Effectively Managing Your Digitization Project

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Key challenges with scientific, research, & digitization projects

• Scientists want to do research, not project administration/management
• Project administration is time consuming and distracts scientists from their main interests
• Scientists often lack training/experience in project administration/management
• Funding agencies desire accurate cost estimates and predictable outcomes

A few common reasons why projects get into trouble

• Objectives are not well defined
• Communication is inadequate
• Trouble is diagnosed at vulnerable times
• Projects are “near death”

There has to be a better way!

- Educate emerging scientists/managers in the basics of project management
- Transfer knowledge and experience from experienced scientists/managers to those in emerging projects
- Emphasize value of leadership and teamwork

What is a project?

A project is a temporary endeavor undertaken to create a unique product, service, or result.

https://www.pmi.org/about/learn-about-pmi/what-is-project-management

- **Temporary** = defined start and end dates, which limit scope and resources
- **Unique** = specific, desired, non-routine outcome
What is project management?

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

https://www.pmi.org/about/learn-about-pmi/what-is-project-management

- Focus on goals and outcomes
- Promote effective communication
- Predictably meet project requirements within established constraints
The project management process is analogous to the scientific method

**Plan**
- What do we want to do?

**Do**
- Carry out the plan!

**Act/Adjust**
- Experiments
- Analyze the data, observations, & outcomes

**Check/Study**
- Results

**Initiate**
- Why

**Conclusions**
- What did we learn? What next?

**Close**
- Did it

Walter Shewhart / W. Edwards Deming / Project Management Institute
Remember that leadership is an integral part of project management

Project Management Institute / CH2M HILL Project Delivery System / “What Leaders Really Do” by John P. Kotter
Project management is about balance…

**Art**
- Leadership
- Interpersonal
- Business
- Politics

**Science**
- Techniques
- Methodologies
- Processes
- Tools

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**What the people need**

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**What the books say**

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Resources → Quality

Scope → Risk

Time → Cost

Initiation → Closing

Available options → Cost of change
Successful project managers are:

- **Visionary**
  - See the big picture
  - See both the forest and the trees
  - Don’t attempt to be omniscient

- **Reliable**
  - Get things done
  - Say what you mean; mean what you say

- **Organized**
  - Be pragmatic
  - Seek alternatives
  - Keep the ball rolling

- **Flexible**
  - Adapt, overcome, improvise
  - Wear the right hat at the right time
What are the secrets to success?

• **Initiation** 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** to the team and stakeholders.

• **Closing** is when you have agreement from all stakeholders that **the project is finished**.
The planning process is more important than the plan, but make a plan!

• A workplan serves as 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)?
  – How will the work be done?
  – How will you manage communications?
  – How will you manage risk?
  – How will you manage change?
  – What metrics will you use to track/measure progress, quality, and scope?
  – What are your internal and external dependencies?

• Remember that a workplan is a living document
Understand where you are…

• Avoid using “percent complete”
  – People guess (or lie)
  – People are overly optimistic
  – 80/20 rule: the last 20% takes 80% of the time
    • Work— and meetings— always expand to fill available time

• *Binary completion* is a more accurate measure of progress
  – Is it done? Yes or No
  – Create milestones to celebrate progress
Change is inevitable! Period.

• *Accept it* because you cannot stop it.
  – 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
  – *Quantify the impact* of changes in terms of *scope, schedule, cost, resources, quality, risk,* ...

• **Prioritize** changes based on overall impact
  – Let the *customer* prioritize major changes
  – Keep your stakeholders in the loop
Everything comes with risk

• Bad things can happen, and good things can happen
  – Threats vs. Opportunities
  – The keys are to:
    1. Understand what events or circumstances could hurt or enhance your project, and
    2. Decide what you plan to do about them.

• Create a risk register
  – List identified risks
  – Estimate impacts of realization
  – Generate contingency plans
Let’s review…

• **Project management** focuses the team on goals & outcomes and provides structure for success

• **Leadership** is always important

• **Flexibility** is critical

• **Planning** is vital

• Actively manage your **risk**

• Always seek **balance**
A few Project Management Lessons I Learned from *Star Trek*

- Non-interference is the Prime Directive
- Keep your phaser set 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
- When logic fails, trust a hunch
Some Resources and Final Advice

• iDigBio maintains a Project Management Resources wiki page:
  www.idigbio.org/wiki/index.php/Project_Management_Resources

• 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”
Thank you!

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