

The Art and Science of Project Management

David Jennings,
iDigBio Project Manager

Biological Collections Digitization in the Pacific
March 24-27, 2014



This material is based upon work supported by the National Science Foundation under Cooperative Agreement EF-1115210. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.



Some myths...

- Project management is unnecessary overhead
- Project management doesn't add any value
- Project management is just “fluff” that detracts from the “real work”
- Project managers are simply experts in producing project documentation
- Talk about BORING...



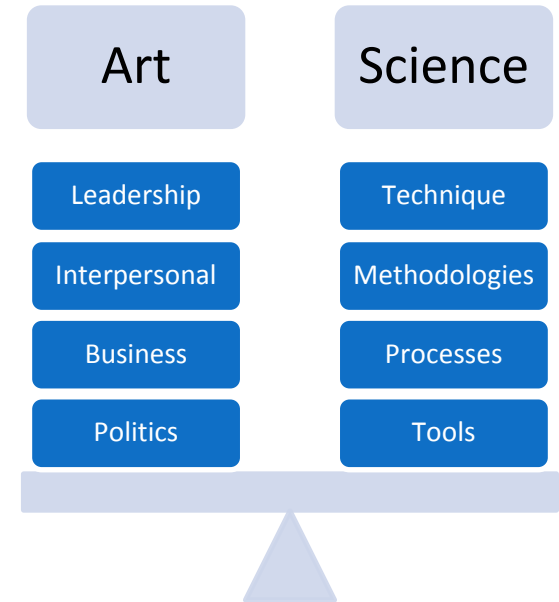
First dose of reality...

- Project management is great ... but only when applied correctly and in the right dose
- If not, then the myths are probably true...
- If so, then project management:
 - Focuses the team on goals and outcomes
 - Provides structure that promotes success
 - Helps you balance time, money, resources, & scope
 - Leads to effective communication



Second dose of reality...

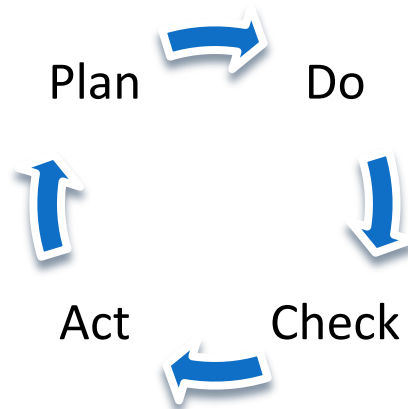
- Project management is all about balancing “**science**” (what the books say you should do) with “**art**” (what you *really* need to do)
- Project managers must be ***flexible***
 - Balance, adapt, overcome
 - Wear the right hat at the right time
 - Know what you need to know when you need to know



Project Managers Have Big Heads...

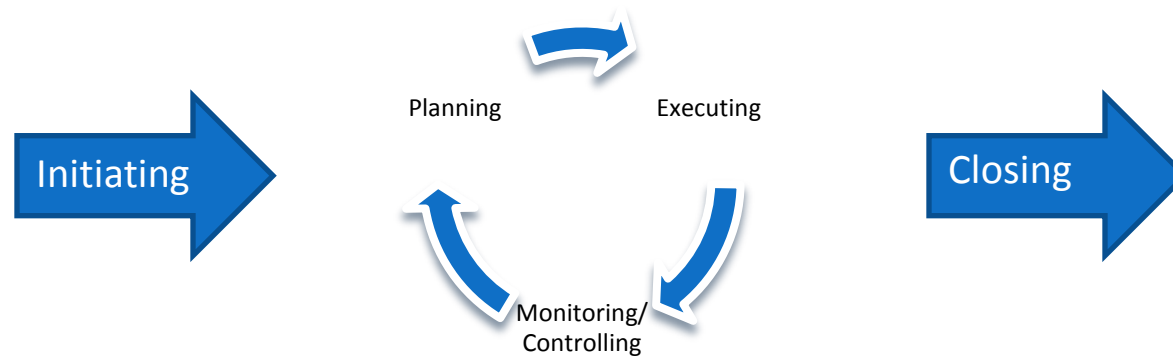
Learner
Flexible
Fair
Competent
Professional
Enthusiastic
Marketer
Expert
Motivator
Host
Communicator
Empathizer
Focuser
Honest
Follower
Director
Accountant
Salesperson
Pragmatist
Integrity
Independent
Mentor
Creative
Facilitator
Counselor
Organizer
Diplomat
Project
Administrator
Coach
Herder
Arbitrator
Leader
Historian
Mediator
Decider
Enforcer
Inspirational
Clairvoyant
Negotiator
Realist
Politician
Efficient
Adaptive
Responsible
Protector
Listener
Delegator
Effective

The Project Management Cycle



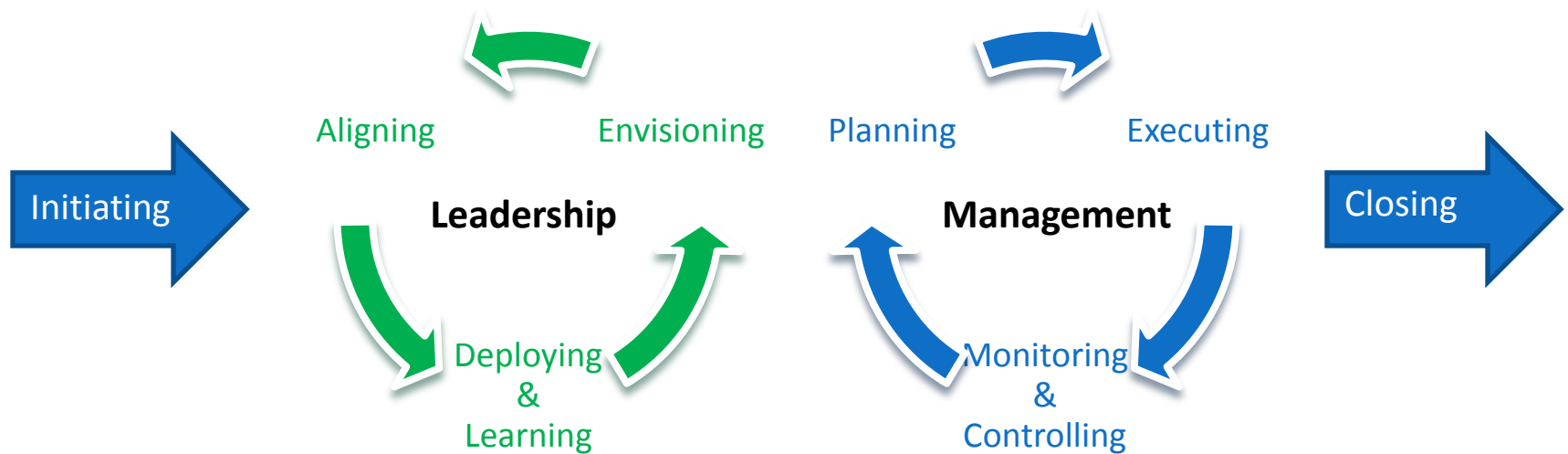
Old School – W. Edwards Deming

The Project Management Cycle



New School – Project Management Institute (PMI)

The Project Management Cycle



*MY SCHOOL – Hybrid of PMI and CH2M HILL
Project Delivery System*

So, what's most important?

- For project managers, ***everything*** is important!
 - Every part of the PM cycle will become important at one time or another
 - The “art” is choosing what is right for ***your*** particular project & team at the particular time
- The **leadership cycle** is *always* important!
 - Leadership affects *everything*
 - Ingredients for success:
 - Relationships
 - Teamwork
 - Endorsement



Relationships

- Relationships are fundamental
- Relationships build long-term trust and confidence
- Ingredients for success:
 - Understand needs, expectations, strengths, & weaknesses
 - Regular communication: Shoemail >> phone >> email
 - Relationship maintenance during difficult times



Teamwork

- A strong team is vital to project success
- Teaming builds flexibility and creativity into the work
- Ingredients for success:
 - Support and defend your team
 - Establish regular, effective meetings
 - Make extra effort to include virtual team members

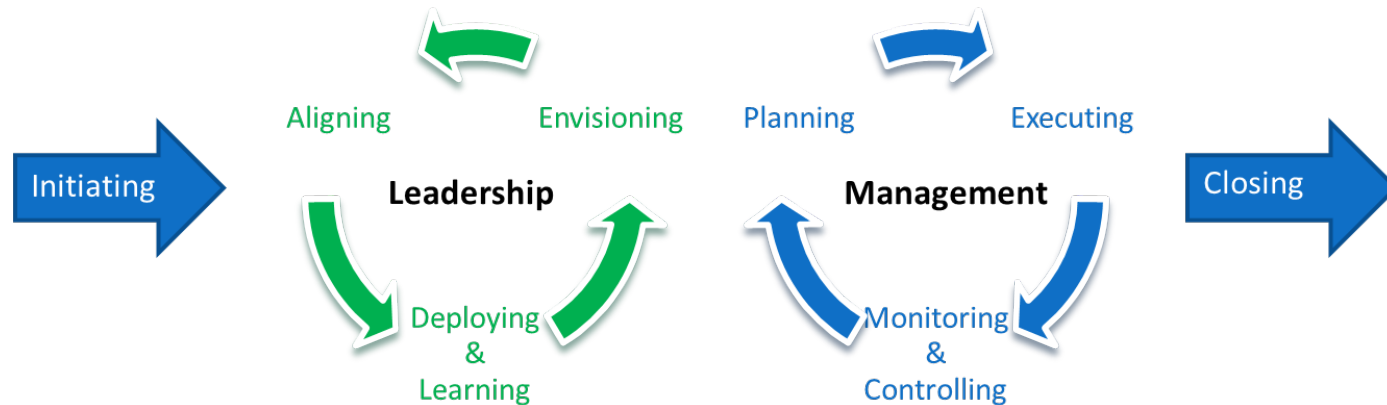


Endorsement

- Endorsement is more than simple approval – it implies *ongoing commitment*
- The endorsement process ensures mutual understanding and commitment to project success
- Ingredients for success:
 - Foster mutual understanding; affirm the common vision
 - Give all parties a stake in the outcome
 - Identify and discuss risks



OK, but really, what's most important?



- Most people think that **Executing & Controlling** provide the most value
 - This is where things get done!
 - But, people resist because they have their own ways of being productive
 - To make matters worse, management often doesn't understand the “work”

Here's the secret...

- The most valuable phases of a project are **Initiating**, **Planning**, and **Closing**:

- **Initiating** is where you establish your scope of work. Lack of agreement or understanding will cause *scope creep*.

- **Planning** is where you gain a better understanding of what needs to get done and then communicate it.
"Plans are worthless, but planning is everything." -Eisenhower

- **Closing** is when you have agreement from all of your stakeholders that the project is finished.
Launch or go-live is not the end of a project!



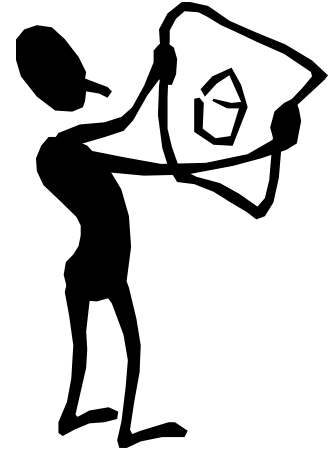
Initiation

- A simple statement of the **Project Objective** can be your most powerful tool:
 - **What** are you going to do?
 - **How** are you going to do it?
 - **Why** are you doing it?
- Achieve stakeholder endorsement before starting work
- The **Project Objective** is your baseline for measuring scope creep



Planning

- Create a guide and map for your team:
 - **What** needs to be done?
 - **Who** is doing the work?
 - How much will the work cost (**budget**)?
 - When will the work be done (**schedule/milestones**)?
 - **How** the work will be done?
 - How will you manage **communications, risk, & change**?
 - What **metrics** will you use to track **progress, quality, & scope**?
 - What are the internal and external **dependencies**?

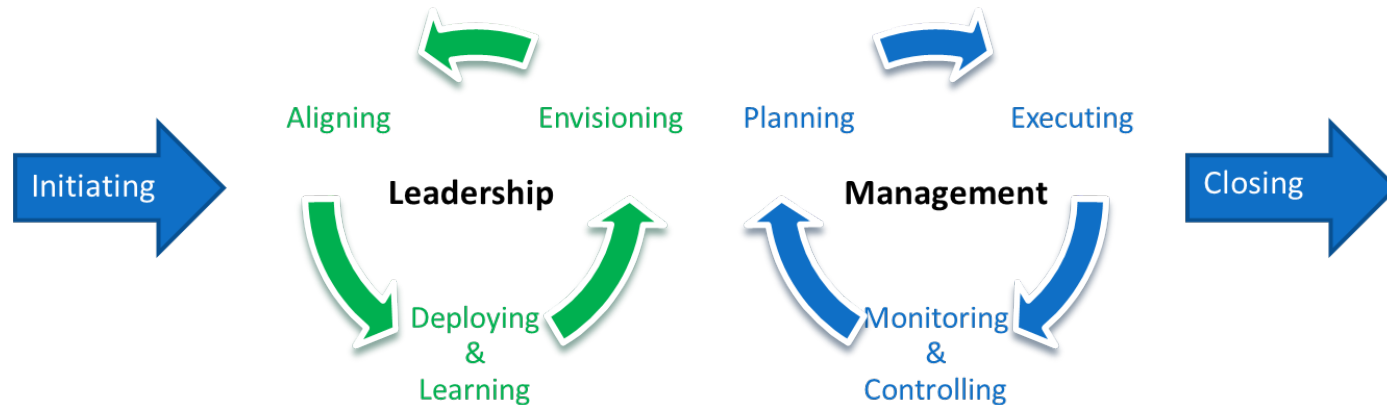


Closing

- If you've done your job well, closing is easy:
 - Stakeholder needs/expectations have been met/exceeded
 - Customer knows exactly what was delivered
 - Customer/stakeholders are satisfied
- Closing is simply a matter of acknowledging that everything was delivered as agreed ... but write it down!
- What if the customers/stakeholders still want more?
 - *Aren't you glad you have that **Project Objective** statement?*



Where the rubber meets the road...



- **Monitoring** is where progress is measured
- **Executing** is where the “work” gets done
- **Controlling** is where minor course corrections are made

Monitoring

- Avoid using “percent complete” ...
 - People guess
 - People are overly optimistic
 - The last 20% takes 80% of the time (80/20 rule)
 - Work expands to fill available time
- Binary completion is a much more accurate progress measure
 - Is it done? Yes or No
- The key is to plan **milestones**
 - Milestones must be measurable
 - Granularity is critical – make them just fine enough to measure progress, but no finer

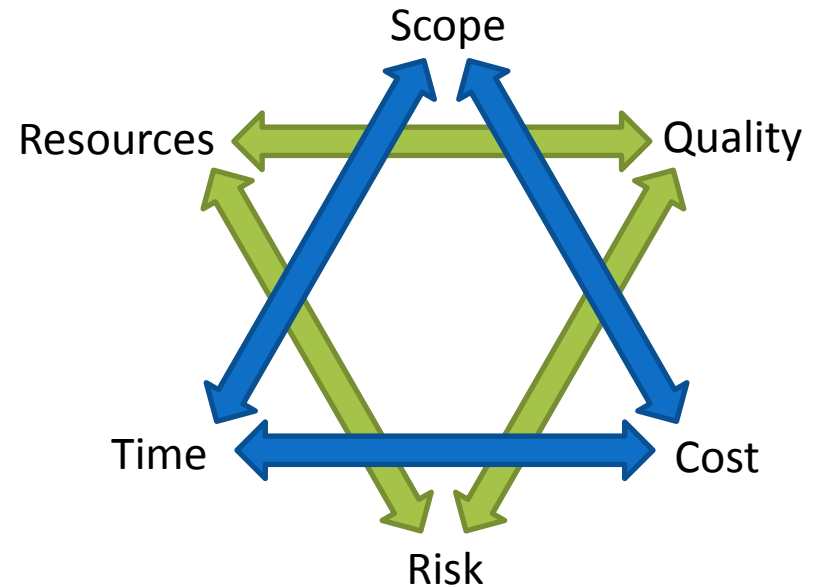
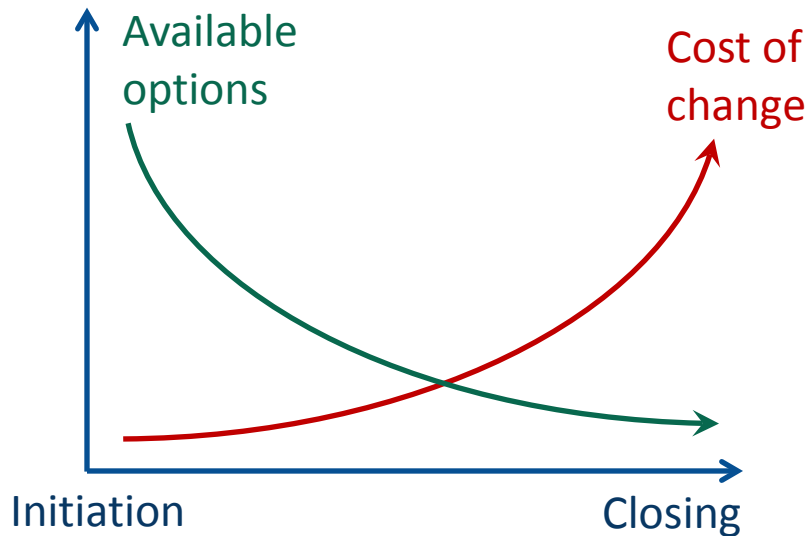


Executing & Controlling

- Change is inevitable. You cannot stop it. You must accept that it will occur.
 - Stakeholders will always change their minds
 - Requirements will always change after a “freeze”
- How you deal with change is what matters!
 - Evaluate changes based on their ability to advance the project objectives (*remember that **Project Objective** statement...*)
 - Quantify the impact of changes in terms of scope, schedule, resources, & quality
- Prioritize changes based on overall impact
 - Let the *customer* prioritize major changes



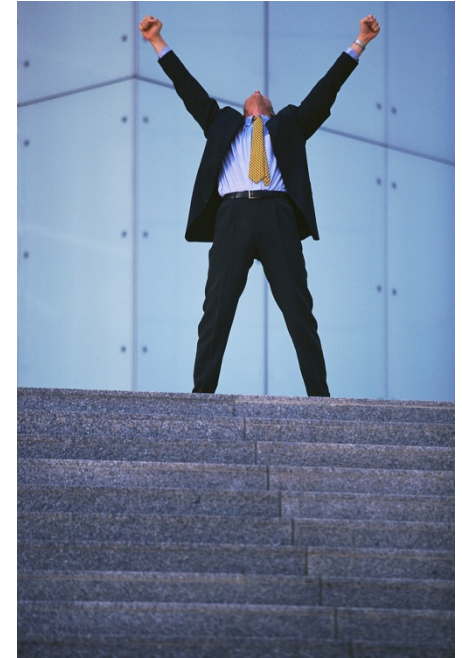
Knowledge is Power...



- The most valuable and least said *word* in a project manager's vocabulary is **"No"**
- The most valuable and least said *phrase* in a project manager's vocabulary is **"I don't know"**

In summary...

- Project management is not evil
- **Leadership** is always important
- The secret to success is *flexibility*
- **Plan**, plan, plan
- Knowledge is power – seek balance



Project Management Lessons from *Star Trek*

- Non-interference is the Prime Directive
- Set your phaser on stun
- Humans are highly illogical
- “Live long and prosper”
- Infinite Diversity in Infinite Combinations
- “Having is not so pleasing a thing as wanting”
- Tribbles hate Klingons (and Klingons hate Tribbles)
- Enemies (like Romulans) can be cloaked
- Don’t put all your senior officers in one shuttlecraft
- Insufficient data does not compute



Resources

- Project Management Institute: www.pmi.org
- DoIT Project Management Advisor: www.pma.doit.wisc.edu
- Improving the User Experience: www.usability.gov
- Project Science: www.projectsscience.org