV), which is the difference between what we expected to spend at this point, and what we actually spent. Then we look at our schedule variance (SV) to compare where we are according to schedule. In the case of cost, we are obviously running ahead of budget, and from a schedule standpoint, we are behind schedule. We can also do an index of the same metrics as shown below.

Please note that when the cost variance or schedule variances are negative, then we are not happy with the performance. If the variances are positive, things are looking much better. The indices work the same way. If they are less than 1, we are unhappy, and if they are above 1, we are pleased with the progress.

Now, let's say that our management really stayed on top of the workers and caused them to be more productive, and that the weather was absolutely wonderful for painting. We managed to catch up on the project, doing 45 percent of what was anticipated and at a cost somewhat below budget. We see here nice positive variances and indices above 1.0.

		Earned Value Analysis							
				Jan		Feb		March	Total
How much work will be done (Plan)	Planned value	PV	BCWS	$	5,000	$	7,000	$ 6,000	$ 18,000
How much work was done (Earned)	Earned value	EV	BCWP	$	3,960	$	8,100	$ -	$ 12,060
How much was spent on work done (Actual)	Actual cost	AC	ACWP	$	6,000	$	6,700	$ 6,701	$ 19,401
Percent complete					22%		45%		
Cost variance	CV=EV-AC			$	(2,040)	$	1,400		
Schedule variance	SV=EV-PV			$	(1,040)	$	1,100		
Cost performance index	CPI=EV/AC				0.66		1.21	-	
Schedule performance index	SPI-EV/PV				0.79		1.16	-	

In March we again had some bad weather, although the crew managed to come pretty close to what was planned. The numbers are as follows:

		Earned Value Analysis							
				Jan	Feb	March	Total		
How much work will be done (Plan)	Planned value	PV	BCWS	$ 5,000	$ 7,000	$ 6,000	$ 18,000		
How much work was done (Earned)	Earned value	EV	BCWP	$ 3,960	$ 8,100	$ 5,940	$ 18,000		
How much was spent on work done (Actual)	Actual cost	AC	ACWP	$ 6,000	$ 6,700	$ 6,701	$ 19,401		
Percent complete				22%	45%	33.0%	100%		
Cost variance	CV=EV-AC			$ (2,040)	$ 1,400	$ (761)	$ (1,401)		
Schedule variance	SV=EV-PV			$ (1,040)	$ 1,100	$ (60)	$ -		
Cost performance index	CPI=EV/AC			0.66	1.21	0.89	0.93		
Schedule performance index	SPI-EV/PV			0.79	1.16	0.99	1.00		

When the project is complete – or, for that matter, at any time during the project – we can also look at the cumulative EVA. If we add the EV and the AC lines across, we can then perform the same analysis on a cumulative basis.

From the cumulative analysis we can see that the project was completed on schedule with a final index of 1; however, from a budget standpoint we didn't do as well with a cost variance of negative $1401 and an index of .93. It's important to remember that with a negative cost variance, we might often think that means that our cost was under budget, but with this system, it's exactly the opposite. We always want a positive number and an index above 1.

A. What's next?

This example, along with the coming problem, are very simple descriptions and examples of the EVM system. It's important, but this is just the basics. EVM is a way of thinking and a way to analyze projects. From here we can obviously do such an analysis on each part of the main project, and also graphically present the variances and indices. A good dashboard for project management might include such a graphic display.

IV. Case study

The Lumbar chair company recently instituted a project to completely redesign the company website including a program for online marketing and online sales. Lumbar contracted with a private contractor to complete the project in three months at an estimated total cost of $30,000. The reason why the cost was not a fixed amount is that both the contractor and Lumbar knew that a "perfect" website is a moving target, and both knew that changes would be expected. Along with each month's billing, the contractor was to give an estimate of the percentage of that month's completion based on what was planned and also based on the total estimate.

The following spreadsheet shows the anticipated monthly progress and cost of the website as well as the total. The agreement in the contract is for the web designer to bill Lumbar monthly for progress and cost to date.

	Lumbar Chair Company						
	Earned Value Analysis						
				Jan	Feb	March	Total
How much work will be done (Plan)	Planned value	PV	BCWS	$ 10,000	$ 10,000	$ 10,000	$ 30,000
How much work was done (Earned)	Earned value	EV	BCWP				
How much was spent on work done (Actual)	Actual cost	AC	ACWP				
Percent complete							
Cost variance							
Schedule variance							
Cost performance index							
Schedule performance index							

This is the spreadsheet at the end of three months, showing the percentage completed and the money spent.

	Lumbar Chair Company						
	Earned Value Analysis						
				Jan	Feb	March	Total
How much work will be done (Plan)	Planned value	PV	BCWS	$ 10,000	$ 10,000	$ 10,000	$ 30,000
How much work was done (Earned)	Earned value	EV	BCWP	$ 7,500	$ 10,500	$ 9,000	$ 27,000
How much was spent on work done (Actual)	Actual cost	AC	ACWP	$ 14,500	$ 10,500	$ 11,300	$ 36,300
Percent complete				25%	35%	30%	90%
Cost variance							
Schedule variance							
Cost performance index							
Schedule performance index							

Requirements:

1. Complete the spreadsheet by calculating the formulas.

2. What would you say about the progress of the project as you go over the three months as well as at the end of the third month?

Case Study Solution

	Lumbar Chair Company						
	Earned Value Analysis						
				Jan	Feb	March	Total
How much work will be done (Plan)	Planned value	PV	BCWS	$ 10,000	$ 10,000	$ 10,000	$ 30,000
How much work was done (Earned)	Earned value	EV	BCWP	$ 7,500	$ 10,500	$ 9,000	$ 27,000
How much was spent on work done (Actual)	Actual cost	AC	ACWP	$ 14,500	$ 10,500	$ 11,300	$ 36,300
Percent complete				25%	35%	30%	90%
Cost variance	CV=EV-AC			$ (7,000)	$ -	$ (2,300)	$ (9,300)
Schedule variance	SV=EV-PV			$ (2,500)	$ 500	$ (1,000)	$ (3,000)
Cost performance index	CPI=EV/AC			0.52	1.00	0.80	0.74
Schedule performance index	SPI-EV/PV			0.75	1.05	0.9	0.9

Tricks, Tips, and Traps

Tricks, Tips, and Traps

Learning objectives

Upon completion of this chapter the reader will be able to:

- Understand several specific tips on how to be a better project manager;
- Know some unique tricks on how to achieve better productivity of the project;
- See several traps that can cause a project to fail; and
- Work through a case study summarizing the project management effort.

I. Tricks

There are several things that project managers have done over many years that have led to better success in project management. These tricks are not necessarily included in the standard literature of the discipline; rather, they are things that people have learned over time. Certainly not all of them will work for you, but the key is to try many of them and see what works in your particular situation. We can promise you that they have worked for some people at some time.

A. Facilitate effective communication

Possibly the most important single things that will cause a project to succeed or fail is the communication of the team – or, more properly, teams. The project has a project team, and that may be the most important, but the project also has other stakeholder teams that must connect into the project.

1. Agree how you will communicate

At the initial meeting of each team, review among the team how communication will be handled. Generally, you want the team to make the final decision of how it will be done, but the key is to make sure that an agreement is made. For example, some may prefer emails, some may prefer phone calls, and some may prefer text messages. Each has its own place, but the real key is that the team agree on how it will be done. Then, all of the team members must agree that they will adhere to the team's decision. It will not work if some are communicating via phone and others via email. It is important that everyone agree and then everyone practices the decision.

2. Demonstrate and require honest communication

In a typical office, where people have worked together for a reasonably long time, we get to know what our colleagues mean, even when the communication might not be so direct. But in a project team, that may not be the case. Often, we haven't worked with the other team members for a long time, so we don't necessarily know what someone else is thinking. Consequently, direct communication is required in order to avoid misunderstandings. Does that mean that we have to be so direct as to offend some people? No, but it does mean that we have to be both direct and diplomatic. Misunderstandings can be very costly.

B. Manage expectations

Someone once said to me that an expectation was a resentment going somewhere to happen. That's probably a good statement, and is the reason why we, as project managers, need to manage expectations throughout the stakeholders and teams.

If you are leading correctly, there are seldom any surprises. As the manager you need to alert stakeholders proactively about delays, going over budget, and similar problems that will occur. Likewise,

you need to insist that your team members follow the same idea. As manager, you do not want surprises, but rather you want to know about problems and how they are being addressed.

C. Avoid meetings

An estimated $35 billion is wasted each year on meetings that do not need to occur – or, if they are needed, could be conducted in a way other than face-to-face. Remember the key guideline that meetings for collaboration and decision making should be in person but passing information from one person to another or to the team can usually be done via email or some similar method. This is a very important thing to determine at the start of the project.

D. LUNA

Listen to understand, not to agree. When we think about it, we have a tendency to listen to another's talking while focusing in our minds on whether we agree or not, and on how to formulate an argument against, or an agreement with, the speaker. LUNA means that you listen carefully with the idea of really understanding what the person means and especially his or her feelings about the item in question. This takes some skill and practice.

E. Filter irrelevant or trivial information

This is especially relevant regarding information from the client or customer. Customers want everything, and it's obviously important to meet their needs, but often we have to boil the requests down to what is absolutely necessary and should become part of the project.

F. Set clear action items

Be sure to walk away from every meeting with specific action items. People hate meetings where nothing gets done, and without action items, nothing will get done. If you are not distributing information in a meeting (using email for that), then just about everything discussed in the meeting should end with an action item. A good way to audit this concept is to make sure that there is an equal number of action items for the number of items discussed. If not, then some things are falling through the cracks.

G. Win support of senior executives by speaking their language

Financial people will sometimes use different language from the rest of us. That is not right or wrong; however, it can get in the way of achieving support from senior management for a particular project. We need to talk about profit and the bottom line rather than discussing the budget. We need to talk about time to market and not schedules. Most importantly, we need to talk about opportunity and not just about risk. My father was a CEO, and he would drill it into my head that he would always ask a person to tell him how something could be done and not just that it couldn't be done. Research has shown that senior management support is one of the most important requirements for project success.

H. Communicate more than you think necessary

As a consultant, the number-one thing I hear from people in dysfunctional organizations is that the problem in their organization is communication. When I look into things, I always find that the problem is much deeper, but the place where people observe the problem is communication. So, if you want to have a more successful project, and you are going to make errors in communication, make sure that the error is too much communication and not too little.

Can you go too far? Absolutely, but that's why each team must start by agreeing on what method of communication to use and how much communication should take place. Then, there shouldn't be any complaining that you are not communicating enough.

I. Encourage empowerment

One of the key differences between traditional operations management (especially in the bureaucratic model) and project management is the amount of empowerment. Where operations management generally involves a top-down management system, project management generally uses more of a team approach. The key for success, therefore, is to empower the teams to make decisions, and not have them in a recommending mode where they have to get all decisions approved by a higher authority. Approval takes time and money, but empowerment is more efficient. More importantly, with empowerment people feel valued and respected, and therefore enjoy doing their work for the betterment of the team.

J. Deal with problems quickly

Problem solving is probably the most important thing you will do as a project manager. Solving problems often involves conflict, and many people don't like conflict. Consequently, facing problems can be delayed, and they usually grow as the delay occurs. While it's almost never fun, a good project control system will call out problems as soon as they develop and allow the team to find the solutions.

K. Be firm about change orders, or "the customer is always right"

There is an interesting debate going on in the project management community about two completely different approaches to change. Some will say that at the planning phase we must determine how many hours of work will be required to complete the project, and if the customer wants change, it must pay for the changes. On the other hand, some agile project management thinking is that change is inevitable, the customer is always right, and it is the duty of the project to change according to what is needed by the customer. Which is right?

The answer is both. When going through the planning phase, the team should understand and discuss this apparent dichotomy and determine how change will be handled. Understanding that the customer is a stakeholder, he or she should be involved in that discussion, and everyone should agree on the approach to change.

L. Build relationships with the team

The best way to explain this tip is with a story. When I was operating a company in New Jersey back in the late 1970s, I had a wonderful boss named Dale. Periodically, Dale would take the management team out for a unique, long, and wonderful dinner to Guido's. Those dinners probably represented the most important relationship-building technique to bring the management team of the company together. Were the dinners official meetings? Probably not, but I can guarantee that the dinners represented some of the best planning and strategizing times ever.

M. Pull ideas from everyone

Probably the key leadership system in project management is collaboration. The project management team is a team and not a top-down hierarchy. Consequently, it is the team leader's duty to make sure that everyone on the team is represented in the collaboration and that all ideas are considered. Some people are normally more silent and will not be as free to offer their opinion. But you may find that they have the

key idea that solves the problem. If your team is functioning well, everybody's opinion will be equally entertained as part of the decision making and problem-solving environment.

N. The project manager doesn't delegate, the team members volunteer

In the more bureaucratic organization it is normal for the department head to delegate tasks to the department. In the project management system, the more successful project managers will state that a task needs doing and ask if anyone will volunteer to handle that task. Then, the team will ask the person who volunteered when the task can be complete. In that way, the person is not being delegated a task, but instead is volunteering and making a commitment to the team for when it will be accomplished.

II. Tips

A. Avoid the bureaucratic environment, but don't overact

"Bureaucracy" has become somewhat of a bad word as we see how it can hurt an organization and prevent it from changing, or at least from changing quickly. The German sociologist Max Weber defined bureaucracy as the systematic processes and the organized hierarchies necessary to maintain order, maximize efficiency, and eliminate favoritism. But, like almost anything created by man, bureaucracy can be used either for good or bad. Bringing order, procedure, and efficiency to an organization is obviously good, but using the system to justify its own existence is obviously bad. For this reason, our project will be less successful if we allow it to fall into the trap of requiring too many approvals, too much documentation, and too much time to get things done.

But, it's important not to err by overreacting to the bureaucratic trap. As financial professionals know, there are many controls, rules, and regulations that are important for the protection of the organization. The key, as a project manager, is to make sure that the requirements, controls, and similar items are important for the security of the project, and not just as a way of "checking the box" to say that the project is done. Taking a second look at something to make sure it is correct is important, but just checking the box for the sake of saying that it was checked when there is no need is an unnecessary bureaucratic step.

III. Traps

Following are a list of many of the most common traps that can cause real problems to a project. However, it's important to recognize that not all the traps will apply to every project. For example, change orders may be considered a problem in waterfall project management, but totally accepted and not considered a trap in agile project management. We don't always need three people to sign off on something. That redundancy actually can harm the security.

A. Scope creep

This is often listed as the number-one trap in waterfall project management but recognized as inevitable in agile project management. As discussed in an earlier chapter, the trap refers to uncontrolled changes or continuous growth in a project scope but without corresponding changes in resources, schedule, or budget. To avoid this trap, the various stakeholders of the project need to discuss it at the inception. Like most issues, if scope creep is discussed as a team ahead of time, there is less chance that the problem occurs.

B. Failure to communicate effectively

Communication keeps coming up in almost all aspects of project management suggestions and training. Project management is a team concept, and therefore the team members must understand the *what*, *when*, and *who* of the project. If they don't, the project won't succeed.

The way to mitigate this problem is to have a communication plan where each team member has agreed about how and with what frequency they will communicate. It's important that the project manager get buy-in from all the members and hold them accountable to communicate as they have committed. For example, if the team has agreed that they will communicate with email threads, and then one member of the team says that he didn't see an email because he receives too many emails, that excuse is unacceptable. If a person agrees to a system, he or she must be accountable to uphold that system.

C. Providing too much information

While providing communication is good, some people will provide so much information that people will tune out and not read it. For that reason, as project manager, you must adopt a system of providing executive summaries, along with details, in such a way that those who wish can only read the summary, while others feeling the desire or need can read all the detail.

Some projects will suffer because we want to make sure people receive information. Consequently, we read it to them or have people present reports at meetings where the information could have been more efficiently passed through a memo or email. Some say that communicating via email won't work because some people won't read their emails. That's probably true, but if a person who doesn't read an email is later held accountable for knowing what was in the email, he or she shouldn't make the same mistake again.

One very effective way to handle this is to send out an email with the statement that it will be discussed in a future meeting. At that meeting, DO NOT go over what was in the email. Make the assumption that everyone has read it. Go directly into the discussion, and people who feel left out because they didn't read the material will probably change their behavior in the future.

D. Wrong document handling method

An important part of the communication plan for the team is agreement on how documents will be shared and stored. As the digital age has progressed, there are several well-accepted document handling systems that work through the cloud. Relatively quickly, we tend to favor one or the other. It's important that the project manager work out with the team what system will be used. It's not fair, nor is it recommended, that the project manager automatically use the system with which he or she is most familiar. Remember that project management is about teamwork, so the team should help decide on the details of the communication plan.

E. Wrong-size team

The project team must be commensurate to the size of the project, but that number can't be set by some person higher in the organization. It must be set by the project manager and the team itself. Getting a right-sized team is required or you will find yourself with team members who are either totally frustrated because they can't get the work done, or who are bored because they are spending too much time doing fewer creative things. The "Goldilocks" point of being "just right" is difficult to reach but should be determined by the people doing the work.

F. Wrong people on the team

To be on the team requires two totally different types of skills – technical and people. Team members must have the technical skills required to do the work, and that is quickly understood. But, in addition to that, each team member must have the "people skills" and diplomacy to get along and function well with the other people on the team. A highly skilled person who is a "jerk" will hurt the team more than a person who might lack a little of the technical skills. While choosing the team, if you are going to make an error, make sure it is on the side of the technical skills. You will quickly find that you can train someone to learn technical skills, but it's almost impossible to train the "jerk" out of a person.

G. Not being a leader

There are many definitions of leadership and it's probably a good idea to look at a lot of them to get a better idea of how you should act as a leader. One of my favorites is attributed to *Forbes* magazine: "Leadership is a process of social influence, which maximizes the efforts of others, towards the achievement of a goal." Another goes to Peter Drucker, who said, "Management is doing things right, but leadership is doing the right things."

Question to ponder:

Did you see the recent movie *Ford v Ferrari*? If so, what did it say about project management? What were some of the things you observed (either good or bad) that Ford did, thinking about it from the perspective of project management?

IV. Case study

Lumbar Chair Company is a firm located in California. The company has designed a unique chair designed to correct back pain, built prototypes, and tested them, and developed a marketing program that starts with online sales through a website before eventually wholesaling them through furniture dealers. Harry Foster is CEO of the company and the one who came up with the idea. Tom Branken is CFO; Susan Metcalf, chief marketing officer; Sally Jones, chief IT officer; and Barbara Schwartz, chief HR officer. In addition to the executive team, the company now has 50 other employees who are primarily involved in establishing the systems and logistics once the product gets moving.

As part of the marketing program they need to build a customer database along with a fully functional website that will collect the email addresses of interested people and also sell chairs directly from the warehouse.

1. **Do you think that this would be considered a proper activity to be considered a project? Why or why not?**

2. **Would you think this should be a waterfall project or an agile project?**

3. **Assuming that this will be a project, who would be the stakeholders?**

4. **How would you describe the scope of the project?**

5. **At the outset, what team would you put together to begin the planning of the project? Who do you think should lead the team?**

6. **What might be some of the sub-projects that would be developed by that team?**

   (Let's make the assumption that the company does not have a group of website designers and coders and will need to sub-contract that part of the project.)

7. **Who might be on the team that will be responsible for getting the website built?**

8. **What will be some of the key things on which this team will concentrate? What are some of the traps that they will have to guard against?**

9. **Once the project is complete, what are some of the things that need to be considered in a final evaluation? Who should do the evaluation?**