FROM SCORE TO PERFORMANCE
PROJECT PLANNING AND TROUBLESHOOTING

DAVID JORDAN & JENNIFER JOHNSON
PROJECT MANAGEMENT IS AN EXERCISE IN LEADERSHIP...
**SiTech Root Problems**

1. Ad-hoc project planning
2. Infrequent, subjective project monitoring and roadblock removal
3. Management didn’t prioritize work and say no to some projects
4. Difficulty managing urgent interrupts from ongoing factory operations
5. Unclear roles, responsibility, and accountability regarding projects
6. Culture of firefighting
OBJECTIVES

PROVIDE LEADERSHIP IN PLANNING PROJECTS

PROVIDE LEADERSHIP IN TROUBLESHOOTING PROJECTS

USE ESTABLISHED & PROVEN PROJECT MANAGEMENT TECHNIQUES

MANAGE HUMAN DYNAMICS OF PROJECT TEAMS AND STAKEHOLDERS
MPLA LEADERSHIP KNOWLEDGE AND SKILLS MODEL
Knowledge and Skills for Project Management

Leadership & Interpersonal
Empathy
Conflict Management
Adaptability
Organizational Management
Teamwork and Collaboration
Influencing

Professional
Communication
Project Management (Technical)
Delegation

Executive & Administrative
Operations
Finance
DO YOU HAVE A PROJECT TO MANAGE?

RESOURCES (LABOR, CAPITAL)

TASKS

BUDGET

MEET BUSINESS OBJECTIVE

ASSIGNED TO RESPONSIBLE PERSONNEL

HAS AN IMPACT ON PROFIT
PROJECTS VS. OPERATIONS

**Project**
Temporary / time-limited
Defined start and end in time
Unique/one-off result

**Operations**
Ongoing and open-ended
Never “finished”
Repetitive production of "same" result

*(Preparing refreshments for New Year’s Eve party)*

*(Preparing daily family meals)*

(Kuster 2015)
TYPICAL MP PROJECT EXAMPLES

START A RESIDENCY PROGRAM

CREATE OR UPDATE QC PROCESS/PROCEDURE/TOOL

DEPLOY A NEW CLINICAL SOFTWARE/IT SYSTEM
PROJECT MANAGEMENT PHASES

Define / Concept
“Why?”

Plan
• “What?”
• “How?”

Execute / Control
• “Doing”

Close
• “Wrap up”

EACH PHASE IS DEFINED BY GATES/CHECKPOINTS

PHASE BENEFITS

(Verzuh 2011)
DEFINING – CHOOSING THE RIGHT PROJECT

Saying yes or no

Defining deliverables/expectations
DEFINING – STATEMENT OF WORK (SOW)

What is the real problem trying to solve? ("Why?")

Who are the stakeholders?

Do the Work

Provide Things

Pay for the Work

Use Results

Support the Work
DEFINING – STATEMENT OF WORK (SOW)

What is the priority of this project, relative to other demands on resources in the organization?

Whose priority is it? (Approval line)
KNOWLEDGE AND SKILLS FOR DEFINE STAGE

LEADERSHIP & INTERPERSONAL

Empathy
Conflict management
Adaptability
Organizational management
Teamwork and collaboration
Influencing

PROFESSIONAL

Communication
Project management (technical)
Delegation

EXECUTIVE & ADMINISTRATIVE

Operations
Finance
CHALLENGE #1: PLANNING AMIDST AMBIGUITY?

Planning seems easy (trivial) assuming you will know what to do.

Often the challenge is that you WON'T know what to do.
PROJECT MANAGEMENT MODELS

FORMAL (FROM SOFTWARE ENGINEERING):
  WATERFALL
  ITERATIVE
  AGILE MANIFESTO

INFORMAL
  GETTING THINGS DONE / NATURAL PLANNING MODEL

(Verzuh 2011)
WATERFALL MODEL

Strict sequence of requirements analysis, design, and development phases

Recommended complete steps twice

https://commons.wikimedia.org/wiki/File:Waterfall_model.png

Larman and Basili 2003
ITERATIVE MODEL

FEEDBACK-DRIVEN REFINEMENT

CUSTOMER INVOLVEMENT

CLEARLY DELINEATED ITERATIONS
(\sim 1 - 6 \text{ weeks})

SPIRAL MODEL

PRIORITY DEVELOPMENT CYCLES BY RISK

https://commons.wikimedia.org/wiki/File:Iterative_development_model.svg
AGILE MANIFESTO

PROMOTE MODERN, SIMPLE ITERATIVE AND INCREMENTAL DEVELOPMENT

http://www.aplicatech.com/agile-project-management-aplica
NATURAL PLANNING MODEL

“Begin with the end in mind” (Stephen Covey)

Describe the desired outcome

Describe the specific steps that must be taken (visible, physical actions)

Granular, non-ambiguous task definition

Establish quality benchmarks: “What does ‘DONE’ look like?”

(Allen 2002)
WORK BREAKDOWN STRUCTURE (WBS)

**What is it?**
Top-down starting from project outcome
Break down to individual tasks = “work packages”
Work packages can be grouped into “summary tasks”

**Why make it?**
Highlight gaps / information still needed
Identify dependencies
Plan for people, time, and resources needed

(Verzu 2011)
WORK BREAKDOWN STRUCTURE (WBS)

CREATE HIGH-LEVEL SUMMARY TASKS AND WORK PACKAGES

GET HELP FROM TEAM OF FRONT-LINE WORKERS, EXPERTS TO DETERMINE DETAILS OF WORK PACKAGES

(Verzuh 2016)
DEVELOPMENT OF RESOURCED SCHEDULE

USING THE WBS:

IDENTIFY RELATIONSHIPS BETWEEN WORK PACKAGES
PLACE IN SEQUENCE

FOR EACH WORK PACKAGE, DETERMINE:

WHO WILL DO IT?
HOW LONG WILL IT TAKE?
WHAT RESOURCES ARE NEEDED?

(Verzuh 2011)
The Project Management Game
"Test your skill as a project manager!"

A project management game... its free. To play just assign your staff to the various tasks in the schedule and hit the Start button. Its easy, its fast, and there is nothing to download.

**Project alpha**

<table>
<thead>
<tr>
<th>Task</th>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
<th>Week 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project start</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Calibrate the contraption</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Build the thingamabob</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Restart the thingy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Retool the thingumajig</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sample some widgets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project complete</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Your resources**
Your budget: $864,000

- Jim: Jim is average
- Mark: Mark is expensive
- Bob: Bob is fast and expensive
- Kathy: Kathy is fast

**Spent**

- $0k
- $0k
- $0k
- $0k

[http://thatpmgame.com](http://thatpmgame.com)
CHALLENGE #2: RESOURCES

PROJECT MANAGER’S TRIANGLE

MUST NEGOTIATE TRADE-OFFS SINCE RESOURCES ARE FINITE

(Verzuh 2011)
BUDGETING

Estimating **TIME** requirements

Estimating **MONEY** requirements

Pad, but don’t over-do it

Be **TRANSPARENT** with stakeholders:

- Assumptions used to create the budget
- Reasoning behind any padding

“This is my best estimate, but this is only an estimate”
CHALLENGE #3:

Analysis Paralysis

over-analyzing (or over-thinking)
a situation so that a decision or
action is never taken.

AVOID “ANALYSIS PARALYSIS”
CHALLENGE #4: RISKS

PLAN FOR RISKS / PERFORM RISK ANALYSIS

Identify
Monitor
Treat
Evaluate
COMMUNICATION PLAN

Should be explicitly defined

What?

Who?

How often?

What channels/format?
## Communication Plan

<table>
<thead>
<tr>
<th>To Whom?</th>
<th>What?</th>
<th>How often? / When (date)?</th>
<th>What channels/format?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affected members</td>
<td>Project status update</td>
<td>Weekly</td>
<td>FW: email</td>
</tr>
<tr>
<td>Boss</td>
<td>Status and barriers</td>
<td>Monthly</td>
<td>FV: Face-to-face meeting</td>
</tr>
</tbody>
</table>

### Key to Types of Communication
- **FW**: Formal Written
- **IW**: Informal Written
- **FV**: Formal Verbal
- **IV**: Informal Verbal
<table>
<thead>
<tr>
<th>Leadership &amp; Interpersonal</th>
<th>Professional</th>
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EXECUTE / CONTROL
DOING

MILESTONES / MEASURE PROGRESS

QUANTITY, QUALITY, AND TIMELINESS OF INFORMATION/FEEDBACK

WHAT IS YOUR “DASHBOARD”?  

MILESTONES (DEFINED DURING PLANNING IF POSSIBLE)

MANAGE RISKS

RE-PLAN FOR CHANGING AND UNFORESEEN CIRCUMSTANCES
Challenge #5: Scope Creep

Small changes in a plan or project that necessitates other changes which lead to still more changes...
CHALLENGE #5: SCOPE CREEP

Causes

- Unexpected issues
- Perfectionism / gold plate
- Placating stakeholders
- Misunderstandings
- Your great ideas (Wrong time!)

Change Control

- Define process & expectations
- Web design: “not just adding another button”

http://www.akaroleff.com/content/scope-creep-can-be-managed
http://www.businessdictionary.com/definition/scope-creep.html
KNOWLEDGE AND SKILLS FOR EXECUTE STAGE

**Leadership & Interpersonal**
- Empathy
- Conflict management
- Adaptability
- Organizational management
- Teamwork and collaboration
- Influencing

**Professional**
- Communication
- Project management (technical)
- Delegation

**Executive & Administrative**
- Operations
- Finance
WRAP UP / CLOSE OUT

DELIVER THE DELIVERABLE

AFTER-ACTION REVIEW

ARCHIVE ANY REUSABLE TEMPLATES AND CONTENT FOR FUTURE PROJECTS
AFTER-ACTION REVIEWS

HELD IMMEDIATELY AT END OF PROJECT

INCLUDE LEADERS AND FRONT-LINE STAFF CARRYING OUT TASKS

COMPARE ACTUAL WITH INTENDED (PLANNED) RESULT

EXAMINE REASONS FOR ANY DIFFERENCES

OPEN-ENDED, ACTIVE INQUIRY AND LEARNING

(US Army 1993)
KNOWLEDGE AND SKILLS FOR CLOSE STAGE

**LEADERSHIP & INTERPERSONAL**
- Empathy
- Conflict Management
- Adaptability
- Organizational Management
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- Influencing

**PROFESSIONAL**
- Communication
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**EXECUTIVE & ADMINISTRATIVE**
- Operations
- Finance
TROUBLESHOOTING
PROJECT SCOPE

REAL ISSUE: COMMUNICATION OF STAKEHOLDER NEEDS & EXPECTATIONS

DID SCOPE CHANGE OR "CREEP"?

WAS SCOPE CLEARLY DEFINED AND COMMUNICATED AT THE BEGINNING?

WAS THERE UNDERSTANDING BY ALL PARTIES?

UPON PROBLEM DISCOVERY, CONFLICT MAY ARISE
PROJECT SCOPE: CORRECTING COURSE

CAN PROJECT BE ACCOMPLISHED WITH COMMITTED BUDGET, SCHEDULE?

WHAT ADJUSTMENTS ARE NECESSARY/POSSIBLE?

REAFFIRM SHARED GOALS
DELEGATION TO PROJECT TEAMS

PROVIDE CLEAR ENOUGH DIRECTION AND SUFFICIENT RESOURCES (TIME, MONEY, SPACE, EQUIPMENT, ETC.) TO ACCOMPLISH THE TASK AS DIRECTED

PROJECT MANAGER’S JOB IS TO REMOVE AMBIGUITY FOR TEAM MEMBERS
DELEGATION TO PROJECT TEAMS

**When Delegating:** YOU are still accountable for tasks

**Critical:**

- Tracking progress
- Regular follow-ups

**Levels of initiative:** Preferred = act independently and report back at regular scheduled intervals

Define in Communication Plan
HUMAN DIMENSIONS

PROCRUSTINATION

GETTING UNSTUCK: EXCUSES ARE REALLY NEXT STEP TASKS OR SUB-PROJECTS STANDING IN CRITICAL PATH

HESITANT TO ASK QUESTIONS / APPEAR IGNORANT
CORRECTING FOR PROCRASTINATION

ENSURE UNDERSTANDING OF OUTCOME AND ACTIONS REQUIRED

ENSURE APPROPRIATE RESOURCES PROVIDED

ESTABLISH EARLY CHECK-INS TO VERIFY PROGRESS

MAKE IT SAFE TO FAIL (FAIL EARLY AND FAIL SMALL)
BE AWARE OF OVERLOAD AND BURNOUT!

I HAVE TOO MANY PROJECTS. I'M FREAKING OUT.

EXPERTS SAY YOU SHOULD TACKLE THE MOST UNPLEASANT TASKS FIRST, SO YOU HAVE A FEELING OF ACCOMPLISHMENT AND CONTROL.

NOW I HAVE TOO MANY PROJECTS AND SOME EXTRA ANXIETY THAT I'M DOING THEM IN THE WRONG ORDER.

OFF YOU GO.
TOOLS AND SOFTWARE

SEEK SIMPLE: AVOID TOO MUCH COMPLEXITY
WHAT FUNCTIONALITY DOES YOUR PROJECT REALLY NEED?
WHO NEEDS TO SEE WHAT, WHEN?
WHO IS PUTTING IN INFORMATION AND UPDATING, HOW, AND HOW OFTEN?

*REMEMBER THAT THE US NUCLEAR POWER PLANT FLEET WAS BUILT AND THE MANHATTAN PROJECT CARRIED OUT WITHOUT USING MS PROJECT

(Kuster 2015)
REVIEW AND SUMMARY

Technical aspects of project management use specific techniques and skills.

Good project management is a leadership exercise that demands:

- Communication
- Empathy
- Management of conflicts (preferably by anticipation)
- Tolerance and management of ambiguity
REFERENCES


