



Project Management Essentials



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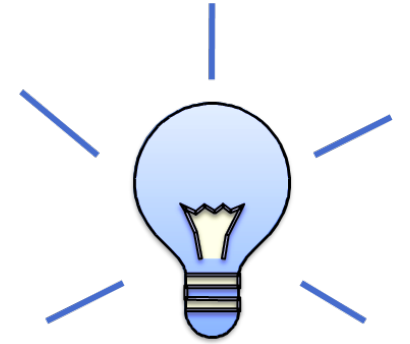


Entomological Collections Management Workshop, 22 June 2022



Why a session on on Project Management?

- Several common challenges with research projects...
 - Scientists want to do research, not administration
 - Project management and administration tasks can be time consuming
 - Administration distracts scientists from their main interests
 - Scientists often lack training and/or experience in project management
 - Funding agencies desire accurate cost estimates and predictable outcomes
- There must be a better way!
 1. Educate emerging professionals in the basics of project management and administration
 2. Facilitate transfer of knowledge and lessons learned from experienced professionals





Let's start with a couple of definitions...

- What is a **project**?

- “A project a **temporary** endeavor undertaken to create a **unique** product, service or result.”

- **temporary** = defined beginning and end in time, which is necessary to constrain scope and resources
 - **unique** = it is not a routine operation, but a specific set of operations designed to accomplish a singular goal

- So, then, what is **project management**?

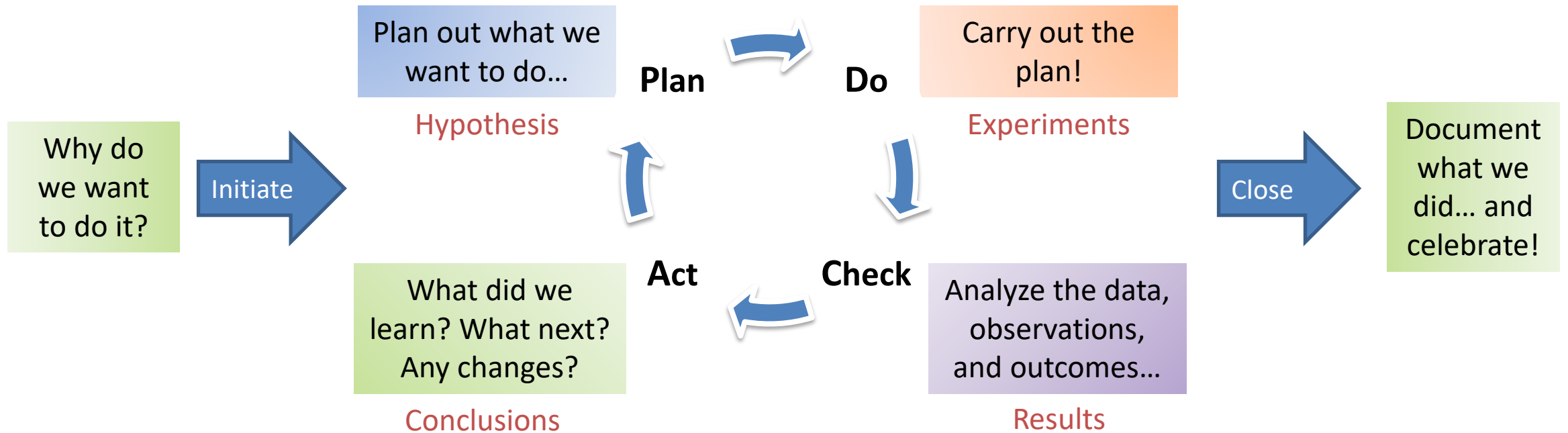
- “Project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.”

- Provides structure to maintain focus on goals and outcomes
 - Allows your team to predictably meet project requirements within established constraints



Project Management is not as abstract as you think...

“Plan-do-check-act (PDCA) represents an intersection between the scientific method and everyday operations. Given an objective, whatever process is defined to achieve that objective can be—and often unknowingly is—subject to PDCA.”





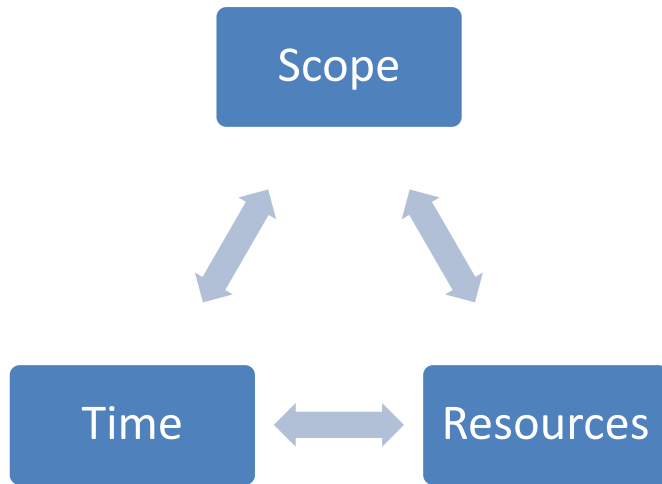
Project Management is intertwined with Leadership!

- **Management** is about *coping with complexity* to bring order and predictability to a situation
- **Leadership** is about *coping with change* to survive or compete effectively in a new environment

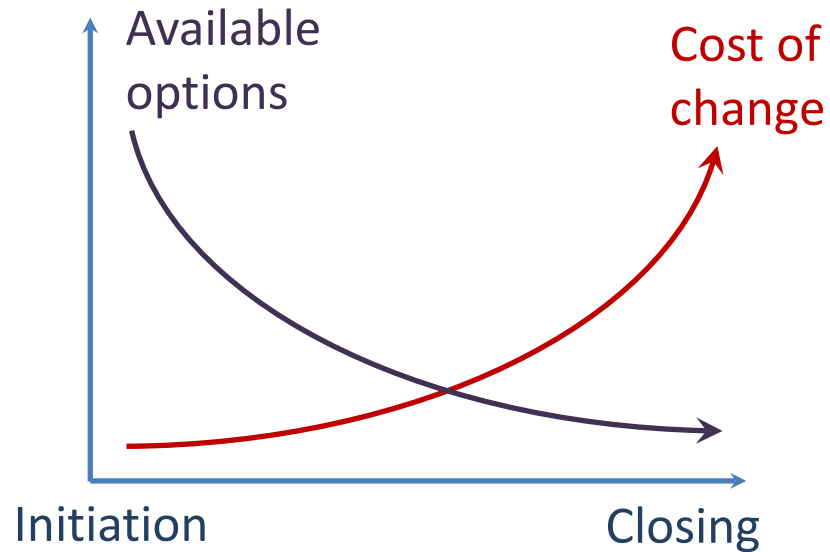
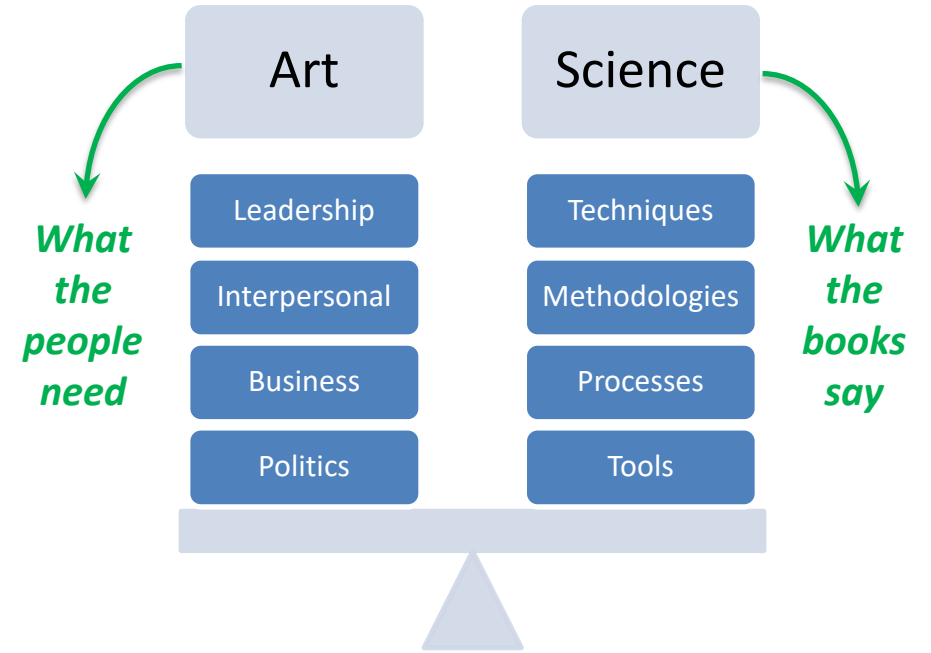
Management		Leadership
Planning and budgeting	↔	Setting direction
Organizing and Staffing	↔	Aligning people
Control and problem-solving	↔	Motivation



Project Management is always about finding balance...



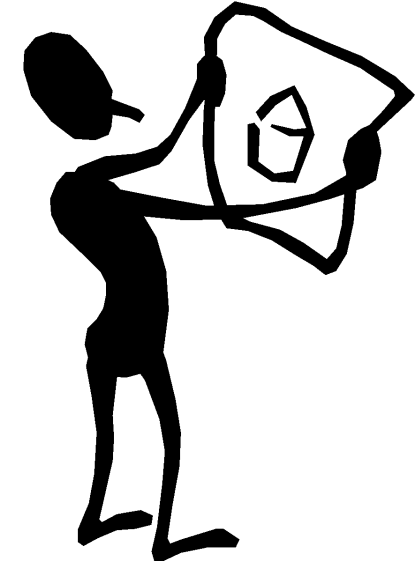
You can only control 2 out of 3





Project Management begins with a Workplan


- A workplan serves as a map and guide 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**)?
 - How the work will be done (**workflows**)?
 - How will you manage **communications**?
 - How will you manage **risk**?
 - How will you manage **change**?
 - What **metrics** will you use to track and measure **progress, quality, and scope**?
 - What are your internal and external **dependencies**?
- Remember that a workplan is a living document
- The planning *process* is vitaly important for your team (and is more important than the plan itself)!





A dozen nuggets of advice, tips, and lessons learned...


1. Manage your risks *early* and *often*

- Risk management is a key component that is often met with the most resistance
- Don't put all your senior officers in one shuttlecraft 
- Enemies, like Romulans, can be cloaked 

2. Plan for change because it is *inevitable*

- Quantify the impacts, prioritize, and get endorsement
- Having is not so pleasing a thing as wanting 

3. Avoid using “percent complete”

- People guess (or lie) and tend to be overly optimistic
 - Keep your phaser set on stun 
- Use *binary completion*: Is the work done? Yes/No

4. Manage your time wisely


- Work—and meetings—expand to fill available time
- The last 20% of the work tends to take 80% of the time (“80/20 rule”)





A dozen nuggets of advice, tips, and lessons learned...

5. Build relationships


- **Shoe mail** is better than **Zoom** is better than **Phone** is better than **Slack** is better than **Email**
- Cross-functional and diverse teams are the key to success → avoid tunnel vision
 - Infinite Diversity in Infinite Combinations 

6. *Don't guess!*

- 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**"

7. See both the forest and the trees → understand where things fit

8. You can act on incomplete data → be flexible

- Insufficient data does not compute 
- When logic fails, trust a hunch 



A dozen nuggets of advice, tips, and lessons learned...

9. Don't spend all your time tracking progress

- Use just enough granularity but no more
- Avoid cascading (interdependent) milestones and objectives

10. Complexity of coordination increases exponentially with the number of people—or PIs—involved

- The same goes for committees and advisory boards → keep them manageable

11. Divide and conquer → manage as a program vs. a project

- Non-interference is the Prime Directive 🚀

12. Keep your PIs and Program Officer happy

- Live long and prosper 🚀



Thank you! Questions?



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