The Art and Science of Project Management

David Jennings, iDigBio Project Manager

October 16, 2014

https://idigbio.adobeconnect.com/pmw/

What is a project?

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

PMBOK® Guide, 4ᵗʰ Edition

- This is code for:
  - Specific and desired outcome
  - Defined start and end date
  - Budget that limits resources

What is project management?

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

PMBOK® Guide, 4th Edition

- This is code for:
  - Provides structure that promotes success
  - Focuses on goals and outcomes
  - Balances time, money, resources, and scope
  - Promotes effective communication

What is a project manager?

"The project manager is the person assigned by the performing organization to achieve the project objectives."

PMBOK® Guide, 4th Edition

- This is code for:
    - Responsible for meeting/exceeding stakeholder needs and expectations
    - Responsible for planning, execution, and closing
    - Responsible for <u>making things happen</u>

Some common 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
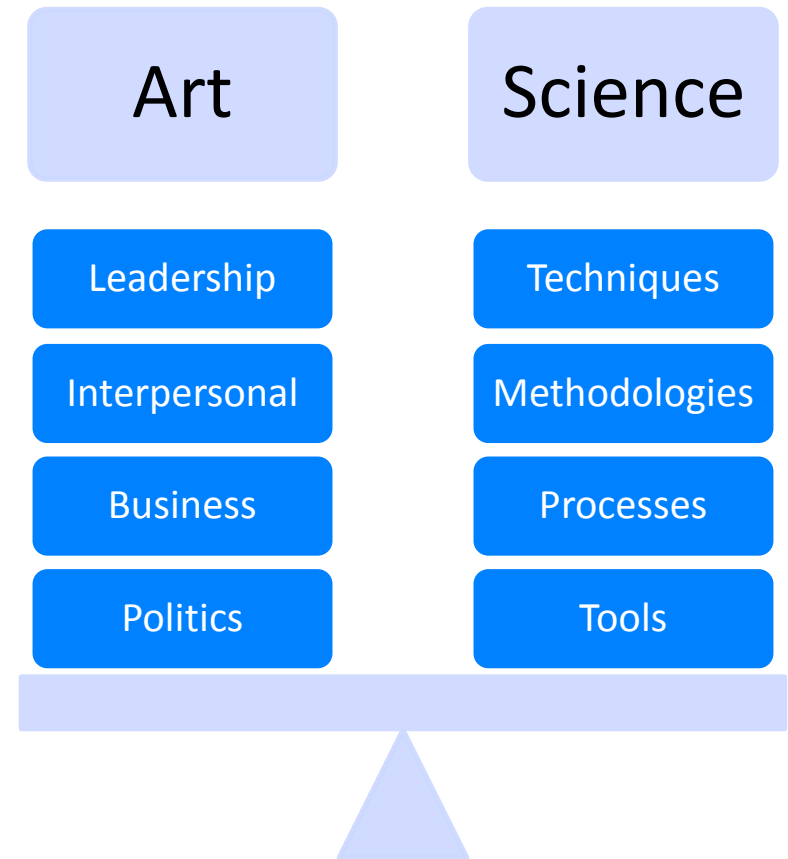 experts in producing project
  documentation

First dose of reality…

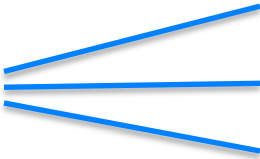- Project management provides value when applied in the _manner_ and _dosage_ appropriate to your _specific team_
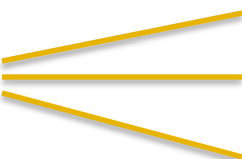
- Too much or too little…
  Then the myths are probably true…

Second dose of reality…

- Project management is about making things happen by *balancing* the "**science**" (what the books say) with the "**art**" (what the team needs)

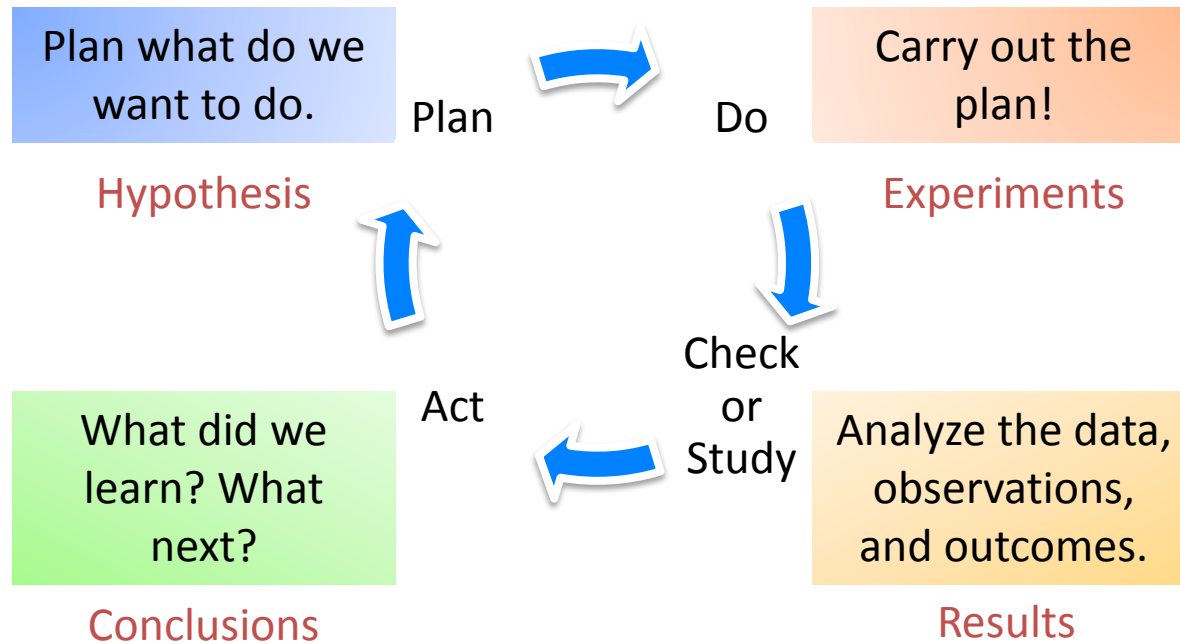| Art	Science
Leadership	Techniques
Interpersonal	Methodologies
Business	Processes
Politics	Tools

Successful project managers must be…

- **Visionary**
  - See the big picture
  - See both the forest and the trees
  - But, don't attempt to be omniscient

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

- **Organized**
  - Be pragmatic – what is essential vs. not?
  - Seek alternatives
  - Keep the ball rolling

- **Flexible**
  - Adapt, overcome, improvise
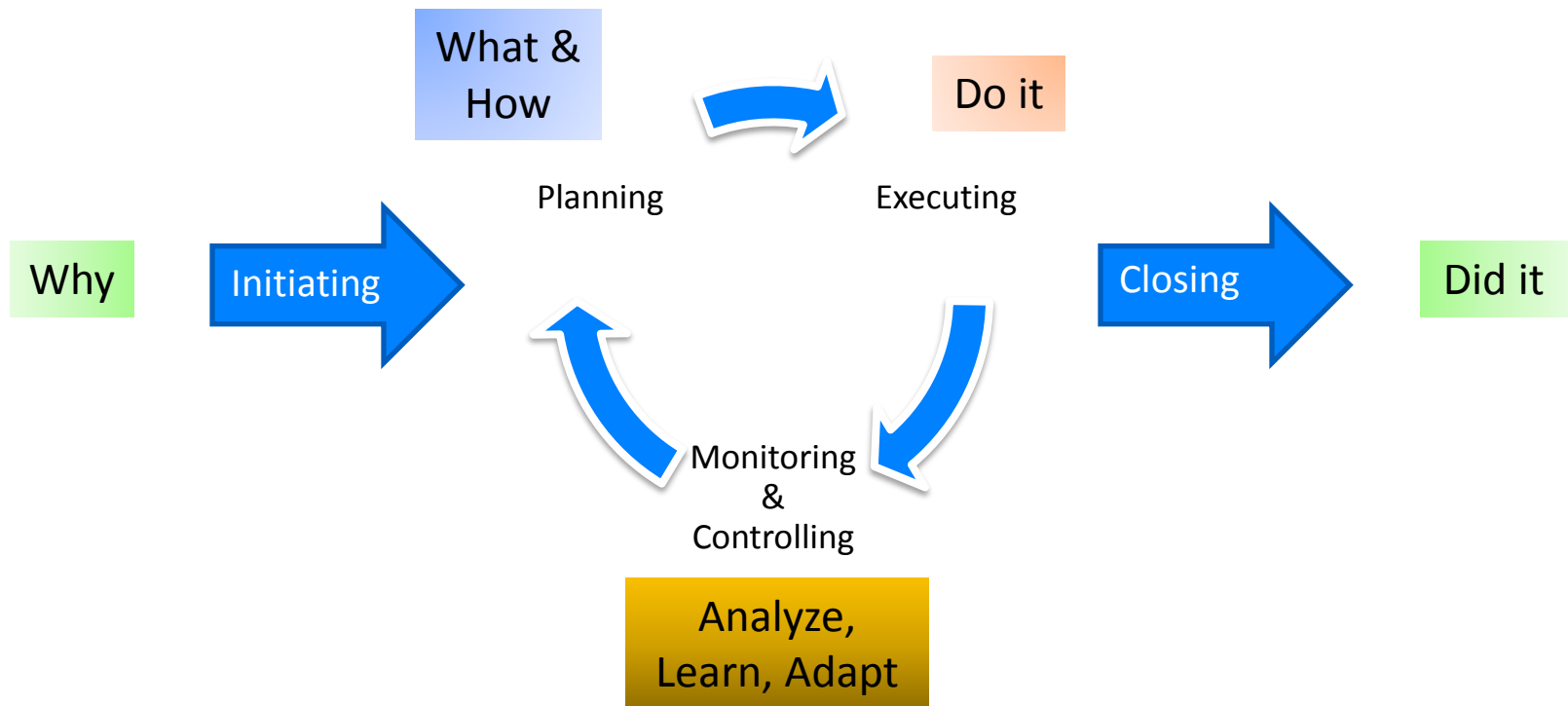 - Wear the right hat at the right time

Project managers have many roles…

Instinctive
Honest
Follower
Director
Accountant
Salesperson
Enthusiastic
Marketer
Expert
Competent
Professional

Learner
Focuser
Flexible
Fair

Pragmatist
Motivator
Host

Manager
Project
Communicator

Integrity
Independent

Mentor
Counselor
Organizer
Diplomat
Administrator
Coach
Herder
Arbitrator
Empathizer

Creative
Facilitator

Judge

Clairvoyant

Negotiator

Realist
Politician
Patron
Leader
Historian

Responsible
Protector
Listener
Delegator
Efficient

Mediator
Decider
Effective
Adaptive

Enforcer
Inspirational

The Project Management Cycle

Plan what do we want to do.

Plan

Do

Carry out the plan!

Hypothesis

Experiments

Act

Check or Study

What did we learn? What next?

Analyze the data, observations, and outcomes.
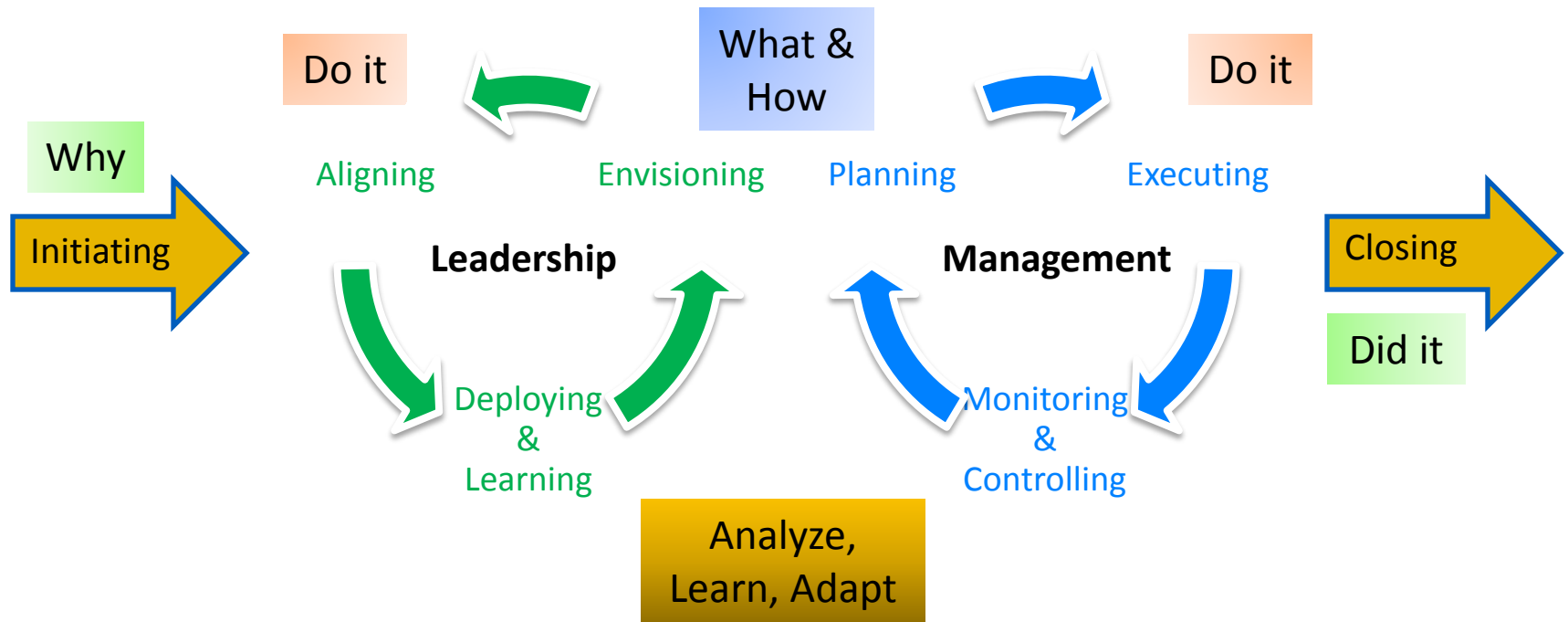
Conclusions

Results

Old School – W. Edwards Deming

The Project Management Cycle

New School – Project Management Institute (PMI)

The Project Management Cycle

	Do it	What & How		Do it
Why	Aligning	Envisioning	Planning	Executing
Initiating	**Leadership**		**Management**	Closing
	Deploying & Learning		Monitoring & Controlling	Did it
		Analyze, Learn, Adapt		

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

Example Process Outputs
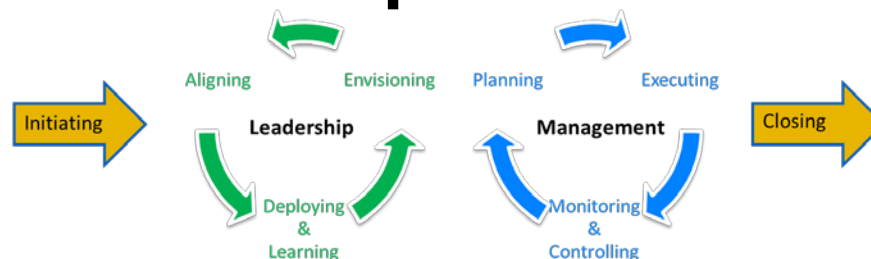
| Leadership		Management	
Initiating	Customer focus, Team building	Feasibility, Scope of Work	Initiating
Envisioning	Vision, Mission, Strategy	Workplan, WBS, Schedule, Budget	Planning
Aligning	Politics, Communication, Endorsement	Task lists, Deliverables	Executing
Deploying	Implement, Enforce	Trending, Evaluation	Monitoring
Learning	Assess, Incorporate	Corrective action	Controlling
Closing	Satisfaction	Delivery	Closing

So, what's most important?

- For project managers, ***everything*** is important!
  - *Every part of the project management cycle will become important at some time*
  - The "**art**" is choosing the right thing to do at the particular time for *your* project and team

- The **leadership cycle** is key…
  - Leadership affects *everything*
  - Ingredients for success:
    - Relationships
    - Teamwork
    - Endorsement

Relationships

- Relationships are a fundamental part of leadership

- 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 is vital
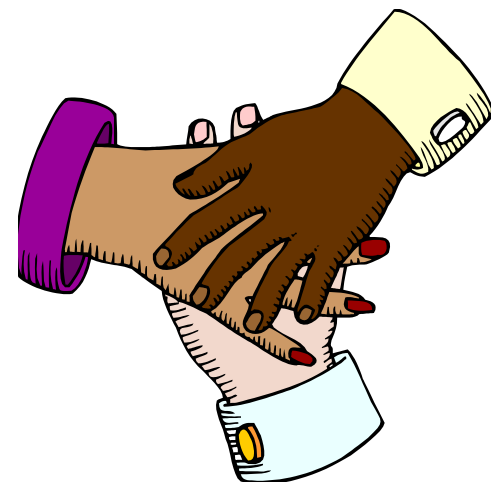
Teamwork

- A strong team is essential to project success

- Teaming builds flexibility & creativity into the work

- Ingredients for success:
  - Support and defend your team – fix problems instead of blaming people
  - Establish regular, effective meetings
 - Make extra effort to include virtual team members

Endorsement

- The endorsement process ensures mutual understanding and commitment to project success

- Endorsement is more than simple approval!
  – it implies *ongoing commitment*

- 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?
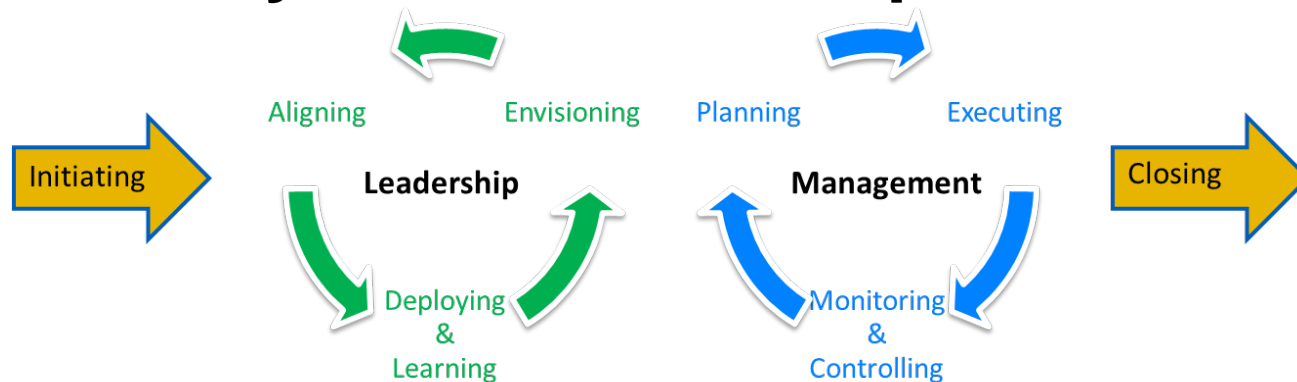
- Most people think **Executing** & **Controlling** provide the most value…
  - Executing is where the "work" gets done
  - Controlling is where we make minor course corrections
  - HOWEVER, people (especially scientists and engineers) resist being told what to do or how to do things because they already 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 nothing; 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 <u>endorsement</u> before starting work

- The **Project Objective** is your baseline for measuring <u>scope creep</u>

Planning

- Create a **workplan** 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/milestones**)?
  - **How** the work will be done?
  - How will you manage **communications**?
  - How will you manage **risk**?
  - How will you manage **change**?
  - What **metrics** will you use to track **progress**, **quality**, and **scope**?
 - What are the internal and external **dependencies**?
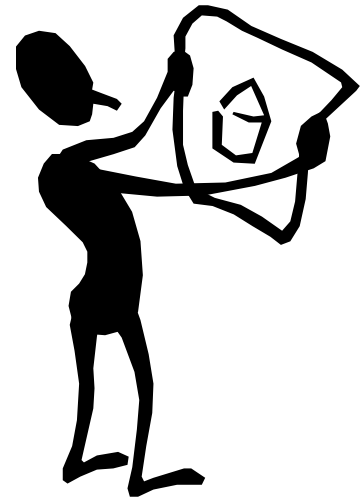
Closing

- If you've done your job well, then closing is easy:
  - Customer/stakeholder *needs and expectations* have been *met or exceeded*
  - Customer/stakeholders know 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 customer/stakeholders still want more?
  - *Aren't you glad you created that **Project Objective** statement?*
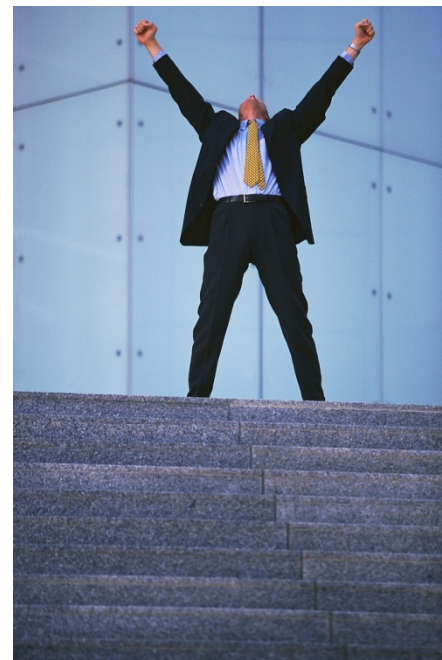
Where the rubber meets the road…
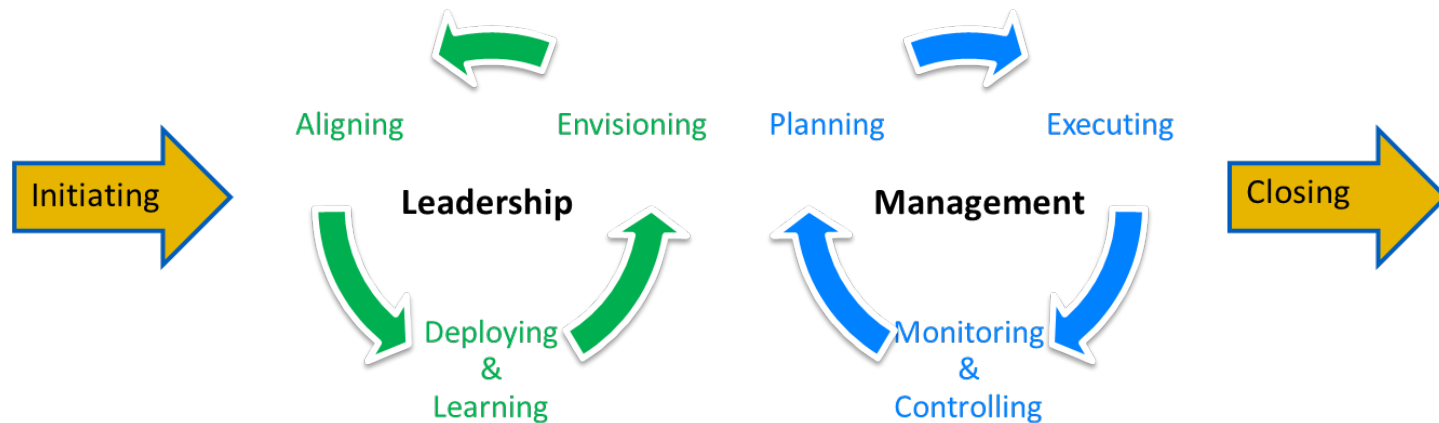
- **Monitoring** is where progress is measured
- **Executing** is where the "work" gets done
- **Controlling** is where we course correct

Monitoring

- 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) expand to fill available time

- *Binary completion* is a more accurate progress measure
  - Is it done? Yes or No

- The key is to plan **milestones**…
  - Milestones must be <u>measureable</u>
  - <u>Granularity</u> is critical – make them just fine enough to measure progress, but no finer

Executing & Controlling

- Change is *inevitable*. Period. *Accept it* because you cannot stop it.
    - Stakeholders will always change their minds
    - Requirements will always change after a "freeze"

- <u>How you deal with change is what matters</u>!
    - Evaluate changes based on their ability to advance the project objectives
        - *Glad we have 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…
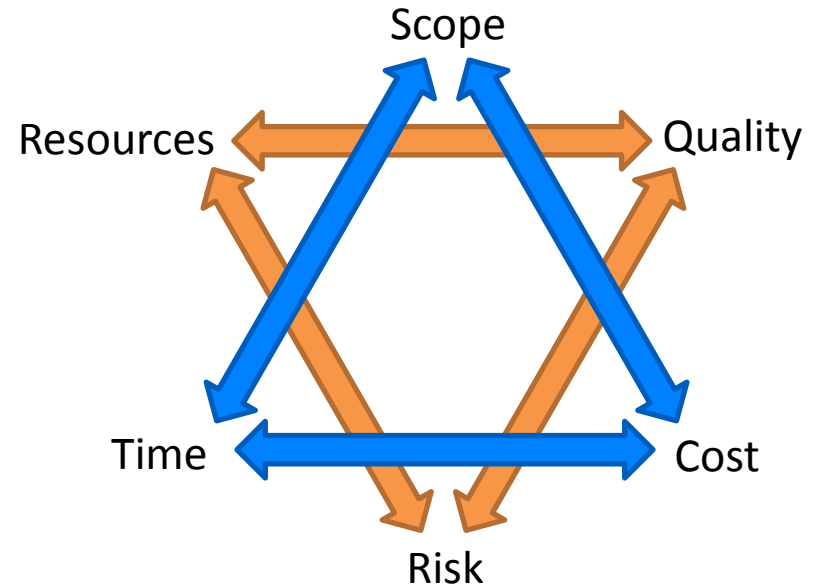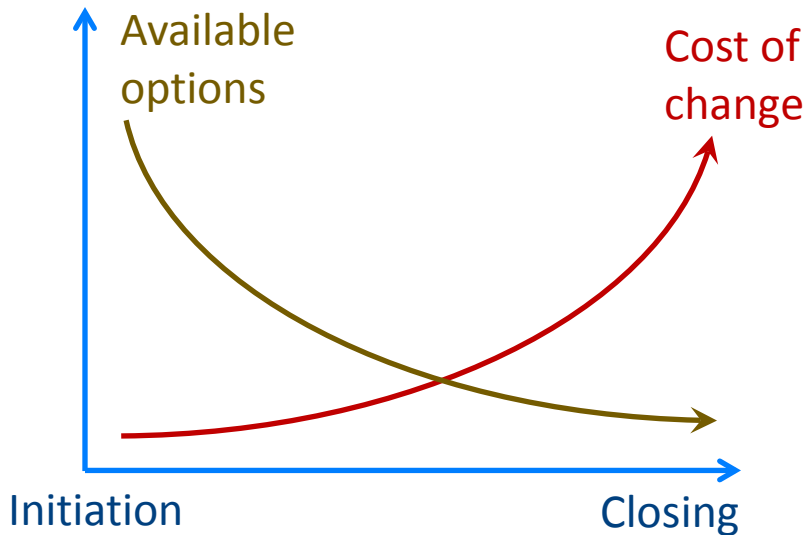
- The most valuable and least said *word* in a project manager's vocabulary is "**No**"
- The most valuable and least said *phrase* in a project manager's vocabulary is "**I don't know**"

In summary…

- **Project management** is valuable when applied in the manner and dosage appropriate to your team

- **Leadership** is always important

- The secret is *flexibility*

- **Plan**, plan, plan

- **Knowledge** is power – seek *balance*
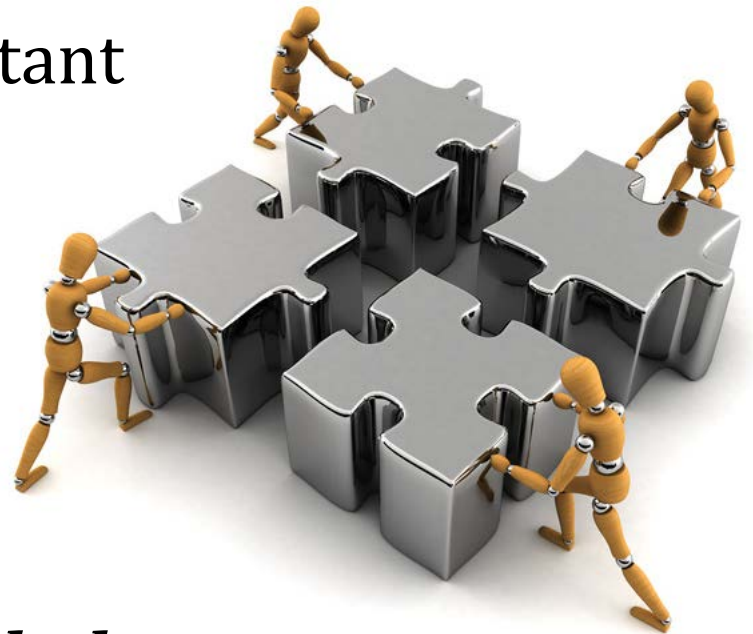
Project Management Lessons from *Star Trek*

- 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

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.projectscience.org

Thank you!   # Questions?

www.idigbio.org

 facebook.com/iDigBio

 twitter.com/iDigBio

 vimeo.com/idigbio

 idigbio.org/rss-feed.xml

 webcal://www.idigbio.org/events-calendar/export.ics