

PDHonline Course P102 (8PDH)

Project Management for Managers/Executives

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Project Management for Managers/Executives

By William (Bill) J. Scott, PMP, PE

Course Overview

To survive in the twenty-first century, organizations had to become lean, flexible, innovative, and customer driven. Most had to reengineer their business processes. They had to abandon antiquated ideas about how organizations should be structured and managed. They had to rethink not just how to do things faster, better, and more economically, but whether to do them at all!

Project teams are expected to complete critical, complex undertakings on time, within budget, and according to both internal and external customer needs and expectations.

Over and over, we have heard our students comment that their jobs were made harder because “upper management” did not understand project management. The very people who appointed the project managers did not know what was involved in establishing multi-functional project teams and working within a matrix. The concept of empowerment was foreign to them, and they found it difficult not to meddle in the day to day business of managing projects.

Because leadership requires the ability to influence others toward achievement of a shared goal, managers/executives who seek to supervise project managers most effectively need to understand how project management really works. They need to understand the challenges, frustrations, and the opportunities project managers deal with on a daily basis.

This course gives managers/executives the working knowledge of the project management process they need. It enables them to speak the language, understand the issues, and make informed judgments concerning projects that are essential to the overall success of their organization.

This course is addressed to:

- Project Manager Supervisors
- VP of Operations
- General Managers
- Technical Directors
- Senior Support Managers
- Company Presidents

Course Modules

Module #1 The Business Case for the Project Management Process and it's Fundamental Concepts.

Module #2 Organizational Role Responsibilities and a Profile of an Effective Project Manager.

Module #3 The Project Management Process.

Module #4 Measurement and Reporting of Project Progress and Summary Lessons.

About the Author

Bill Scott holds a B.S.E.E. degree from the University of Alabama and a B.S.M.E. from the University of Alabama –Birmingham. He also received a Certificate in International Operations from the Stockholm School of Economics in Sweden. Bill is a licensed professional engineer in the States of Alabama, Tennessee, and Nevada and a member of the IEEE, NSPE, American Management Association, Association of Project Managers and the Project Management Institute.

Bill received his Project Management Professional (PMP) certification in 1999. He has over 35 years of combined experience in industry, consulting and training. Bill's project work includes project as large as $180 million and as long as six years for heavy industry and electric utilities. His project work has taken Bill to Western Europe and the Far East. Bill is also a Certified Arbitrator with the American Arbitration Association.

He is currently a principal in Project Management Associates, Inc (PMA), a project management consulting and training business in Birmingham, Alabama. PMA is a "Registered Education Provider" by the Project management institute. When it comes to projects, Bill has been there and done that.

Project Management for Managers/Executives

I would like to start off by telling you about some advice my wife gave me a long time ago.

When I first starting giving presentations some twenty years ago, my wife offered me some advice. She told me that in order to keep the audience's attention; the most important thing was to talk about an interesting subject. This seemed like good advice, so I took it. I have tried to keep my topics interesting.

Well, sometime later, as I was still giving presentations, my wife offered me some more advice. This time she told me that in addition to having an interesting subject, it was really important to keep it short and to the point. This also seemed like good advice, so I took it. I have tried to keep my presentations short and to the point.

Well now that I've been at this presentation stuff for over twenty years, my wife now gives me different advice. She tells me now that the subject matter is still important, that yes, keeping it short is also important, but the most important thing is to keep my belly sucked in." This is probably the best advice of all!

The Project Management System

It is your basic forming, storming, and performing way of getting things accomplished on budget, on time and with customer satisfaction.

You are lucky to have the opportunity to experience it. I guarantee that before you finish this course, you will have experienced it and be able to apply it to your daily work.

Before we go any further, I want to establish my five rules of project management. They are:

1. There can be no cost management without using the earned value technique.
2. There can be no schedule management without managing the critical path.

3. A real work breakdown structure (WBS) has the following four elements:
   A. A specific beginning and ending date.
   B. A budget assigned to it.
   C. A defined scope.
   D. One person who is the single focal point accountable for each task completion.
4. Comparing actuals to budgets is close to meaningless.
   For example, if you have spent less than you budgeted at any point in the project, does this mean you are:
   A. Behind schedule?
   B. Under budget?
   C. You don't know?
5. No one but you can control (manage) your project!

To Gain the Most Value and Return on Investment for the Time You Spend on this Course You Must:

1. Think about your own experiences.
2. Read carefully.
3. Be patient.
4. Stay on the topic.
5. Rise above your experience bias.
6. Be receptive to new ideas.

Project Management for Managers/Executives

MODULE # 1: The Business Case for Project Management Process

Overview

Project Management has been a topic of formal study only since the early 1950s. It is viewed as a modern concept, although management of projects has been going on since society began.

Because the requirements of a project are usually too complex to be managed effectively by the traditional organization, a new management vocational form called “Project Management” emerged. Project Managers operate in organizational structures (matrix) which cut across vertical functional lines of authority and communications, and follow the normal work process flow.

To survive in the twenty-first century, organizations need to become lean, flexible, innovative and customer driven. Most have already re-engineered their business processes. They will have had to abandon antiquated ideas about how organizations should be structured and managed. Surveys show project type work is on the rise even in the executive ranks. One survey showed 80% of the executives surveyed admitted that they were spending 50% of their time on project work. However, only 20% of those same executives reported being trained in project work. As processes are re-engineered, hierarchical organizations are giving way to organizations that accomplish work by forming dynamic self-managed (empowered) ad-hoc project teams and self-managed (empowered) on going work teams.

Therefore, it is important for all to understand the project management process and what is involved in establishing multi-functional project teams and what empowerment really means!

A Major Paradigm Shift

1. Reunifying the division of labor and management tasks into a coherent business process will create a **New Paradigm** for you and your company!

2. Implementation of the Project Management Process will change the way one does business. This will be a Major Paradigm Shift!

3. Change is nonstop.

4. Change is like the wind, fight it and it will sting you, harness it and you will fly like an eagle.

People are Resistant to Change - Farmer Story

There was an old farmer who had been farming for over 40 years. He grew corn, wheat and lettuce. He farmed today much the same as he did 40 years ago. One day as he was sitting on his front porch looking over his fields, a state car pulled up to his house. A young man in a gray suit and tie got out of the car and approached the farmer. The young man introduced himself as the local county agent (a county agent is a state official who helps farmers with problems.) The young county agent told the farmer that he had been observing his farming techniques over the last couple of years. The farmer replied, “Is that so.” The young county agent responded, “Yes sir, and I would like to tell you that based upon my observations, my recommendations would help you increase your output by at least 20% a year.” Again the farmer responded, “Is that so.” The young county agent eagerly replied, “Yes sir.” He then proceeded to tell the old farmer about a different way to plow, different fertilizers, different seeds and so on. At the end of the suggested changes, the young county agent gave the farmer a written set of the recommendations he had just suggested.

The farmer thanked the young county agent and assured him he would give his recommendations serious consideration and would probably implement most of his suggestions. The young county agent “beamed” and thanked the old farmer and then got in his car and left.

Well the next spring came as always and the old farmer prepared the land same as always, used the same seeds as always, planted the same as always, and used the same fertilizer as always, and so on. And of course

at harvest time the old farmer reaped the same quantity and quality as always.

The young county agent came by the farmer's place at the end of the harvest and noted no increase in output. He was truly amazed that his recommendations had no effect on output.

The young county agent approached the farmer and reintroduced himself. The farmer acknowledged meeting him last year and receiving his farming practice recommended changes. When the young county agent asked if he had implemented any of his recommended changes, the old farmer replied that he had not. When asked why, by the young county agent, the old farmer replied that it is obvious that you don't understand that I already don't farm as well as I know how. Since I won't change to a method I already know to be better, why would I change to your method?

Here we have a clear case of resistance to change, even when it is in our best interest to do so. From this story we can see how hard it is for us humans to change. Normally we humans only change when acted upon by a significant outside event.

Project Management System Elements:

Human	Leadership, Communications and Team Building.
Organizational	Structure, Role Responsibility and Accountability.
Planning	Proposal and Contract Implementation.
Tools	Financial, Scheduling, Modeling and Estimating
Measurement	Progress compared to Plan and Reporting.
Audit Performance	Lessons Learned

CHANGE EXERCISE*:* TO EFFECT CHANGE, WHAT MUST WE DO?

Objective of This Exercise:

- Identify the minimum requirements to effect a change in an organization.

What to Do:

- Brainstorm, be creative.
- Do not evaluate as you go.
- Use 80/20 rule.
- Scribe your answers.

Deliverable: A set of requirements to effect a change in an organization.

Time: 15/20 MINUTES

WRITE DOWN YOUR REQUIREMENTS NOW.

A Set of Requirements for Change

- Recognition of the need for change. Acknowledgment that things can be better.
- Commitment and dedication of top management to the need for change (sponsorship).
- Identification and empowerment of one person (single focal point), who is totally accountable for the change. **IT CAN NOT BE THE CEO**!
- Getting buy-in from all impacted by the change (shareholders).
- Establishing and empowering a cross-functional implementation team.

- Developing and maintaining the implementation plan (W_5H_2).
- Implement the change (Action).
- Measure the progress of the change.
- Audit at completion and document the lessons learned.
- Train in the new way.
- Follow-up (Measure).

THIS IS WHAT PROJECT MANAGEMENT IS ALL ABOUT!
IT IS NOT ROCKET SCIENCE!
HOW DID THE ABOVE LIST COMPARE TO YOURS?

W_5H_2: A Planning Tool

Purpose	**W**hy do it?
Requirements	**W**hat do they want?
Accountability	**W**ho is responsible?
Location	**W**here will it be done?
Timetable	**W**hen will it be done?
Tasks	**H**ow will it be done?
Resources	**H**ow much will it cost?

Planning: Pipe Manufacturing Story (Based on a true story)

I was an electrical project engineer in the central office-engineering department of a large domestic cast iron pipe manufacturing company.

I was called into the boss' office one morning and given a project to convert the small diameter casting machine direct current variable speed drives using a fixed armature voltage and a variable field voltage drive to a fixed field voltage and variable voltage armature drive (in layman's terms, from an old design variable speed drive to a newer design variable speed drive). The project was to be accomplished at the local plant and then if successful, would be duplicated at other plants. I was given the budget and when it was expected to operate with the new design. I was also given local plant personnel contact information.

I was a little overwhelmed by all of this. My first real project.

Nevertheless, I got myself together, went back to my office and started:
1. Writing out the project objective.
2. Identifying all of the work tasks that had to be accomplished.
3. Making a schedule.
4. Subdividing the budget, and so on.

I had been at the planning work for about an hour when my boss stormed into my office and wanted to know what I was doing. I tried to explain that I was starting the planning process of project management. He interrupted me about two thirds of the way through my explanation and told me that I didn't have time to waste on planning, that I needed to get out to the plant and start making something happen.

It was obvious that now was not the time to challenge that notion of not having time to plan, that we had to get to work! So, I got my hard hat, note pad and safety glasses and got in my car and drove the seven miles to the plant. On the way, I wondered exactly what I was supposed to make happen that morning.

Later on, I finished the planning work, implemented the project and it came in on schedule, on budget and the customers (plant operations) were delighted with their new casting machine drives.

Remember the old carpenter's story, measure twice and cut once?

Well planning is similar. Plan twice and implement once. Without a plan, how will you know where you are going, when you will get there and how you will be able to measure progress? Planning is real work!

Need for a Common Language

1. Words have different meanings for different people. Words in English can have many different meanings, even if they are spelled the same, and can be perceived to mean what the listener wants them to mean.

2. Different perceptions are absolute barriers to communication.

3. Perceptions are one person's reality until clarified.

4. Communications can always be improved.

I am an arbitrator with American Arbitration Association (AAA) and even the written word ends up in dispute all the time. It is the arbitrator's job to find out what was meant at time of signing the agreement. This is not always an easy task. People's perceptions of the "deal" change over time, especially as the dispute heats up… It is very important that everybody understands what is expected of them.

Words have Different Meanings

1. **PROJECT**	An ad-hoc undertaking concerned with achieving a specific objective.
2. **MANAGEMENT**	The process of planning, organizing staffing, directing *, and controlling * the resources to get a job done. * Maybe we should read these words as leading and coaching. After all, who wants to be directed and controlled by their boss? I sure don't and I suspect neither do you!
3. **PROJECT MANAGEMENT**	A disciplined, systematic approach to executing projects to satisfy a customer's specifications and expectations and to meet

	defined schedule, cost, and quality parameters.
4. PROJECT MANAGER	An individual responsible for the project management process and accountable for the project results.
5. PROCESS	A series of interrelated actions leading to a particular output.
6. SHAREHOLDER	Individuals and organizations that are involved in the process or whose interests are affected.
7. DELIVERABLE	Measurable output produced to meet customer expectations.
8. SCOPE	Sum of the products (deliverables) and services to be provided.
9. MILESTONE	Significant event in the process, usually the completion of a deliverable.
10. RESPONSIBILITY	The acceptance of an **obligation** to perform the work assigned to a position.
11. ACCOUNTABILITY	The obligation to carry out duties or responsibilities and to exercise the authority of the position.
12. CUSTOMER	The person or person (both internal and external) for whom the output is created.
13. SUPPLIERS	Entities that supply input of any kind to the process.
14. CONTRACT	An agreement between two or more individuals.

Question?
Is the CEO accountable for company sales (orders)? Yes, of course he is! In fact, the CEO is accountable for everything that goes on in the company.

Question?
Is the CEO responsible for booking orders? Not if he is smart and has delegated that responsibility (and authority) to his marketing/sales executive.

Do you see the difference between responsibility and accountability?

Word Meanings, Cultural Differences and Team Dynamics

I worked for a Swedish parent company in the eighties. As part of our training to better understand cultural differences and how to effectively deal with them, we scheduled a one-day, in house cultural differences training seminar.

During the training, one of the exercises we performed dealt with answering "no" to a simple question.

We were in a large room sitting in a half-moon circle. The training facilitator, Gary, asked one of the students to answer "no" to a question he was going to ask him. Gary asked the student to answer "no" to the question in a normal manner on the first try. The student was asked to delay his answer by half a second on the second try. The student was further asked to delay his answer by one full second on the third try.

The "game" started - Gary asked the student, "Jerry, are you fifty years old?" Jerry answered back in a normal tone and a normal manner, "no."

Gary then asked the rest of us what we thought of the answer. Most of us were of the opinion that he answered truthfully and straightforwardly.

Gary then asked Jerry the same question a second time, "Jerry, are you fifty years old?" Jerry waited for about half a second and answered back in a normal tone, "No."

Gary then again asked the rest of us what we thought of the answer. Most of us were of the opinion that Jerry "considered" his answer (first for a short ½ second) and then answered. But we still thought he had answered truthfully.

Gary then asked Jerry the same question a third time, "Jerry, are you fifty years old?" Jerry answered back in a normal tone, but this time he delayed his answer by a full second, "no."

Gary then again asked the rest of us what we thought. This time there were more opinions on what the one-second delay meant. Some still thought that Jerry "considered" his answer before giving it, but that he was still truthful. Others were not so sure. Many thought that Jerry took too long to answer a simple question and that the answer might not be truthful. All of that over a one second delay.

Then Gary made the point that our perception of truth is dependent on how long it takes a person to answer a question. Of course, there is absolutely no scientific basis for this, only our cultural norm. In the U.S., it is customary to answer questions quickly, maybe even to a fault. That custom does not necessarily follow in the rest of the world. So here we Americans are, making decisions about truthfulness based on our cultural norm. It should be obvious that our cultural norm does not apply everywhere else in the world. So we should be very careful about jumping to conclusions about foreigners based on cultural differences.

Gary then executed a second example of cultural differences. He asked for a volunteer. Don volunteered and came up to the front.

Gary told Don to stand in one spot and carry on a conversation with him about the weather in east Tennessee. As the conversation continued, Gary slowly moved closer to Don. Initially they were about three feet apart when the conversation started. After about thirty seconds, Gary was about two and a half feet from Don. All continued to go well. After about another thirty seconds, Gary was only two feet from Don. At this point, Don stayed anchored in his spot but was leaning back away from Gary. After about another thirty seconds, Gary was moving a little closer to Don and Don was leaning back even more. Finally, Don couldn't maintain his balance and had to shuffle his feet backward to keep from falling backward.

Gary asked Don what was wrong. What was he doing?

Don responded that Gary was getting too close to him (getting in his face) and that it made him uncomfortable. Don was readjusting his comfort distance.

Gary thanked Don and asked him to take his place back in his chair.

Gary then made a point that most cultures in the world have a "talking distance". This is the distance that two people stand apart, feel comfortable about and have casual conversations. For North Americans, this distance is about three feet. But this comfort distance is not the same worldwide. In fact, in many South American countries, that comfortable distance is much less. Sometimes as little as eighteen inches. They are literally in your face. In other parts of the world, the comfortable distance is more than three feet and sometimes as much as four feet. Now which is the right distance? Is it four feet? Is it three feet? What about eighteen inches? The answer is all of the above depending on who and where you are.

Just because the rest of the world does not use the same cultural standards as we Americans, it does not make them wrong or weird!

One Sunday in church, my preacher asked the congregation to show hands if you were hot. About one third of the group raised their hands. Then the preacher asked for a show of hands if you were cold. Again, about one third of the group raised their hands. Then finally, the preacher asked for a show of hands of those that were basically "just right". The remaining one third raised their hands.

Then the preacher took a long hard look at the congregation and asked, "Who's right?" The answer of course is my wife is right. Sorry, the real answer is that they are all right, at least for them.

We humans are a funny and predictable lot. We are truly creatures of habit. Things, phrases, and words have different meanings to different people.

What Does ASAP Mean to You?

What does ASAP mean to you? Of course it means “As

Soon As Possible.” Everybody knows that, …or do they?

Does it mean the same thing to everyone in the world?

No, it does not.

In fact ASAP (As soon as possible) translates into "Whenever you can get to it" in Swedish. So, if you want something ASAP you must tell them a specific date and time (e.g. June 19th at 5:00pm). If you tell them ASAP, you may never see it.

What Must We Do? The Challenge for Management

1. Clarify our vision, share it widely, and share it **OFTEN!!!**

2. Use the Project Management Process.

3. Be customer focused and process driven.

4. Let Customer Satisfaction Drive Performance.

5. Each project must have specific performance objectives and single focal point accountability.

6. Eliminate work that **FAILS** to add value.

7. You must empower employees with authority; give them tools and information necessary to achieve their performance objectives.

8. You must align metrics and rewards to support customers and company objectives.

9. You must reward team performance!

10. You must revamp training, appraisal, pay and budgeting systems to support the project management concept and link it to customer satisfaction.

11. You must openly and blatantly support the project management process –"Talk the walk, walk the talk." YOU MUST DO IT EVERY MINUTE OF EVERY DAY. They are watching to see if you really mean it.

Why Didn't They Work?

Why didn't many of the "management" programs of the 70's and 80's work? Specifically why didn't:

MBO (Management by Objective) work?
TQM (Total Quality Management) work?
Quality Circles work?
Excellence in Performance work?

One simple reason! There was little or no buy in from the very people who had to actually do the work. All of the above were top down programs. They were ordered down from the top with little follow up and no progress measurement until the end. Without the support of the very people who have to make it work, none of the programs had a chance of success from the beginning.

You must show the people who will ultimately decide which programs will work and which programs are doomed that there is something in it for them. If they are to change the way they do things (for eons) and the company is successful, what's in it for them?

Once they buy in to the process and the objectives, you don't have to worry any more. They will check how they are doing every week. They will find a way to make it work!

Buy In Is the Key!

PERCEPTIONS*:* One Person's Realities (Based on a true story)

I was general manager of an industrial drying business in Tennessee. It was a nice spring afternoon and the troops were restless. Some of them were hanging around the windows looking at the nice afternoon and daydreaming about playing golf and shooting a par. As luck would have it, we were having our field salesmen come into town for our second half forecast on the next day.

That afternoon, one of our best field salesmen from our Kansas City area was driving into the parking lot. He was driving in a big, black Lincoln Town

Car. He parked the car and got out smoking a big Havana cigar. He looked like he had just come back from a fine round of golf.

More and more of the office troops gathered around the window and were whispering to each other. I walked by to see what was causing all of the commotion. Well, it was not hard to figure out what the office people were thinking: "Big sales dude blowing into town in style. Big sales dude working half of the day and playing golf the other half of the day. Big sales dude driving a big Lincoln Town Car. Boy oh boy, wish I had a job like that."

I had my secretary go find John and ask him to stop by to see me before he left for the day.

About thirty minutes later, John stuck his head in my office and said, "What's up boss?"

I responded that it was he who was "up".

It was clear that John had no idea what I was talking about. I asked him to step into my office and close the door behind him. John got a funny look on his face, but came into my office and closed the door behind him.

When I confronted John about the Lincoln Town Car and how its rental was outside the policy, John was quick to the defense. He said that when he got to the airport, Hertz only had one Lincoln Town Car left to rent. Hertz rented it to him for the same price as a regular Class C car. John went on to say that because of the rental rate, he was not outside the policy.

Then I said, " Well that may be, but that's not all that matters." I told John about the office employees watching out the window at him driving up in that big, black Lincoln Town Car. I told him about them watching him get out of the car with his big Havana cigar and open collared shirt.

Then I asked John what he thought they were thinking at that moment. After a long pause, John said, "I see what you mean."

I told John that it didn't matter that the Lincoln Town Car cost no more than a smaller Ford. No one would believe the story. They all had determined their perceptions. Their perception was their reality and there was nothing you could do to change their perception.

So, one person's perception may be another person's reality. Once established, perceptions are hard to break down, even with the truth.

Key Project Management Concepts

1. Single focal point accountability for the process.

2. Single focal point accountability for every task (action) in the process.

3. You must be committed to the project management system (process).

4. Plan the work, work the plan, **PLANNING IS WORK!**

5. The scope of the process and accountability includes all phases from inquiry through post shipment follow-up and project close out.

Team Work: Sizing My Tiger

There was once a story about Tom, the sales manager, and Bill, the project manager, going on a safari together in Africa.

The first night they settled down to bed in their tent.

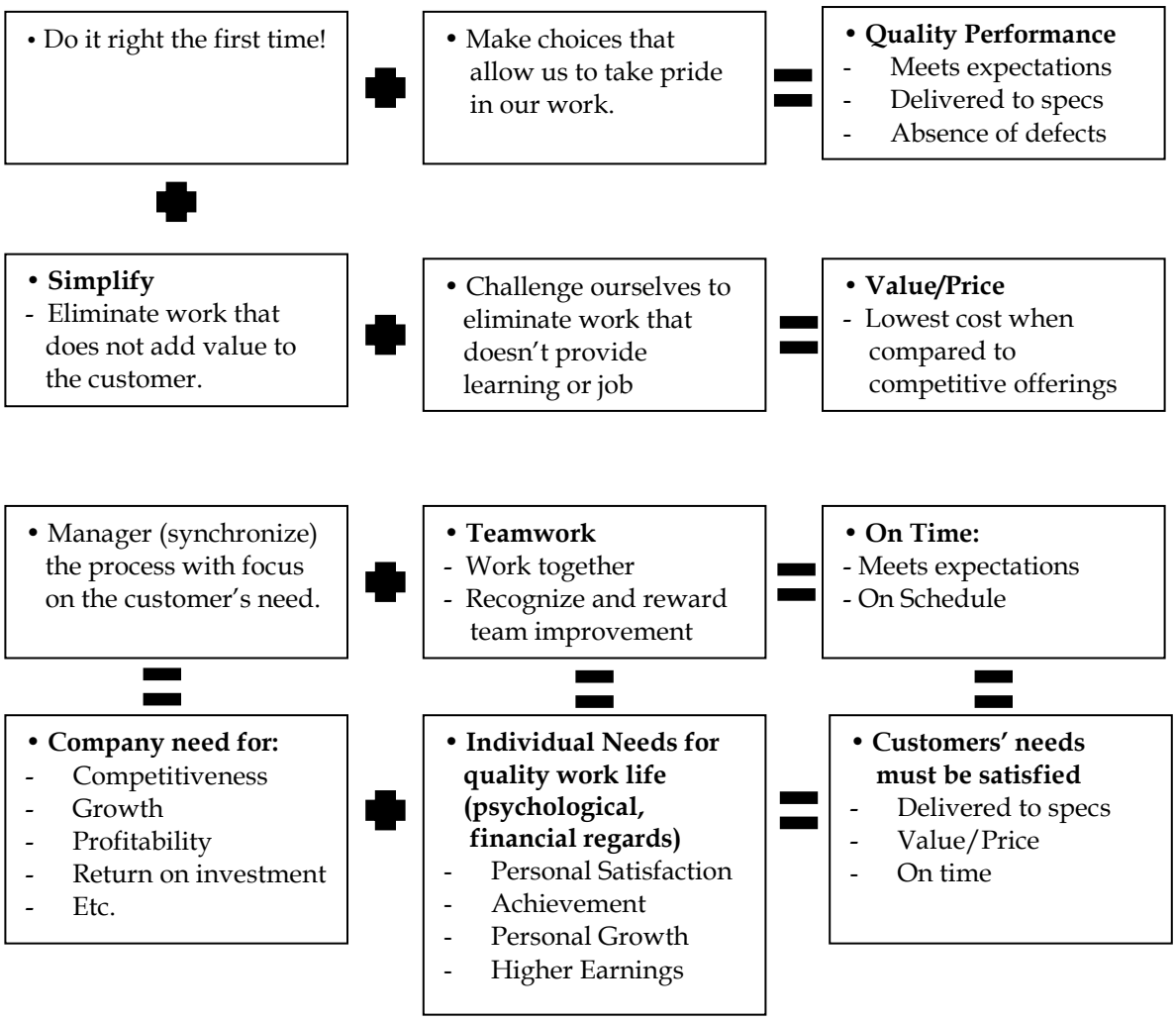
About 3 a.m., Bill was awoken by loud noises coming from outside the tent. He got up and noticed that his friend Tom was not in his bed. Bill headed for the flap to see what was going on outside with all the noise and his missing friend Tom.

When Bill was halfway to the flap, his friend Tom came busting through the door being chased closely behind by a tiger. As Tom ran through the tent and by his friend Bill, Tom yelled to Bill, “Bill I’ve already caught this tiger. You take him from here; I am going back out to see if I can catch another one.”

Sizing someone else’s tiger is the highest form of business malpractice. In any other form it would generate a mass of lawsuits. As is, it only creates poor morale. Do you want someone else sizing your tiger? I think not, but it is done all the time.

Don't get caught sizing someone else's tiger.

PROJECT MANAGEMENT: A Process to Meet Needs



A very simple equation, I wonder why we make it so hard to do?

Project Management Benefits

1. **UNDERSTANDING THE CUSTOMER**
   By establishing a partner relationship with either external or internal customers, including all members of the project team and clarifying all

needs in the planning phase, there is less chance of starting off with the wrong objective. By continuing to embrace the model throughout the implementation phase, there is less chance of losing the message.

2. **REDUCED CYCLE TIME**
   Increasing the investment of human and other resources in up-front planning and by eliminating non-value-added work, cycle times can be reduced.

3. **MINIMIZE LAUNCH ERRORS**
   Improved planning and risk management results in higher potential for proper implementing and the results that we must have.

4. **REDUCED LAUNCH COST**
   Improved planning and reduced cycle time for response will translate directly into lower cost.

5. **IMPROVE PRODUCT PERFORMANCE**
   A project process that includes proper planning and measurement prevents poor performance.

6. **WARRANTY AND FAILURE REDUCTIOM**
   Improved project and risk management results in improved performance. This translates to reduced warranty costs.

7. **IMPROVED CUSTOMER SATIFICATION**
   By providing the customer with quality performance at the levels they are demanding, their satisfaction can only improve. Improved quality performance at a lower cost (on time) is always attractive.

8. **INCREASES MARKET SHARE**
   Excellence in performance results in more opportunities for repeat performance (business).

9. **PRESERVES KNOWLEDGE**
   Employing the proper Project Management Process results in detailed audit trails. These audit trails can be easily followed to assess the impact of partial change, or to look for sources of problems. It provides a model for inexperienced project team members to follow and partially offsets the knowledge drain that occurs when experienced team members retire or leave.

Understanding the Customer: Identify the Problem (Based on a true story)

There was a department store in a small town in southern Georgia. The store had been in business for more than 40 years. Over time it had grown as the town had grown. The building was old and there were only two ways to go from the first floor to the second and third floors. There were stairs and a single elevator.

The owner (Joe) noticed that there was most always a line waiting for the elevator, especially on the first floor. Joe had also received a few customer complaints about crowding, the long wait, etc.

Joe was worried that what appeared to be an excessive wait would ultimately cause him to lose customers. There was already additional competition from the new Super Discount Store down the road.

So, Joe called a local consulting engineer who came out and performed a time and motion study. Based on his observation, the consulting engineer recommended that Joe install escalators from the first floor to the second floor and from the second floor to the third floor and back down. The estimated cost was approximately $300K.

Now $300K was an awful lot of money for Joe, but Joe was afraid of losing business and was about to give the consulting engineer the go ahead. But Joe wanted to consult with his employees before he signed the contract.

So early Monday morning before the store opened, Joe called his employees in to the conference room and explained what he perceived the problem to be and his proposed solution. As is the case most of the time with sole owners, everybody shook their heads in agreement, except for Old Willie, the janitor. Old Willie didn't have much education or training, but he was street smart. You know the type. You have seen them a million times.

Just as Joe was about to adjourn the meeting, Old Willie spoke up. Old Willie said, "Mr. Joe, I know I am not the owner, I also know that you have worked here a lot longer than I have, I also know that you have more education that I do. As I sweep the floor, my duties take me to the elevator area a lot. I have observed the situation you described about people

waiting for the elevator. But most of the time, they have to wait less than one minute, sometimes a little longer.

I don't think the problem is the wait. I think the problem is they don't have anything to do while they wait. This makes them restless and the wait seems much longer. This is especially true for the ladies with small children.

Instead of installing those expensive escalators, I suggest you put up plastic models of Mickey Mouse and Minnie Mouse at the entrance to the elevators for the kids. You could also put up a small bulletin board on a stand in the waiting area. You could post each day's sales and where (which floor) they are located on. And finally, I would install a full-length mirror on each side of the elevators for the ladies. I believe if you keep everyone entertained or with something to do while they wait you will not need to install those expensive escalators.

Needless to say, everyone was stunned that Old Willie had anything to say, much less what he had to suggest.

Joe thought for a minute and said, "By gosh, Willie you may be right. I think I will give it a try, after all what you have suggested is not very expensive."

So Joe had full-length mirrors installed on each side of the elevators, full size plastic models of Mickey and Minnie placed near the elevators, and the bulletin stand recommended by Old Willie. Joe also called his consulting engineer and told him to hold off the escalator plans.

Three weeks later at the early morning Monday meeting before the store opened, Joe called Old Willie to the front and congratulated him for figuring out his "wait" problem and saving him $300K. Joe told everyone that customers had complimented him on the positive changes he had made to the elevator area. The customers also told Joe that shopping at his store was much more enjoyable than the new Super Discount Store down the street.

After word had gotten around town, not only did Joe not lose customers; he in fact had a noticeable increase in sales. All of this was the result of Old Willie's observations and spending less than $1,000.

Now what we have illustrated here is the importance of establishing exactly what the problem is. Customers may write a specification, they may issue an RFQ, RFP or what have you, claiming that this is what they want to buy. But, unless you get closer to the customer and better understand his real problem, how can you put your best solution to his "real" problem forward.

Customers always know what they want, but they do not always know what they need.

Fundamental Premises

1. If it can be done**, it can be planned!**
2. If you can't measure it, **you can't manage it!**
3. Metrics must be aligned to the customer's needs.
4. The matrix structure allows management to specify both functional and project performance requirements, in a practical, process supported and organizational desirable way –Who does what and why.
5. Continuous performance improvement is a way of life, especially in today's global economy.
6. We must eliminate **non-value added** and **counterproductive** work.
7. We must become **tolerant** of failure and **indignant** toward mediocrity.
8. People live up or down to what is expected of them. We see this every day.
9. Management must provide open and blatant support and constantly "talk the walk" and "walk the talk!" The employees are watching!
10. If we expect people to change, we must align our metrics and consequences for behavior to support the behavior we desire.
11. Change is non-stop. The stability we humans require MUST be provided by our leaders.

IMPLEMENTATION OBSTACLES EXERCISE

OBJECTIVES OF THIS EXERCISE:

1. Identify the Obstacles to Change (Toe Stubbers and Show Stoppers)
2. Apply the PM process

What to Do:

1. Brainstorm. Be creative.
2. Do not evaluate as you go.
3. Use 80/20 rule.
4. Scribe your answers.

Deliverable: A list of obstacles to change.

Time: 15/20 MINUTES

WRITE DOWN YOUR SOLUTION NOW.

Some Implementation Obstacles to Change:

1. Your ability to accept and implement changes.
2. Your acceptance and commitment to the process of change.
3. Availability and selection of the right people.
4. The ability to clarify the various role responsibilities and authorities.
5. Understanding specifically what the customer needs.
6. Proper planning and the commitment to implementation.

7. Acceptance of the need for re-planning, when the results deviate from plan.

8. Setting aside time for team building, process improvement, risk assessment and final audit.

9. **YOU**!

How does the above list compare to your list?

Ross Perot Story - Resistance to Change

Everybody knows who Ross Perot is. Maybe not.

Besides running for President as a third party candidate in 1992, he also started up a company in Texas known as Electronic Data Services, or EDS. Mr. Perot was a very opinionated, no nonsense hard charging individual.

Mr. Perot sold his company to a large automotive company in the eighties for a very large, undisclosed sum (maybe billions, but certainly hundreds of millions). As part of the deal, he would resign as chairman and CEO of EDS and would become a director on the automotive company's board.

As the story goes, Mr. Perot was not well suited for the automotive company's board. He was not an automotive person, he was considered an outsider, and he moved too fast and was too decisive for the automotive company's other board members.

There was one particular board meeting that led to a parting of ways between Mr. Perot and the automotive company's executives and board members.

At this meeting, the automotive company's management was presenting their plans for development of a new model car. They presented the objective (to develop a new model car), an overview of the schedule and estimated budget ($2.5 billion).

When asked if there were any questions, Mr. Perot spoke up. Yes, he had a few questions and a comment or two. This was mistake number one.

The automotive company's board members do not ask embarrassing questions of management at formal board meetings.

Mr. Perot asked his questions. When satisfactory answers were not forthcoming, he drilled into the subject. This was mistake number two. This automotive company's board members do not grill their executive management at formal board meetings.

When they finally got around to discussing the schedule, executive management was proud of the fact that this new model development would only take eight years, down from their previous experience of twelve years. Mr. Perot exploded that if the United States was able to win World War Two in less than five years, how in the world could it take eight years to develop a new model car? This was mistake number 3. This automotive company's board members are seen, not heard.

Shortly after this board meeting, there came an announcement that Mr. Perot was resigning his board seat to return to Texas and pursue other interests. Later it came out that the automotive company had paid Mr. Perot the ghastly sum of seven hundred and fifty million dollars to resign and keep his mouth shut about board meetings.

Mr. Perot took his seven hundred and fifty million dollars and quietly returned to Texas.

Now what I want to know, is or was the automotive company resistant to change or what?

Excuses for Performance Failures

1. “Our customers do not know what they need.”
2. “Our customers are always changing their minds!”
3. “It’s not me – it’s them.”
4. “I/we don’t have time.”
5. “There are not enough resources.”
6. “I have all the responsibility and no authority.”

It Is Not Me; It Is Them: Hair Cut Story - Doomsdayer

John went to his local barbershop early one Saturday morning to get his monthly haircut. Fred was John's barber friend. As Fred was cutting John's hair, he asked John if he and his wife, Mary, had any vacation plans for next year. John responded that he and Mary were planning to go on a ship cruise for the summer.

Old Fred was beside himself to hear of John and Mary's plans decided to set him straight about ship cruises. Fred proceeded to tell John that he was making a major mistake taking a cruise. Fred further told John that all of the cruise ships were run-down, the food was awful and the service was terrible and they would probably be seasick the entire time.

John listened carefully and said nothing. Fred asked where the cruise was going. John told him that the cruise was leaving in late July from Miami and some 8 days later was docking in Rome, Italy.

Fred exploded that didn't John know that Rome was unbearably hot in July and August and that John had picked the worst time of the year to go.

John listened carefully and said no more than, "really."

Fred then asked where they were staying in Rome. John responded that they had made reservations at this little Italian hotel on one of the side streets in downtown Rome near the ruins.

Fred couldn't contain himself. He told John that he had really made a poor choice and had a poor plan. Didn't John know that that all of those Italian hotels were really expensive, were not air conditioned, had poor service and were really run down.

John again listened carefully and told Fred that no; he didn't know all of that.

Fred then asked John what kind of sites he wanted to see while in Rome.

John responded with all of the usual and then added that they were planning to visit the Vatican and hoped to see the Pope.

Fred came unglued and asked John didn't he know that August was the worst time of year to visit the Vatican and that he had absolutely no chance to see the pope. John responded that unfortunately that's when they would be there and they were just going to have to take their chances.

In the early Fall John returned to Fred's barbershop for another haircut. As Fred was cutting John's hair, he asked him how the trip went. Wasn't the food awful, the service terrible, and didn't he and Mary get seasick on the cruise?

John was very happy to report that the sea was very calm during the cruise and that he and Mary had the time of their life. The ship had recently been refurbished, the food was plentiful and good, the service was outstanding and they didn't get seasick even one day.

Fred responded that he was glad to hear that, but he bet Rome was really hot while they were there.

John was very happy to report that a cold front was moving through Italy when they arrived and that the days were in the low 80s and the nights in the high 60s. It could not have been more perfect weather.

Fred just grunted and said he was sure the small Italian hotel was a real rat trap.

John said that no, actually the hotel had just had a $3 million refurbishment completed. The rooms were large, nicely furnished, air conditioning had been added and the service was superb. John also said his travel agent had secured his rooms for a 30% discount. He and Mary couldn't have been happier.

By this time old Fred was becoming really frustrated. So he said that he guessed the next thing you are going to tell me is that you went to the Vatican and saw the Pope.

John was really excited now and responded, yes, we took the subway to the Vatican early one morning. There were only a few people there. We went through St. Peters, the Sistine Chapel, saw all the art and everything else!

Old Fred got a gleam in his eye and said, but you didn't get to see the Pope, right?

John responded, well as a matter of fact, we did see the Pope. He was in a receiving line at St. Peters. Not only did we see him; we even got to meet him.

Fred said, "You did?"

John said, "I met him and kissed his ring. When I got up the Pope motioned me over close to him and whispered in my ear."

Fred excitedly asked what the Pope had said.

John said the Pope asked him where in the world had he gotten that awful hair cut!

Remember there is always a doomsdayer nearby! Don't let them influence you!

Project Management Realities

1. Customers are not only right – they **are** the final judge of our performance.

2. We **are** accountable for our own behavior and the resulting performance.

3. There **is** enough time to do it right the first time.

4. **You** must make resources available if the need is valid. There is no other alternative.

5. **You** must empower your employees. If you don't, you become the bottleneck.

Module No. 1 Questions

Now, use the following questions to review some of the key points of Module #1.

1. Even though management of projects has been going on since society began, Project Management has been a topic of formal study since when?
   A. 1950's.
   B. 1930's.
   C. 1960's.
   D. 1990's.
   E. Prior to 1900.

2. What is the first action an organization should take when it is ready to launch a project?
   A. Establishes the budget.
   B. Determines the critical path.
   C. Signs the contract.
   D. Identifies and empowers a single focal point accountable person (project manager) to manage the project.
   E. Notifies HR that they will need more people.

3. W_5H_2 stands for why, what, who, where, when, how and how much. What kind of tool is W_5H_2?
   A. A checklist tool.
   B. A scheduling tool.
   C. A planning tool.
   D. A budget tool.
   E. A construction tool.

4. What is a deliverable?
   A. A package brought to you by UPS.
   B. A measured output produced to meet customer expectations.
   C. A series of interrelated actions leading to a particular output.
   D. A network diagram.
   E. A type of budget.

5. What is accountability?
   A. A significant event in the Project Management Process.
   B. The acceptance of an obligation to perform work.
   C. An agreement between two or more individuals.

D. The obligation to carry out duties or responsibilities and to exercise the authority of the position.
E. Something people in accounting report on.

THE NEXT MODULE

Module # 2 – Organizational Role Responsibilities and a Profile of an Effective Project Manager.

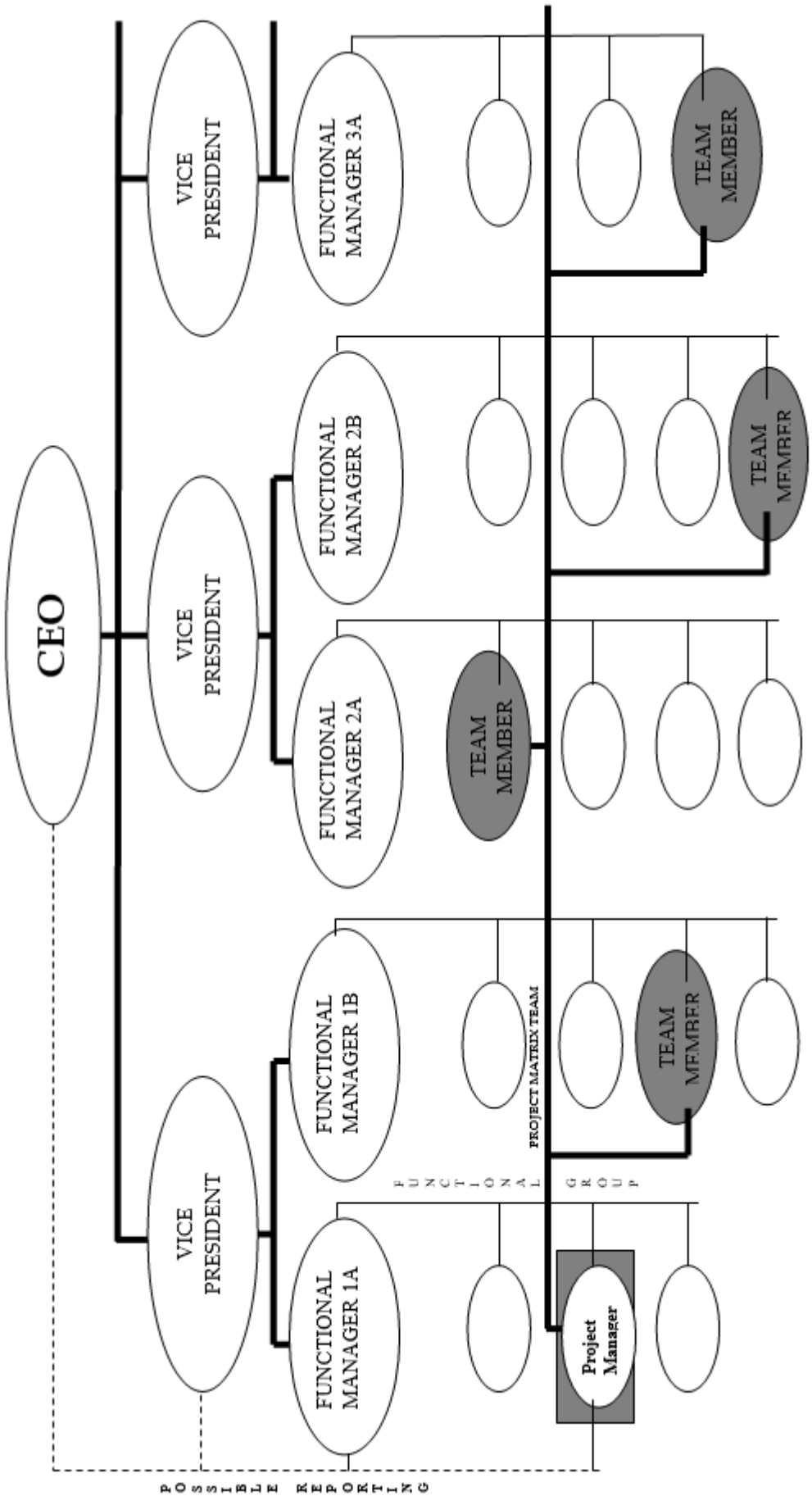
Structuring

The Traditional Structure (Functional Organization)

1. It is not processed focused.
2. It creates silos.
3. It is slow in response.
4. It is inflexible.
5. Power and communication flow vertically.
6. Work flows horizontally.

The Matrix Structure

1. It is process and customer focused.
2. It promotes teamwork.
3. It is rapid in response.
4. It is flexible.
5. Power, communication and workflow are aligned.



PROJECT MANAGEMENT MATRIX STRUCTURE

Role Responsibilities

Top Management (CEO, VP, GM, Directors)

1. Provides overall vision, policy, standards, mission definition, objectives, and strategy for the business.

2. Empowers others with authority to perform.

3. Approves and shows support for The Project Management Process.

4. Assures adequate resources are available to support objectives.

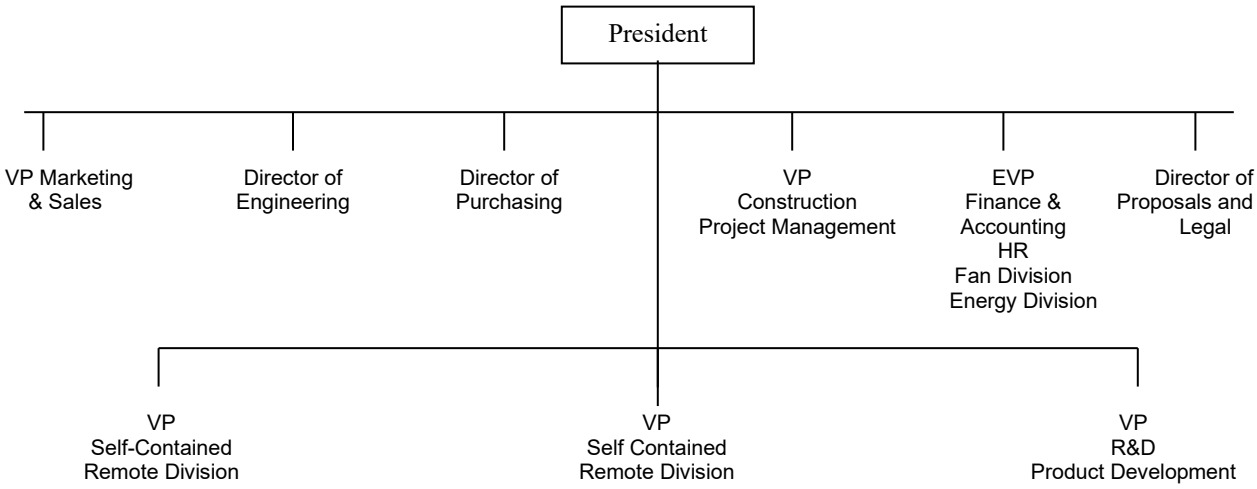
5. Sets priorities.

6. Resolves conflicts.

Structuring: XYZ Organizational Structure

I reported for work on Monday morning, it was my first day as President of XYZ Company in Houston, Texas. After I was shown my office, I took a tour of the facilities, and was introduced to the employees and my staff.

After all the hoopla died down, I took out the company's organizational chart and studied it. It was a typical functional organization, which looked like:



I immediately saw three things wrong with the above organizational structure (I had significant previous experience within this industry.)

What do you think I saw?

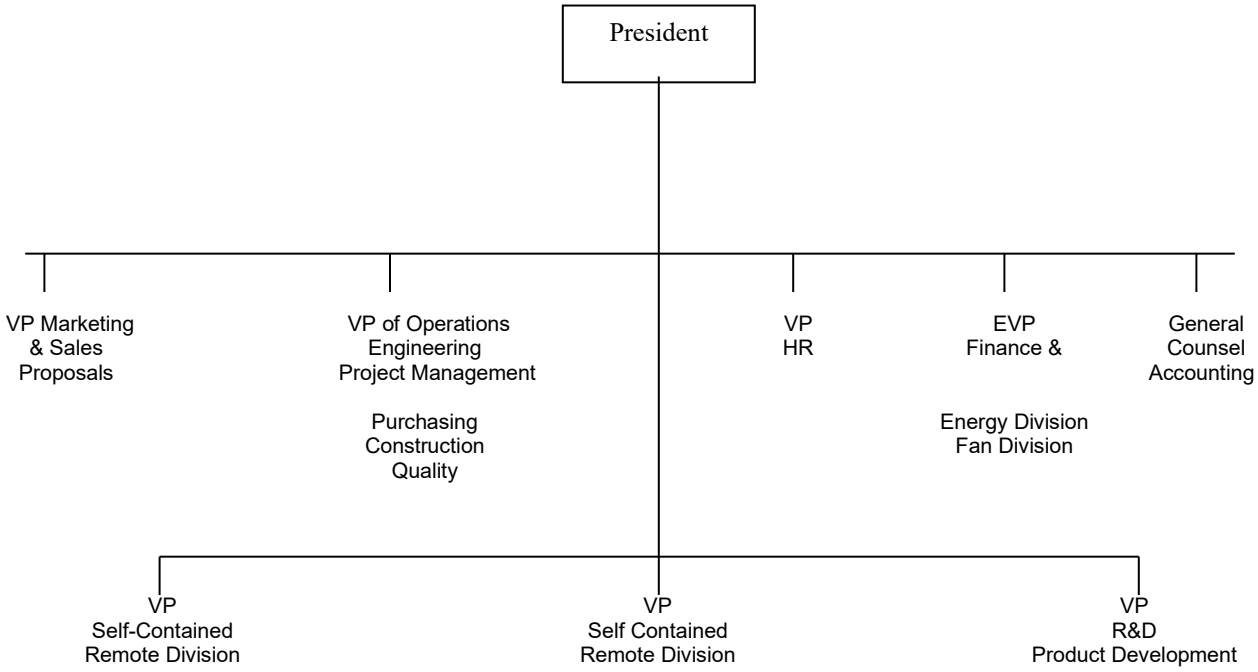
The first thing was that HR was buried deep within the financial organization. This was extremely unusual. I had always felt that people were one of our key resources and that HR's function always needed to report to the very top. So, I took HR out of Finance and made the HR manager a director and had him report to me.

The second thing I saw was that marketing, sales and proposals were fragmented. Most of the time it took a combination of marketing, sales, proposals, and sometimes engineering, project management, purchasing, etc. to work as a team to secure an order. The way the current structure was, the only person accountable for all of those activities was I, the company President. While I was very used to being accountable for all that goes on within the company (whether I knew about it or not), I was uncomfortable not having one person I could delegate these responsibilities to and give them the authority to book new business.

So, I moved proposals under the VP of Marketing and Sales and made him accountable to me to book new business per the business plan.

The third area that drew my attention was the lack of an "Operations Group" (accountable for executing the new business that marketing/sales/proposals bring in.

So, I combined project management, purchasing, engineering, construction and created a quality function and called this group "Operations." I hired an outside person to become VP of Operations, and I also hired a General Counsel. The new organization looked like:



Accountabilities and Responsibilities were rearranged as follows:

Now accountable for orders:
President and VP Marketing/Sales/Proposals

Now accountable for execution:
President and VP of Operations

Now accountable for HR:
President and VP of HR

Now accountable for Legal:
President and General Counsel

Now accountable for Finance/Accounting:
President and EVP Finance/Accounting

Functional Managers:

These people always think they are losers when a Project Management System is initiated. But, nothing really changes for them. They still decide who does the work, how the work gets done, etc. They also:

1. Retain direct line authority over employees while functioning as a supplier to the Project Management Process.

2. Set functional standards.

3. Are **RESPONSIBLE** for whom, how, and how well the project sub-tasks are performed.

4. Empowers the project team members.

5. Assures that the team members obtain technical and resource assistance when it is needed.

So, other than not being the project manager, what has really changed for the functional Manager? Nothing really.

Project Manager (Leader)

1. Is the single focal point interface and commitment to the customer.

2. Functions as the initiator and integrator of the total Project Management System and project process.

3. Initiates the process of planning and controlling of the project assignment.

4. Establishes customer/supplier partnerships.

5. Negotiates and contacts with all suppliers and customers (internal and external).

6. Manages by contract (hopefully written).

7. Accomplishes the project contract objectives.

8. Measures and reports performance.

9. Manages change.

An Effective Project Manager Must:

1. Function as a project general manager with full P&L accountability.

2. Identify and quantify all potential risks, identify what we do not know and establish contingency plans.

3. Maintain a "Helicopter View" of the project while having the ability to "bore into" any details…to question and challenge.

4. Be able to delegate and to know when to call on experts.

5. Be able to relate well to all people…. customers, superiors, and subordinates.

6. Have a strong personal sense of commitment to safety, quality, schedule and cost performance.

Skill Requirements:

There are three areas of skills necessary for carrying out the process of management or project management:

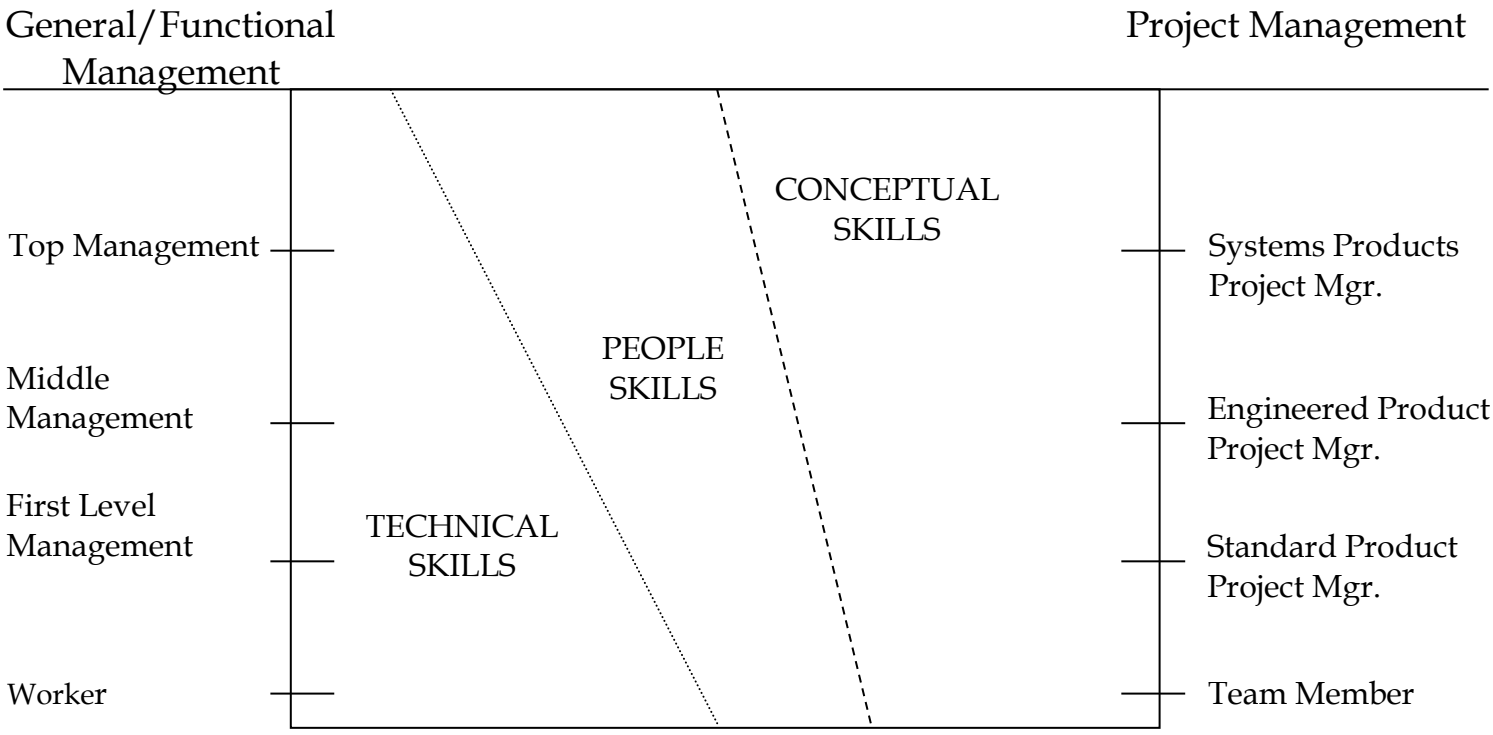
1. **TECHNICAL SKILLS** – The ability to use knowledge, methods, techniques, equipment, etc.

2. **PEOPLE SKILLS** – The ability and judgment in working with and through people.

3. **CONCEPTUAL SKILLS** – The ability to understand the complexity of the overall organization and manage the process.

The balance of skill requirements changes as we go up to the management ladder. Likewise, the skill requirements for the large complex system projects are quite different than those for smaller, standard product projects. See the chart below.

SKILL REQUIREMENTS VERSUS
MANAGEMENT LEVELS



THE COMMON DENOMINATOR THAT IS CRUCIAL AT THE DIFFERENT LEVELS OF MANAGEMENT AND PROJECT MANAGMENT IS:
PEOPLE SKILLS

Profile the Project Manager Exercise

Objective of This Exercise:

1. Identify the qualities, skills and characteristics of an effective Project Manager.

What to Do:

1. Think.

2. Do not evaluate as you go.

3. Use 80/20 rule.

4. Scribe your answers.

Deliverable:

A list of skills, qualities and characteristics of a good project manager.

TIME: 10/15 MINUTES

WRITE DOWN YOUR SOLUTION NOW

Project Manager Personal Skills Checklist

People Skills

1. Leadership
2. Communications – verbal, written, listening, presentation
3. Interpersonal
4. Selling
5. Conflict Management
6. Negotiation
7. Facilitation
8. Delegation
9. Team Building

Conceptual Skills

1. Process
2. Planning
3. Organizational
4. Problem solving
5. Financial
6. Time management

Qualities That Contribute To Excellence in Project Management

1. Self-motivated, self-confident, self-directing, self-disciplined, self-commitment – sets positive example for others
2. Has ambition, drive, energy, enthusiasm, and motivation.
3. Has integrity, high values and a sense of justice – stands above organization politics and gamesmanship.
4. Has high level of deserved self-respect and self-esteem.
5. Accepts role of leader with humility, enjoys the role, and is clearly accepted and respected in the role.
6. Customer focused – action driven.
7. Is continually searching, learning, developing, expanding and above.
8. Demonstrates objectivity, as well as flexibility.
9. Is persistent, tempered with sound judgment.
10. Decisiveness avoids procrastination.
11. Is a **"WINNER"!**

HOW DOES THE ABOVE LIST COMPARE TO YOUR LIST?

Influencing and Motivating Behavior

In order for Project Managers to do their best, they:

1. Must know what they are supposed to do, preferably in terms of an end product.

2. Must have a clear understanding of what their authority is, and of its limits.

3. Must know their relationship with other people.

4. Should have real time feedback as to how they are doing.

5. Must be shown concrete evidence that there are just rewards for work well done.

6. Should know where and when they are falling short.

7. Must be made aware of what can and should be done to correct unsatisfactory results.

8. Must feel that **their** managers have an interest in them as individuals.

9. Must feel that **their** managers believe in them, trust them, have high expectations of them, and are anxious for them to succeed and progress.

Company Software Purchase – TeamWork, Not Sizing Someone Else's Tiger (Based on a true story)

I was the general manager of an industrial drying company in Tennessee several years ago. It was during that time that most businesses were beginning to embrace computer and word processing.

One day, my secretary went into my office and told me I needed to make a Decision on the type of word processing software package the company should use and standardize on.

Since I was not computer, word-processing or software literate at the time, I thought she was kidding or talking to someone else. When I looked around and saw that no one else was behind me, it dawned on me that she was talking to me.

I asked her, why me? I told her that I was probably the least qualified person in the building to make this decision.

My secretary told me that since the company intended to standardize the software package and this decision spanned multiple departments, only I could make this decision.

I again explained that I didn't know one software package from another and that surely there was someone else better qualified to make this decision. When she shook her head no, a though came to me.

So I told her why don't you get all the users together, you chair the meeting and let the people who will have to make it work and use it daily make a recommendation for me to "approve".

I knew that if the people who had to make the software work and use it on a daily basis made this decision, it could never turn out to be the wrong decision. Those people would never resist making the software package work and using it and they would feel good about being involved in the decision.

So the group got together and discussed the pros and cons of the various choices. They considered technical, commercial, and cost. They recommended we buy and standardize Word Perfect. I, of course not knowing any better, approved of the decision and away we went.

Now, as time has passed, it has become obvious that while Word Perfect was not the correct long-term solution, at the time it was the correct short-term solution. In addition, we had a happy set of secretaries and administrative assistants who never badmouthed Word Perfect, no matter how difficult it turned out to be.

When people have a say in the decision and you get their "buy in"; the decision hardly ever turns out "wrong".

Module No. 2 Questions

Now, use the following questions to review some of the key points of Module #2.

1. What are the three areas of skills necessary for carrying out the process of Project Management?
   A. Technical, people, and conceptual skills.
   B. Scheduling, estimating and construction skills.
   C. Both A & B.
   D. None of the above.
   E. All of the above.

2. One of the major qualities that contribute to excellence in Project Management is:
   A. Staying focused on the budget.
   B. One who gives in easily?
   C. Being a winner.
   D. Being a follower.
   E. Always doing what the boss says.

3. In order for a Project Manager to perform at his/her best, they:
   A. Must know when their next assignment starts.
   B. Must know what they are supposed to do, preferably in terms of an end product.
   C. Must know what their next assignment will be.
   D. Must know when his retirement date is.
   E. All of the above.

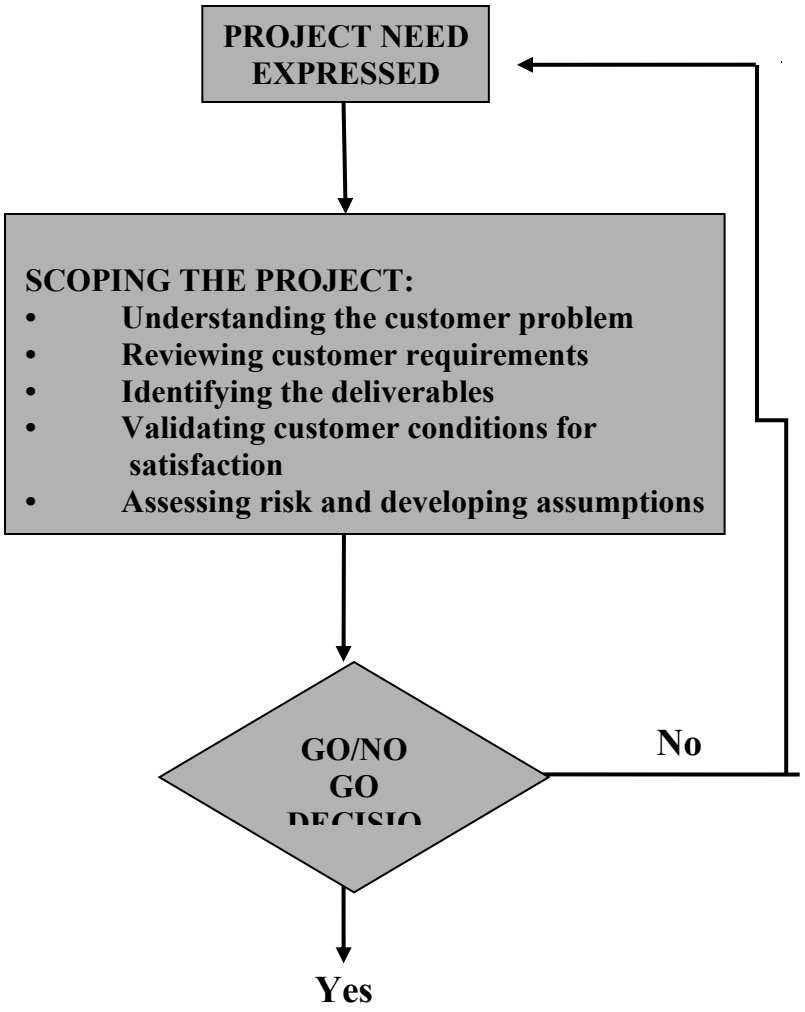
4. Which type of organizational structuring creates silos?
   A. Matrix.
   B. Traditional.
   C. Vertical.
   D. Horizontal.
   E. None of the above.

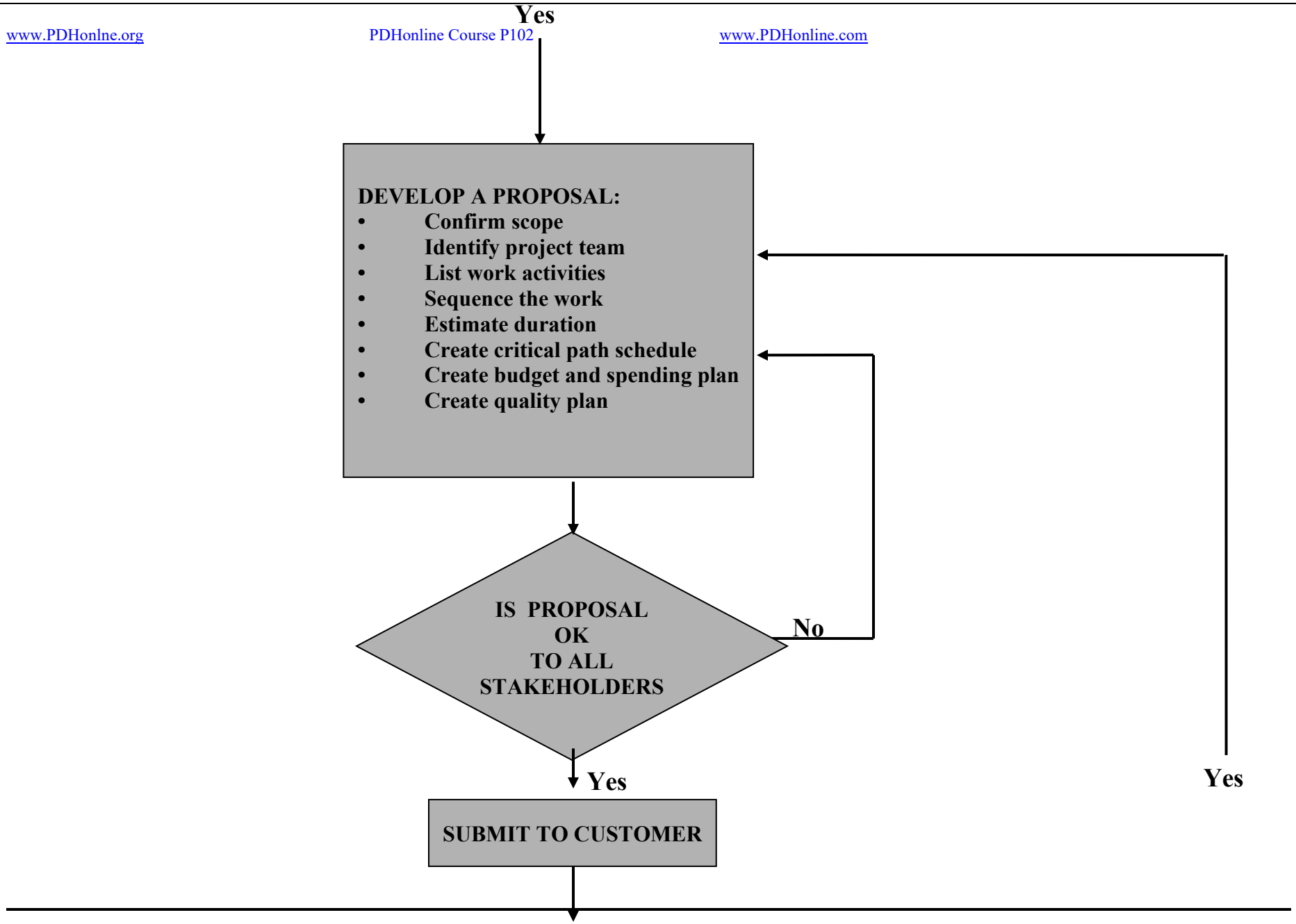
5. Where does the Project Manager's source of power come from?
   A. Accounting.
   B. Functional manager.
   C. Human Resources.
   D. Other Project Managers.
   E. Top management.

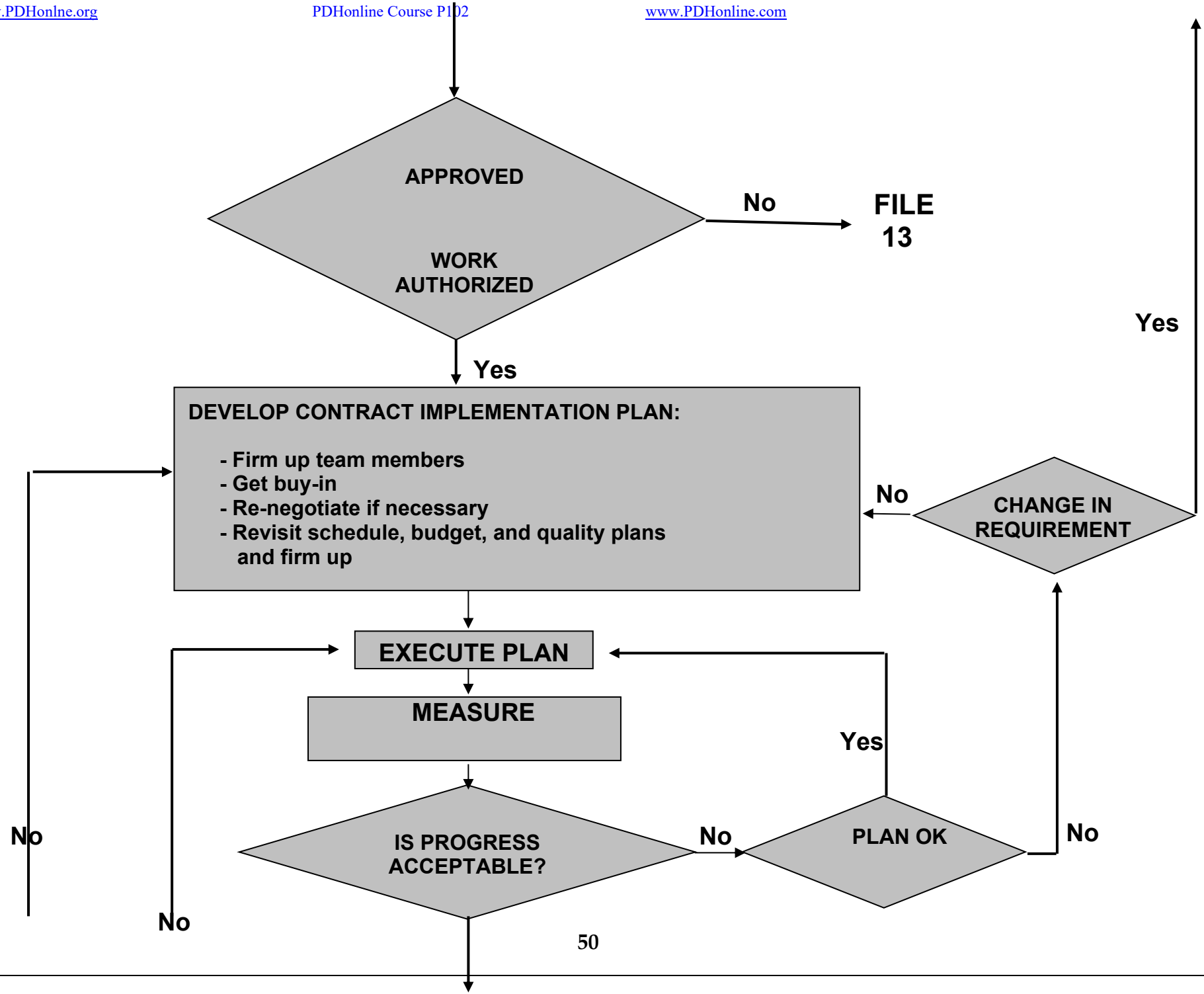
THE NEXT MODULE

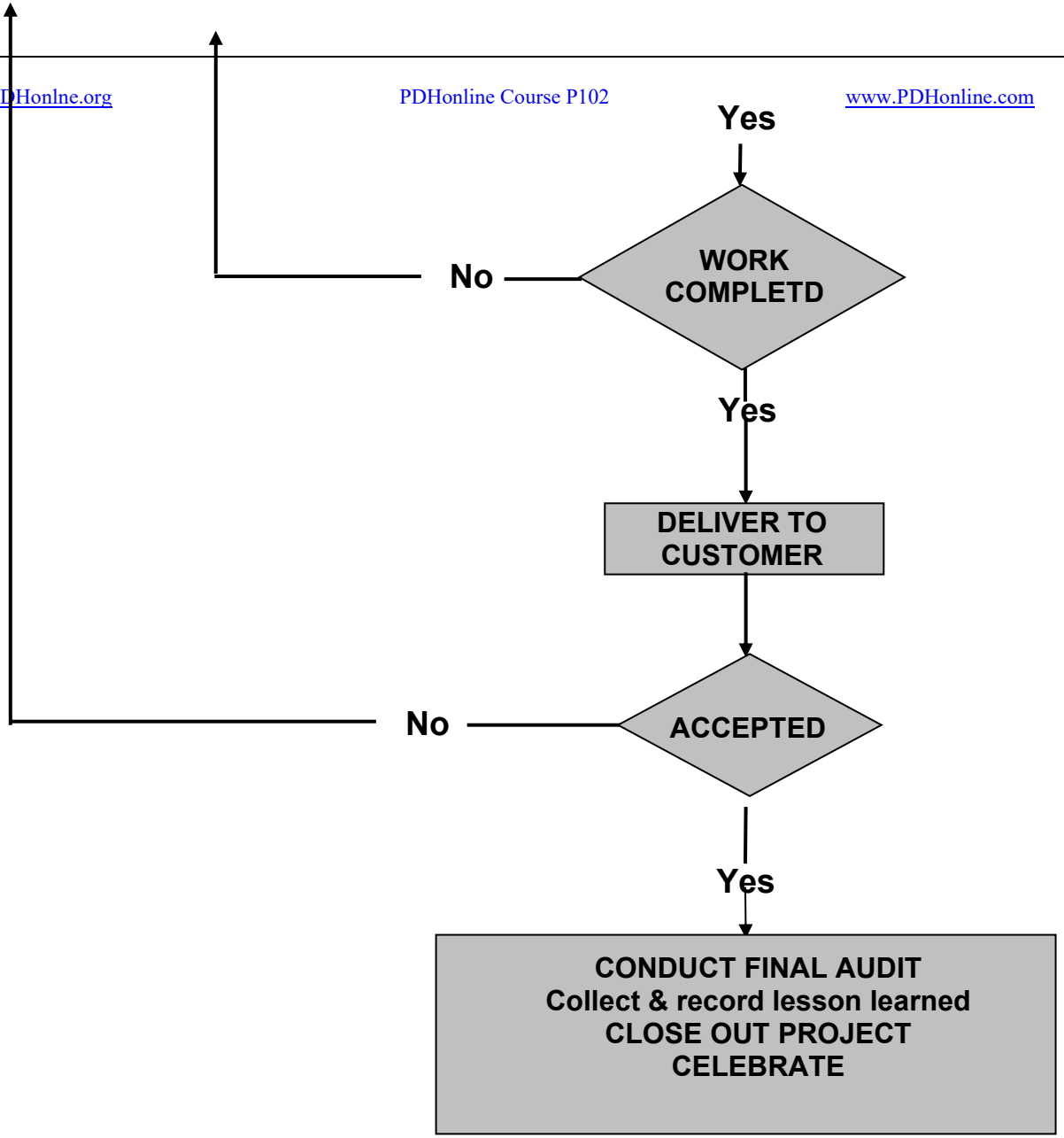
Module # 3 – **THE PROJECT MANAGEMENT PROCESS**

PROJECT MANAGEMENT PROCESS MAP




Yes
DEVELOP A PROPOSAL:
• Confirm scope
• Identify project team
• List work activities
• Sequence the work
• Estimate duration
• Create critical path schedule
• Create budget and spending plan
• Create quality plan
IS PROPOSAL OK TO ALL STAKEHOLDERS
No
Yes
Yes
SUBMIT TO CUSTOMER


APPROVED
WORK AUTHORIZED
No
FILE 13
Yes
DEVELOP CONTRACT IMPLEMENTATION PLAN:
- Firm up team members
- Get buy-in
- Re-negotiate if necessary
- Revisit schedule, budget, and quality plans and firm up
No
CHANGE IN REQUIREMENT
Yes
EXECUTE PLAN
MEASURE
IS PROGRESS ACCEPTABLE?
No
PLAN OK
No
Yes
No
No


Yes
WORK COMPLETD
No
Yes
DELIVER TO CUSTOMER
ACCEPTED
No
Yes
CONDUCT FINAL AUDIT
Collect & record lesson learned
CLOSE OUT PROJECT
CELEBRATE

Quality **- Japanese Value Story**

In the 50's a lot of Japanese goods begin to show up in America. Americans were cautious in their purchase of foreign goods, especially Japanese. Their caution was warranted, because in the beginning many of the Japanese goods were "junk". They were not made very well, and were of lower quality. Well, it didn't take long for the word to get around. So when Americans saw "made in Japan" they associated it with low quality junk.

Well all of that changed in the 60's and 70's when the Japanese discovered what high quality (at a reasonable price) could do for you in a global market. And then the Japanese discovered what high quality even at a not so reasonable price could do for you in that same global market.

Then all of a sudden "Made in Japan" became synonymous with high quality, especially in car, electronics and manufactured goods. This all changed dramatically over the short span of 20 years.

With that background, we go to the story:

An American company needed 1,000 globe water valves, 2" diameter for a construction project. They took bids, evaluated them and decided to award the contract to a Japanese manufacturer. When the American firm wrote the purchase order it listed:

1,000, each, 2" Globe, steel body, water valves.

At the bottom of the purchase order there was a statement that the purchaser would accept 2% defects.

Well some 3 months later, a large box with 1000 globe, steel body, 2" diameter, water valves were delivered to the site. There was a second, much smaller box with 20 globe, 2" diameter, steel body, water valves that were defective. A letter from the Japanese valve manufacturer accompanied the delivery. It was address to the American Company and said:

Dear Sir,

It is our pleasure to deliver to you the 1,000 water valves you purchased.

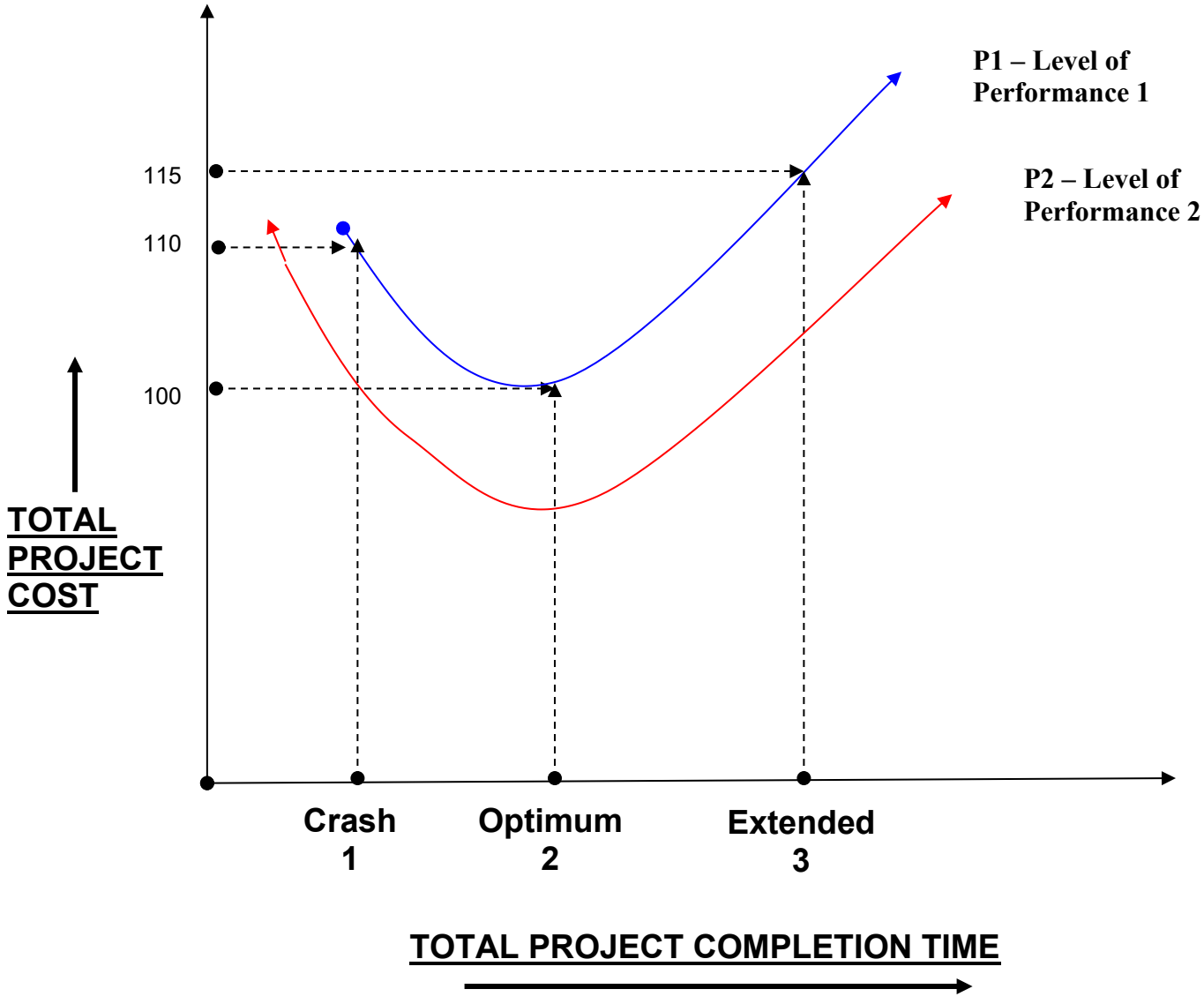
We have also delivered to you the 20 defective water valves you specified. We are not sure why you ordered the 2% defective valves as we are used to manufacturing with zero defects. In fact it was very costly for us to make these 20 defective valves.

Thank you very much for your business.

So, what we have here is a lesson in quality: from the original low-quality country to mighty America, which has long prided itself on being a country known for high quality.

It is funny how Japan started with low quality and rose to high quality. The US started with high quality (relatively) and then fell and has only recently risen again.

PROJECT COST CURVE



What does the Project Cost Curve on page 54 tell us?

At a given level of performance P1 (40 tons/hour, 60gpm or whatever), there is a project completion time (Optimum 2) that represents the lowest cost (100).

If the project is delayed and takes more time than planned (Extended 3) then the cost will go up due to the same people being on the project longer (maybe to 115 +/- or more).

On the other hand, if you try to accelerate the completion from the original plan, the cost will also go up due to more people, overtime, overlapping trades, stacked trades, inefficiencies, etc. (maybe 110 +/-, it could be much more).

Let's assume that neither of these outcomes are acceptable. Let's also assume that you must finish on time and on budget. Then the **only** solution is to lower the required performance level to P2 (say 30 tons/hour or 40 gpm).

Curve P2 crosses the cost line at 100 even for Crash 1 time. Curve P2 crosses the cost line above 100 for the Extended 3 time. A further reduction in performance, maybe to P3 (say 25 tons/hour) might be necessary in order to bring the project back on schedule and back on budget.

Now we see how important the schedule is. Faster or slower for a given level of performance will always result in more cost!

Now, let's think about what we have learned so far. There are three aspects of project results. They are:

1. On budget
2. Performance (It works as expected)
3. On schedule

What is the order of priority?

Number 1 is: Performance

If the product or system does not work or perform as expected, nothing else matters. Schedule is no longer important and how much it costs is no longer known (because it is going to cost a lot more). Performance is without a doubt **number 1**!

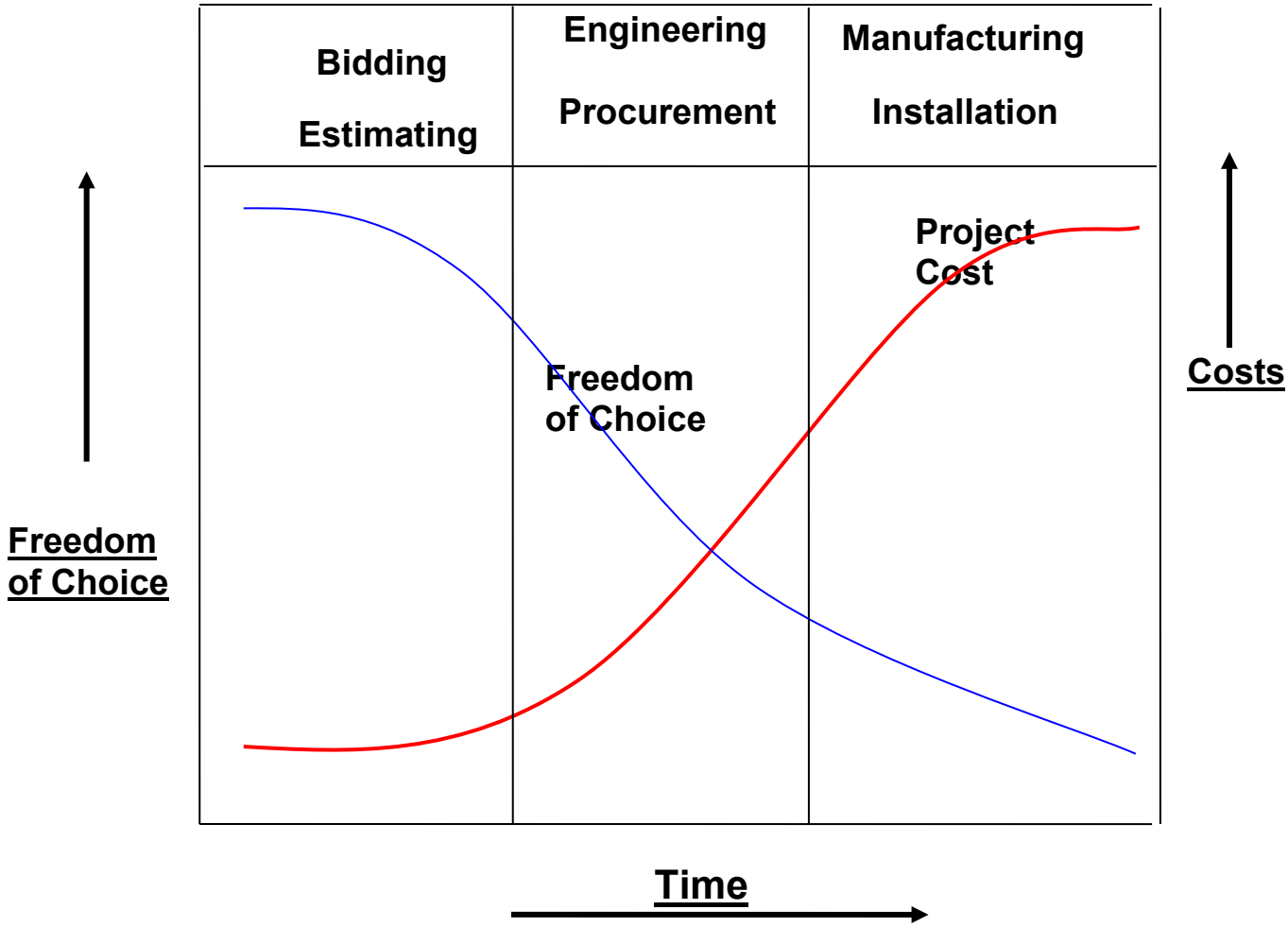
Number 2 is: Schedule

As you can see from the Project Cost Curve, if you do not manage the schedule, you will not like the results. If you manage the schedule, you generally will like the budget results.

And finally, **Number 3 is: Budget**

If you take care of business managing the performance and schedule, you will generally like the budget results. On the other hand, if you do not manage performance and schedule, I guarantee you will not like the budget outcome.

FREEDOM OF CHOICE VS PROJECT COST CURVE



What does the Freedom of Choice vs. Cost Curve on page 57 show?

It shows that early in the project, you have the highest level of freedom of choice. Usually, as freedom of choice increases the cost for those choices decreases.

As the project progresses toward completion, three things happen: The remaining time diminishes, the project cost increases and the freedom of choice drops.

As we get closer and closer to the end, we reach a point where our freedom of choice is close to zero. At that point, the only decision that can be made is the one that results in completion on time, almost regardless of cost.

This is one of the reasons why decisions need to be made in a timely manner. Sooner rather than later usually results in lower overall total cost.

Module No. 3 Questions

Now, use the following questions to review some of the key points of Module #3.

1. When is the freedom of choice the least and its resulting project cost the most?
   A. In the bidding phase.
   B. During engineering.
   C. During manufacturing
   D. During check out and start up.
   E. None of the above.

2. In order to extend or accelerate a project schedule at no increase in cost, what must you do?
   A. Increase the manpower 10%.
   B. Decrease the manpower 15%.
   C. Lower the level of required performance.
   D. Subcontract the work.
   E. It is not possible to accelerate or extend a project with no increase in cost.

3. What starts the project management process?
   A. A notice from accounting.
   B. A customer expressing a need.
   C. An invoice from a supplier.
   D. A warranty claim.
   E. Any of the above.

4. As you are executing a project if you determine that you are not making acceptable progress (compared to plan) what should you do first?
   A. Notify the customer.
   B. Notify your boss.
   C. Check to see if the original plan is still valid.
   D. Go to the site and check progress yourself.
   E. Notify accounting.

5. What is the next step in the Project Management Process after the project is accepted by the customer?
   A. Go to the bar and have a drink.
   B. Conduct the final audit (project close out).
   C. Look for your next assignment.
   D. Notify HR you are available for reassignment.
   E. There is no next step, the project is over.

THE NEXT MODULE

Module # 4 – Measurement and Reporting of Project Progress and Summary Lessons

Objectives of Performance Measurement

1. Identify significant problems before they occur.
2. Identify opportunities for schedule acceleration, cost reduction, or technical improvement.
3. Facilitate the comparison of actual performance to plan.
4. Identify significant deviations from the plan.
5. Assure corrective action is taken when needed.
6. Determine value earned (what are you getting for money and time allocated).
7. To provide feedback to all shareholders.

The Earned Value Technique

The following definitions, example of a project status report and analysis will provide system clarity and demonstrate the power of this control technique.

Earned Value Definitions:

1. **BCWS** The budgeted cost for the work that is scheduled **to be** performed.
2. **BCWP** The budgeted cost for the work that **was** performed.
3. **ACWP** The actual cost for the work that was performed.

4. **BAC** The total budget at the completion of the project.

5. **C-VAR** The variance in **cost** from the Plan (BCWP – ACWP).

6. **S-VAR** The variance in **schedule** from the Plan (BCWP - BCWS).

7. **ETC** The estimate to complete.

8. **EAC** The estimate of the cost at the **completion** of the work

9. **CPI** A cost performance index (BCAWP/ACWP).

10. **SPI** A schedule performance index (BCWP/BCWS)

Now that we understand all of the necessary terms, let's see exactly how the earned value system works.

Given the following data:

A task is scheduled to take 5 days to complete and each of the 5 days are equal.

Each day of the 5-day task is scheduled to cost $100, so the scheduled cost for the whole task is $500.

See the left-hand section of the chart on page 61.

Therefore:

The budget cost for the work scheduled (BCWS) is what?_ _ _ _ _ It is $500.

Now, at the end of 5 days, you determine that only 3 days of the task are complete (you do not receive credit for any partial days). See the center section of the chart on page 61.

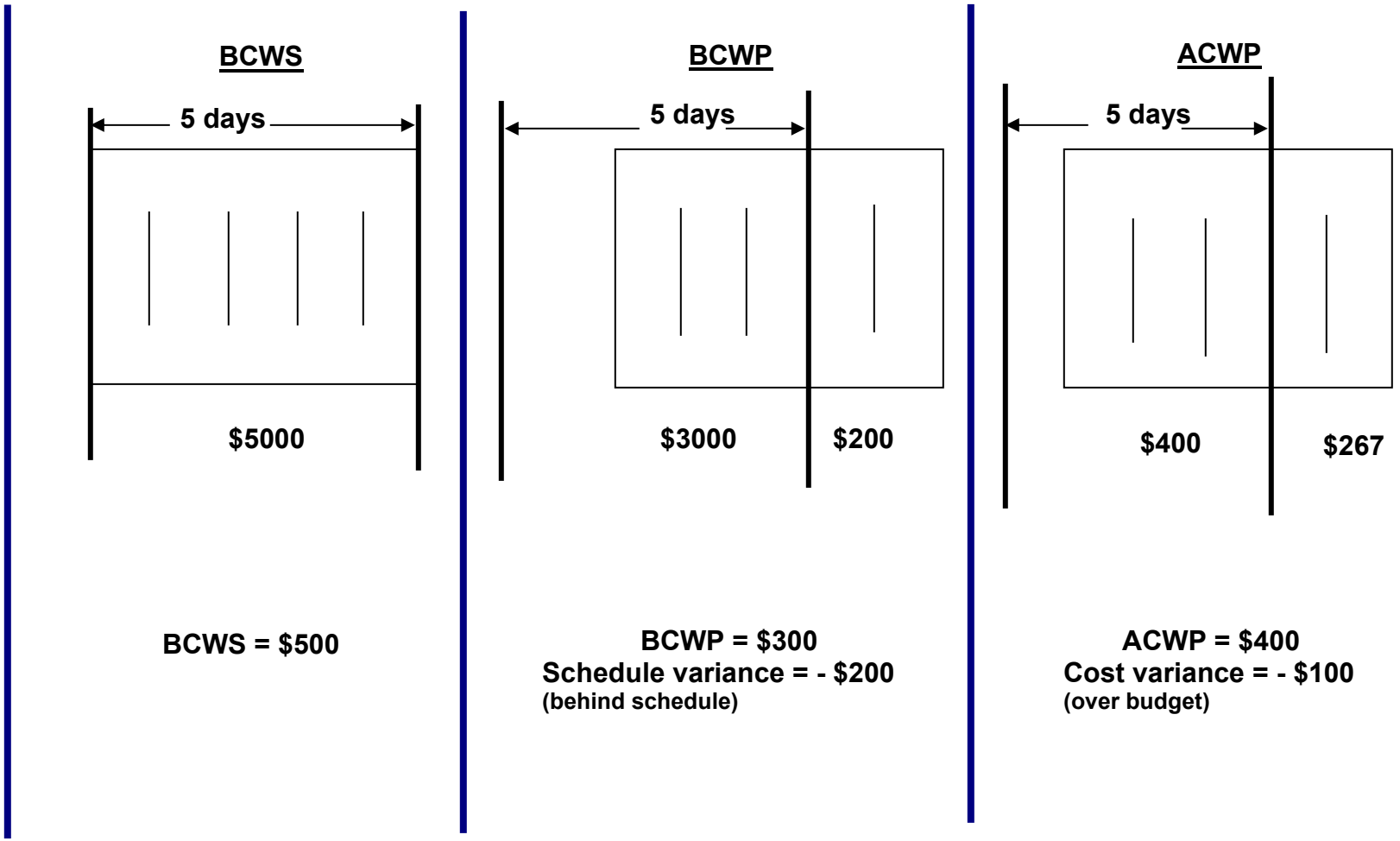
So, what is the budget cost of the work performed (BCWP)? _ _ _ _ It is $300 (3 days x $100).

Now, accounting hands you a report that tells you that the actual cost for 5 days of effort but only 3 completed days of work was $400. See the right hand section of the chart on page 61.

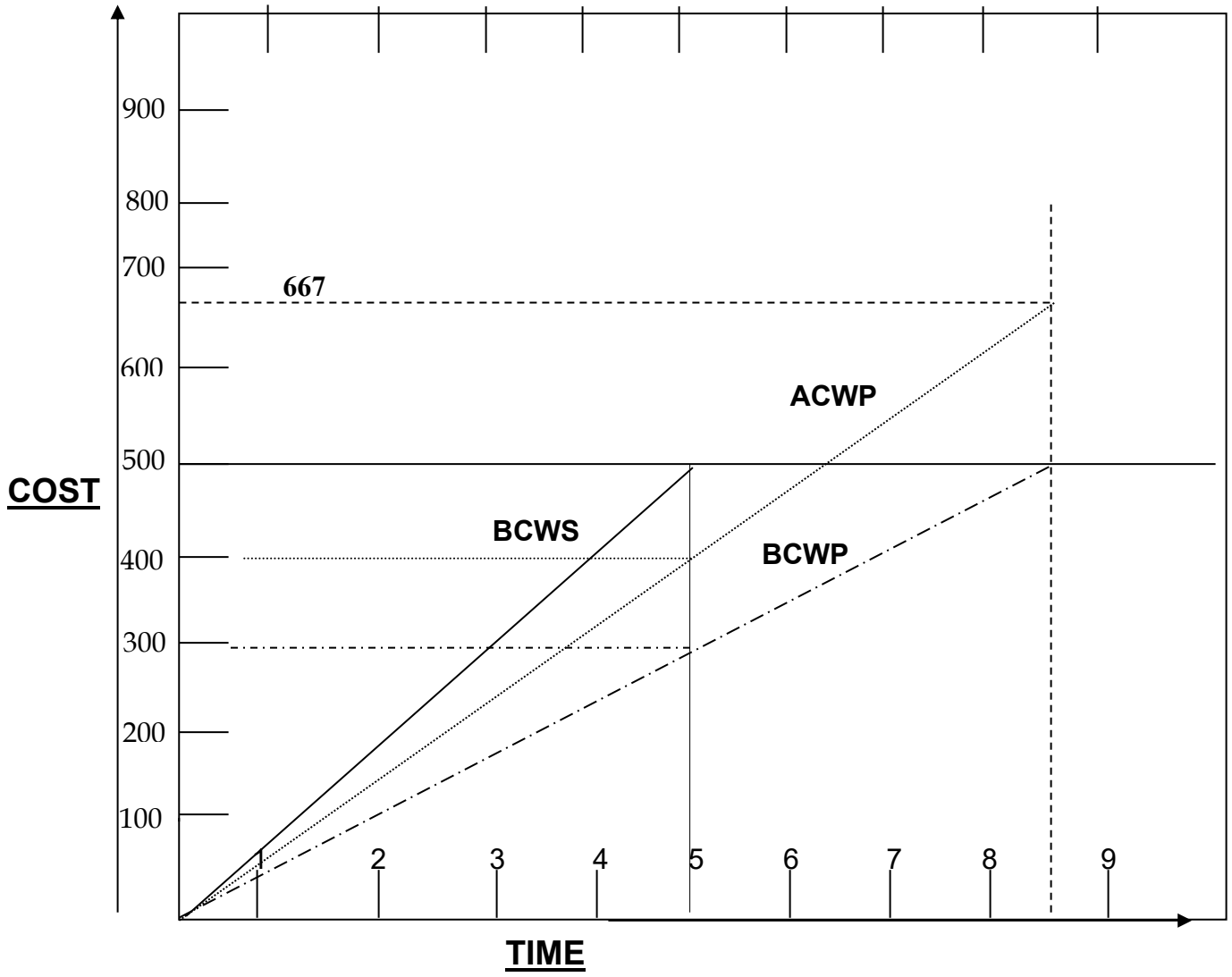
So, what is the actual cost of the work performed (ACWP)? _ _ _ _ It is $400.

Now let's graph the data. See the chart on the next page.

EARNED VALUE TECHNIQUE



EARNED VALUE TECHNIQUE



Now let's draw a simple graph with cost as the vertical (Y) axis and time (days) as the horizontal (X) axis.

Plot BCWS at $500 and 5 days. This was the plan (schedule). Draw a line between zero, zero and $500, 5 days.

Now plot BCWP at 5 days (it took you 5 days to complete only 3 days worth of work). You earned $300 (this is what you actually accomplished). Draw a line between zero, zero and $300, 5 days. Extend the BCWP line until it intersects the $500 line (BCWS). Draw a vertical line through this point. This tells you that at the current rate of progress, the task will be completed in about 8.5 days.

Now plot ACWP at the $400 you actually spent and the 5 days it took you. Draw a line between zero, zero and $400, 5 days. Extend the ACWP line until it intersects the 8.5 day vertical line. Draw a horizontal line back to the vertical (cost) axis. This tells you that your estimate at completion (EAC) is $667.

Now you know the task will take 8.5 days and cost $667 at completion.

If you have a ten-task project, you calculate BCWS, BCWP and ACWP for each task, the same as we have done above. You then sum up all of the task and you plot the totals. This will tell you where you are, when you will finish and how much the project will cost at finish.

The same process works for a hundred or thousand task projects. However, manually handling the data gets very labor intensive for larger projects. There are many software programs available to handle large volumes of data. Microsoft project is one of them.

Project Review Meetings (internal to the project)

1. You must open communication with the team.

2. You must allow the team to report the status.

3. You should obtain agreement that problems or opportunities exist.

4. The team should identify individuals responsible for action to resolve each problem.

5. The team should report on previous action assignments.

6. Problems are NOT solved in the project meeting. Separate problem solving meetings should be held, attended only by those concerned directly with the problem.

Project Review Meetings (Top Management)

Some good questions to be prepared to answer are:

1. Is this project on schedule? If no, has the end date been extended? If yes, has the customer been notified?

2. Are there team/staffing issues? If yes, what is the action plan?

3. Is this project on budget? If not, what is the action plan?

4. Are there any new requirements?

5. Are there any scope change requests pending?

6. Is the customer satisfied? If not, what is the action plan?

7. What is the EAC (Estimated Cost at Completion)? How did you arrive at your EAC?

8. How is the cash flow?

Summary Lessons

1. Adopting the Project Management Process **is** a major paradigm shift for you and your company.

2. Plan the work – work the plan!

3. Recognize and deal with resistance to change.

4. Key steps to implementation are:

   - Establish the Project Management Process:
     Know where you are going, how you are getting there and when you have arrived.

   - Adopt the right organization structure:
     With clear responsibilities, accountability and authority.

   - Match the right people for the right job:
     People are the key to Successful Implementation.

   - Allow adequate time for planning:
     Who does What for How Much and When.

   - Ensure that cost accounts, reports and work packages are properly sized:
     Must be manageable, have organizational accountability and be realistic in terms of effort, time and costs.

   - Work at assuring that information is realistic and shared:
     Poor communications is the greatest contributor to project difficulties.

   - Be willing to re-plan:
     The best-laid plans go astray; change is inevitable.

   - Long before the project ends, plan for the end.
     Audit for lesson learned, plan for reassignment of personnel, disposition of resources, and transfer of knowledge.

Module No. 4 Questions

Now, use the following questions to review some of the key points of Module #4.

1. Who manages and reports progress?
   A. Project Engineer.
   B. Cost Engineer.
   C. Project Manager.
   D. Accounting.
   E. Functional Managers.

2. What is the Earned Value method?
   A. A method to determine if all of the deliverables are complete.
   B. A method of determining if the project bonus pool is sufficiently funded.
   C. A method for determining what you are getting for your time and money.
   D. A method of determining if the project is on the critical path.
   E. A government contract term.

3. Which of the following should be performed during an internal project review meeting?
   A. Open communication with the team.
   B. Agreement that problems or opportunities exist.
   C. Identify individuals responsible for action to resolve problems.
   D. Report on previous action assignments.
   E. All of the above.

4. How do you determine earned value?
   A. Evaluate the BCWP
   B. C-VAR + S-VAR
   C. CPI x SPI
   D. ACWP – BCWS
   E. None of the above.

5. Which of the following is **not** an objective of performance measurement.
   A. Identify significant deviations to plan.
   B. To provide feedback to all shareholders.
   C. Facilitate the comparison of actual performance to plan.
   D. To empower the project manager.
   E. To ensure corrective action is taken when needed.

Closing Thought

There was a story about a tiger that had been hunting for something to eat for several days. He was really hungry. To the tiger's delight, he came upon a bull near the watering hole. The tiger was very quiet and slowly came upon the bull. When he got close enough, he pounced on the bull and killed it.

After the tiger had filled his belly, he started feeling really good about his day, the hunt, the kill and his full belly, so he started roaring. He roared and roared.

Finally a hunter heard the tiger roaring. The hunter kept moving closer and closer to the tiger. Finally the hunter was close enough and he jumped up and shot the tiger dead.

You know what the moral of the story is?

When you are full of bull, you should keep your mouth shut.