The Art and Science of Project Management

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What is a project?

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


- 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.”


- This is code for:
  - Provides structure that promotes success
  - Balances money, time, & resources
  - Promotes effective communication
  - Focuses on goals and outcomes
What is a project manager?

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


• This is code for:
  • Responsible for meeting or exceeding stakeholder needs and expectations
  • Responsible for planning, execution, and closing
  • Responsible for making things happen
The myths...

- Project management is just overhead or extra work
- Project management doesn’t add any value
- Project management is all “fluff” and not “real work”
- Talk about BORING...
The reality...

- Project management is great when in the right dose and when applied correctly
  - Too much or too little and some/all of the previous myths are probably true!

- Project management is all about balancing the “science” (what the books say you should do) with the “art” (what you really need to do to make things happen)

- Project managers must be flexible and choose/use only what is right for a particular project/team
Project Management Cycle – The Science

- **Old School (Deming)**
  
  ![Diagram](Plan -> Do -> Check -> Act)

- **New School (PMI)**
  
  ![Diagram](Initiating -> Planning -> Executing -> Closing)
  
  ![Diagram](Monitoring/Controlling)
Project Management Cycle – The Art

CH2M Hill Project Delivery System, 4th Edition
## Example Process Outputs

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<th>Management</th>
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Initiate

Plan

Execute

Monitor

Control

Close
Achieving the Balance

Art: Leadership, Interpersonal, Business, Politics

Science: Technique, Methodologies, Processes, Tools
What is most important?

- The leadership cycle is *always* the most important and will affect *everything* you do

- 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 is better than phone, which is better than email
  - Relationship maintenance during difficult times
Teamwork

- A strong team is vital to the success of any project

- Teaming builds flexibility and creativity into the work

- Ingredients for success:
  - Defend your team – fix problems instead of blaming people
  - Establish regular, effective meetings
  - Plan social activities to help everyone get to know each other
  - Make extra effort to include virtual team members
Endorsement

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

- Endorsement 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 the Executing & Controlling phases are the most important management activities.
  - This is where we define how to do things and how we make course corrections.
  - However, these phases often encounter resistance because people have their own ways of being productive and getting things done.
  - To make matters worse, management often doesn’t understand the “work.”
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 and cost escalation due to changes.

- **Planning** is where you gain a better understanding of what needs to get done and communicate it to your team.  
  
  “…plans are useless, but planning is indispensable.”  
  
  -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 anything is started

- Baseline to measure scope creep against
Planning

• The **workplan** is the 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** the work will be done – **communications** management, **risk** management, **change** management
  • What **metrics** will be used for tracking project **progress**, **quality**, and **scope**
  • What are the internal and external **dependencies**
Monitoring

• Avoid “percent complete” as a progress tracking tool
  • People lie
  • People guess and are overly optimistic
  • Work expands to fill available time
  • The last 20% takes 80% of the time (80/20 rule)

• Binary completion (is it done? Y/N) is a more accurate measure of progress

• The solution is to plan milestones or measurable metrics
  • Granularity is key – need to be just fine enough to provide measurement of progress
Executing & Controlling

- Change is inevitable. Period.
  - Stakeholders will always change their minds; requirements will always change even after a “freeze”
  - You cannot stop this; you can only make them aware of the impact

- Evaluate changes based on their ability to advance the project objectives; quantify the impact in terms of schedule, resources, and quality

- Let the customer prioritize changes based on impact
Knowledge is power...

- The most valuable and least said word in a project manager’s vocabulary is “NO”.
- The second most valuable and least used phrase in a project manager’s vocabulary is “I don't know.”
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 (hopefully)

- Closing is simply a matter of acknowledging that everything was delivered as agreed … but write it down!

- What if they still want more?
  - Knowledge is power…
In summary...

- Project Management is not evil and will not turn you into a mindless zombie

- Leadership is always important and affects everything

- The secrets are Initiating, Planning, and Closing

- Knowledge is power – time, quality, cost (pick any two)
Everything I know About Project Management I Learned from *Star Trek*

1. Non-interference is the Prime Directive.
2. Seek out new life and new civilizations.
4. Humans are highly illogical.
5. There's no such thing as a Vulcan death grip.
7. Having is not so pleasing a thing as wanting; it is not logical but it is often true.
8. Infinite diversity in infinite combinations.
10. Enemies are often invisible — like Romulans, they can be cloaked.
11. Don't put all your ranking officers in one shuttlecraft.
12. When your logic fails, trust a hunch.
13. Insufficient data does not compute.
14. If it can't be fixed, just ask Scotty.
15. Even in our own world, sometimes we are aliens.
16.Boldly go where no man has gone before!

http://www.educause.edu/ero/article/everything-i-need-know-about-it-management-i-learned-star-trek
Resources

- Project Management Institute:  www.pmi.org

- DoIT Project Management Advisor:  www.pma.doit.wisc.edu

- www.usability.gov

- The Project Management Game:  thatpmgame.com

- Project Science:  www.projectscience.org