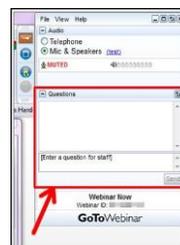




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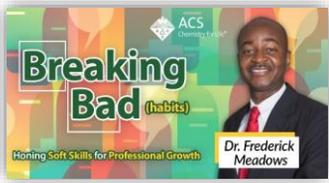
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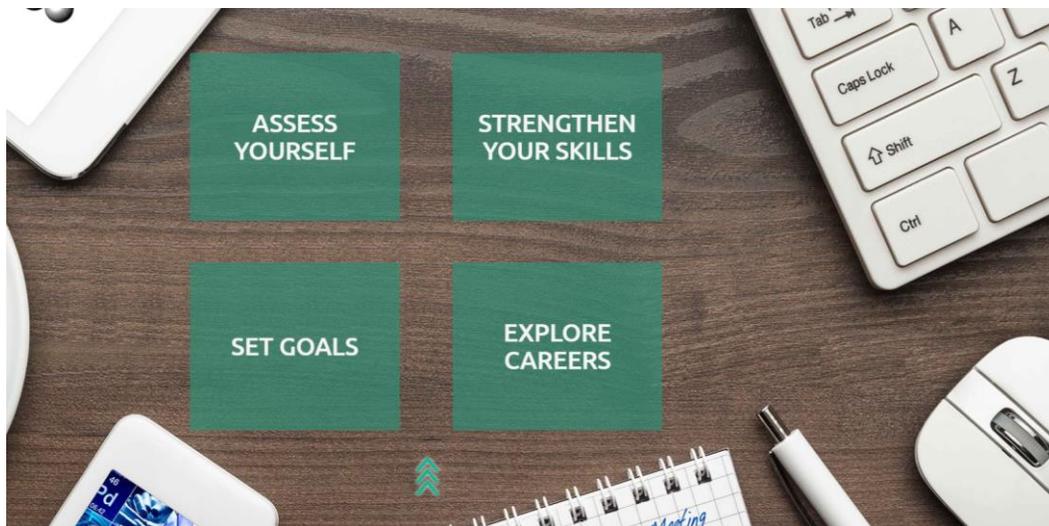


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PROJECT MANAGEMENT 101

Goals
Planning
Risks
Cost
Problem Solving
Communication
Control
Teamwork

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Project Management 101 for Scientists: How to Plan, Budget, and Meet Objectives



Barry Weinstein

Founder, Barry M. Weinstein & Associates
and ACS Professional Education Instructor

Bryan Tweedy

Senior Manager, ACS Learning and Career
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Project Management 101 for Scientists:

How to Plan, Budget, and Meet Objectives



*Barry M.
Weinstein*

& ASSOCIATES

Bridging the Gap



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Overview

- Determining project goals and objectives
- Application of the three key measurement criteria; cost, schedule and performance
- Constructing different types of project teams
- Developing and presenting project plans
- Preparing functional project reports
- Conducting Go/NoGo gate reviews
- Documenting organizational learning



18

What Is A Project Team?

In one sense a project team can be defined as:

“ **A group of experts gathered together as equals to apply their combined experience and knowledge to meet a series of commonly defined objectives.** ”

When properly assembled a project team can help an organization achieve superior performance results at lower overall cost in a shorter period of time.





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Art and Science

Two Sides of Project Management



Science

- Staffing
- Organizing
- Planning
- Directing
- Controlling

Art

- Creating the Vision
- Communicating
- Building Trust
- Gaining Commitment
- Knowing How To Get It Done Using The Existing System



20

Your Project History

Exercise 1:

- Review and discussion of past projects that some of you have been involved in
- Looking to identify the following:
 - The project's objective(s)
 - Were they met?
 - Contributions of the project manager
 - What else should the PM have done?



Audience Survey Question

ANSWER THE QUESTION ON BLUE SCREEN IN ONE MOMENT



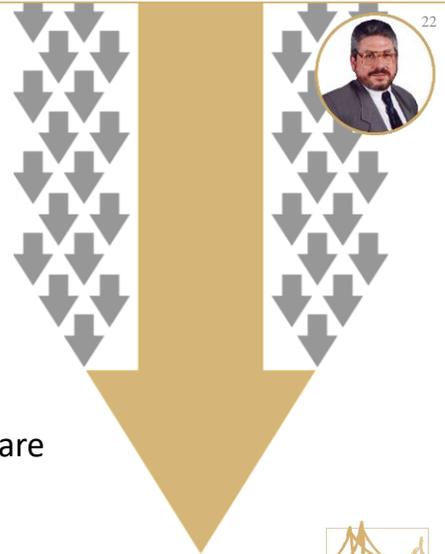
What do you feel your last project manager could have done differently to MOST improve the success of the project?

- Better technical preparation or understanding of the challenges
- Improved dissemination of data to the team
- Better transfer of team findings to management
- Improved transfer of information within the team

** If your answer differs greatly from the choices above tell us in the chat!*

Authority and Responsibility

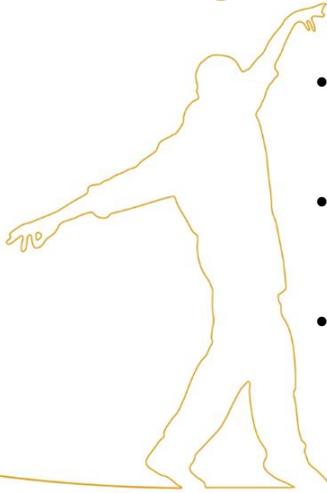
- Authority can be delegated
- Responsibility cannot
- Individuals with the authority to assign assets are referred to in this course as **Sponsors**



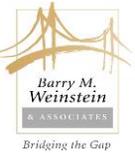


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Balancing of Authority and Responsibility



- Authority without responsibility is **reckless**
- Responsibility without authority is **frustration**
- Authority and responsibility in balance is **success!**



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The Legitimate Project Leader



- Responsibility tends to venture beyond authority
- Responsibilities are identified through goals (but managed as objectives)
- Objectives are accomplished through the use of **Assets**
- Only **Sponsors** can allocate assets



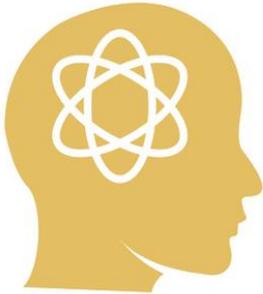


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Source of Authority

The project manager's authority is a delegated right from the sponsors.

In its most efficient form it is specific and defined to include the assets required to complete the project's goals.



In many cases project managers have to mine authority on a regular basis!

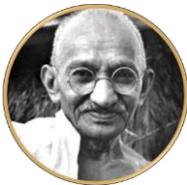


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No ORG-Chart Authority

Circle of Innovation by Tom Peters

Examples:



Gandhi



King



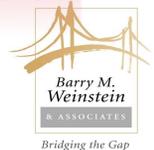
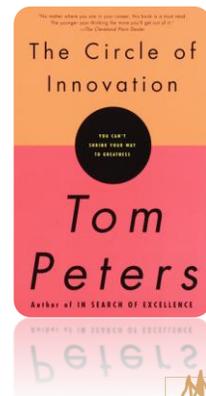
Havel



Mandela

What did they all have in common? (Jail Time)

No surprise, people who challenge the system tend to get relegated to corporate Siberia (or the real one)





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Project Manager's Roles



- Evaluate goals and identify objectives
- Define tasks and resource requirements
- Identify probable task leaders (CORE Team)
- Work with task leaders to develop comprehensive task lists
- Develop project plan



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Project Manager's Roles

- Work with task leaders to monitor progress against tasks, identify challenges, options and impacts
- Update team members and sponsors on status
- Constantly re-evaluate the cost effectiveness and practicality of the project.
Recommend termination if warranted! of the program
- Plan, run, and record project team meetings
- Maintain the project file for organizational learning
- Negotiate any change in goals or objectives



Audience Survey Question

ANSWER THE QUESTION ON BLUE SCREEN IN ONE MOMENT



Which do you feel is the MOST important early role of a project manager?

- Evaluate goals and identify objectives
- Define tasks and resource requirements
- Identify probable task leaders (CORE Team)
- Work with task leaders to develop comprehensive task lists
- Develop project plan

** If your answer differs greatly from the choices above tell us in the chat!*

Goals → Objectives



Objectives contain all of the following (5 W's)

- **What** → The performance criteria
- **Who** → The people assigned
- **When** → The schedule criteria
- Where** becomes
- **Cost** → The cost criteria
- Why** becomes
- **How** → The method to be used





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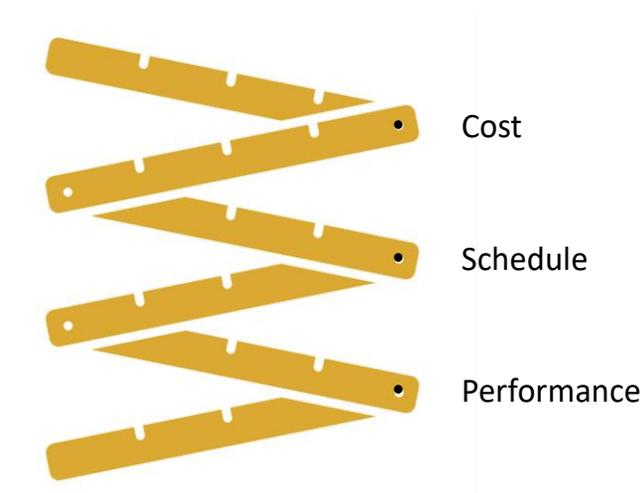
Measurement

- We will not solve problems we do not know about
- We do not know about problems that we cannot measure
- We can only measure when we have targets and tools
 - We only value what we can measure
 - **We need targets and measurement tools for all criteria!**



32

Three Yardsticks





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Examples of The Three Yardsticks

Please list individually items that may be included in each of the three measurement categories:

- **Cost**
- **Schedule**
- **Performance**

We will then generate a combined list



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Getting from Goals to Objectives

Most famous goal you (or I) can remember:

I believe this nation should commit itself, to achieving the goal, before this decade is out. Of landing a man on the moon...

and returning him safely to the earth.

Why is this a goal and not an objective?

What, When, Who, How, Cost



Getting from Goals to Objectives



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- **Who**

At the height of the **NASA** space program over 410,000 people were employed on Project Apollo (about 7,000 from NASA)

- **Cost**

The total estimated cost at the time was over **45 Billion dollars** combined on Mercury, Gemini and Apollo.

- **How**

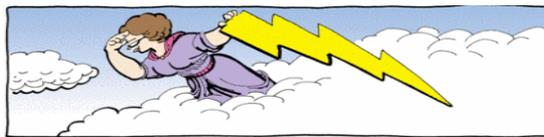
A program called LOR or **Lunar Orbital Rendezvous** (It was the subject of Buzz Aldrin's Thesis at MIT)



Getting from Goals to Objectives



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Getting from Goals to Objectives



Define Tasks and Resource Requirements



The Project Manager needs to **estimate the assets** required to accomplish the main objectives:

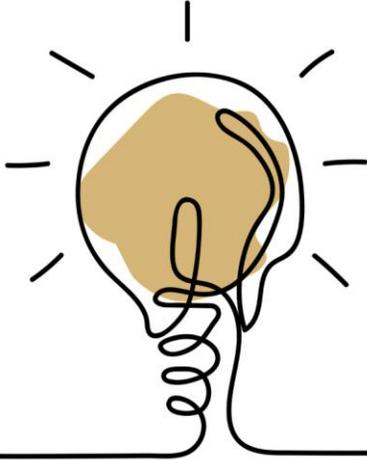
- Order of magnitude estimates for assets
- Define/refine success criteria
- Identify involved departments
- Generate first timing estimates





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One More Thought on Objectives



Unless **clear and definitive objectives are set at the start** it will be very difficult or even impossible for senior management (sponsors) to support the autonomous team if any mid-course corrections are needed.

This may not leave any choice but to **suspend** the team if significant difficulties are encountered.



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Tasks

Each task should include:

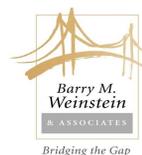
- What is being delivered? (Not the activity, the result). What is needed? When?
- Who are the tasks customers?
- What form is it needed in?
- What are the required precursors?
- What are the required assets?



Additional Readings



- Kim Clark and Steven Wheelwright, **The Product Development Challenge**, ISBN 0-87584-609-2
- Robert Cooper, **Winning at New Products**, ISBN 0-7382-0463
- Robert Cooper, **Product Leadership**, ISBN 0-7382-0156-1
- John Whitmore, **Coaching for Performance**, ISBN 1-85788-170-2
- David Keirse, **Please Understand Me**, ISBN 0-9606954-0-0
- Barry Weinstein, **Successfully Manage Cross-Functional Teams**, Chemical Engineering. October 2002



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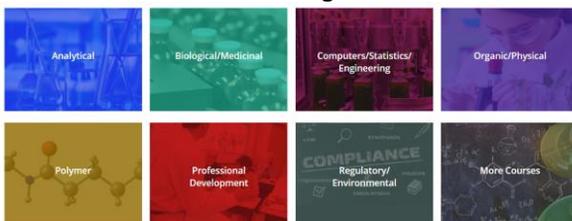
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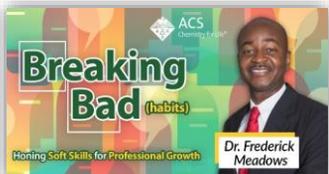
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