

Presented by: Harold Engstrom Founder Innovative Process Solutions, Inc. ISPE Boston Chapter PM COP Liaison Biotech Project Manager



What are we going to talk about? - Project Managers – expense or asset? - Long term impact of Project Mgt on Earnings - Steering Projects by Business Goals (Not going to talk about PM Best Practices Guidelines!)

Preview:

Project Managers are critically important assets

Project management has a huge long-term impact on corporate earnings & level of success

Articulation & Communication of Business Goals are critical to good project management & execution



Projects

Project: capital investment in infrastructure

Why: the company needs it for some reason(s)

Who: the people!

How: people managed by PM according to a plan



Whys of a Project...

Most of us are involved in building labs and manufacturing facilities...

- Short term or Long term reason?
- Flexibility?
- Regulatory constraints?
- Operational cost constraints (optns, maint.)
- · COGS constraints?
- Liability issues?
- Time pressures?



Q: How does Why Guide a Project?

A: Governance.

Project Governance/Steering Committee sets the whys/goals

- User Executives/Owners
- User Project Manager
- Design/Build Project Manager

Guidelines should set clear direction for decisionmaking

Project Team takes Direction from Steering Committee (add another slide where team is listed, emphasize inclusiveness)

Some Typical "Whys"

We need a proof-of-concept to prove value of technology or...

We need a dedicated facility to manufacture one project until we build larger scale production facility later or...

We need a dedicated large scale facility to manufacture one product for 20 years or...

We need a dedicated large scale facility that can make any of several products over the next 20 years or...?

Goals Guide/Constraints Scope & Choices

The Steering Committee should share important constraints:

- 1. COGS goals:
 - Capital depreciation
 - Level of operations/maintenance staffing, material consumption, other operating costs
- 2. Non-uniform Regulatory risks & Liabilities
- 3. Time constraints
- 4. Budget constraints
- 5. Special considerations



Constraints → Good Projects

Project managers know their mandates

- 1. Leads to good decision making
 - · Justification criteria for design decisions
 - · Staffing/Role decisions
 - Capital equipment spending decisions
- 2. Provides Review criteria
- 3. Basis for determining progress and success
- 4. Foundation for setting mandates for reports



Examples of Constraints Guiding Decisions

Steering Committee → PM: Short life, Low cost
Project Manager → Engineers: Short life, Low
cost = PM, lead times, used equipment, etc.

Steering Committee → PM: low COGS, schedule driven, oppty costs high

Project Manager → Engineers: PM and lead time important, costs less important

Give your team a decision matrix!



Typical Roles: Who

- Governance/Steering committee
- User Project Manager
- Design/Build Project Manager
- Plant Manager
- Engineering/Maintenance Manager
- Operations planner/scheduler
- Quality Manager



Our Focus: Project Manager

2 PMs: (assume ethics align them)

- End User
- Engineering/Construction

Cost or Asset:

- · Most frequently seen as a costly burden
 - Consultant or Committed Manager
- Always have one even on failed projects
 - Decisions consistent with business goals made at right levels
- · Cost, time over-runs & quality failures common
 - · Doesn't help PM image!



What Is PM Role?

To Fulfill Steering Committee Goals with Steering Committee Constraints:

- Build functional structure (roles, organization)
- Put in place working processes
- Define goals and constraints for all team members just as was done for him/her
- Measure progress using StC criteria
 - COGS, time, budget, regulatory, liability, etc.



Asset Versus Cost: Impact

2 Projects, same basic goals:

- Single Product Facility, \$2b drug
- Long term manufacturing
- · Time line critical

Vastly Different Outcomes

- \$100m versus \$450m (--\$8m/yr v. -\$36m/yr COGS contribution)
- 14 months versus 3 years
- 50 staff versus 300 staff (\$10m/yr v. \$60m/yr COGS contribution)
- Contractor and Consumables Costs 2X for latter
- Schedule overruns allow competitor to capture \$1b market
- 10% COGS versus 19% COGS



Impact on Earnings (1 important slide!):

Annual COGS difference of \$100m

- 250m shares → \$0.40/share/year \$0.32 after taxes
- 20X multiple = \$1.5b market cap differential
- \$1.2b cash saved
- Much greater financial flexibility that otherwise possible
- Much greater market perception of company's ability to execute

Primary Reason for Difference in Outcomes?: PM!



How Does a PM Become an Asset?

Understand Business Drivers

Apply Business Drivers to Structure and Processes

· Repeatedly ask people to apply standard criteria

Communicate and Include: StC, ProjTeam

- · StC: keep informed, ask for guidance
- ProjTeam: include key players, when friction pull in instead of pushing away

Outline specific project deliverables and demand accountability

Embrace conflict - it is an important canary

Use best practices as applicable



Case: Prove Technology

Business Requirements:

- · Short timeframe, low cost
- Long term maintenance not a concern
- Reliable 3 year production desired
- Goal: enable big tranche of capital investment

Possible/Likely Decisions:

- 2nd tier equipment
- 2nd team (but competent) design/build team
- Little if any flexibility designed in
- Lots of design compromises
- Low capital spend \rightarrow higher operating/maintenance costs



Case: Product Launch

Business Requirements:

- Single product facility
- Low COGS: depreciation & operating costs
- · Short time frame
- · Seek to sell company within 2 years of launch

Possible/Likely Decisions:

- Site chosen for low cost, not location
- · Little to no flexibility
- Risk assessments → savings v. optimization
- "Black box" systems, islands of automation
- Use pre-owned equipment when possible
- Steeply front-end load project (SDTSU)



Case: Tier 1 Large Scale

Business Requirements:

- · Capacity to meet anticipate high demand
- Want FlexibilityNo Risk
- Low COGS
- Long term corporate asset

Good Decisions:

- Design processes well-defined
- Assessments done prior to finished design
- Large project: more communication
- PMs more engaged
 More, not less, focus on specific deliverables
- Schedule more detailed
- · Lots of focus on contracts early on
- Aggressive (but fair) procurement



Summary

- 1. Governance and Communication of Business Goals and Decision Criteria → **Project Success**
- 2. Project Management → Long term COGS impact
- 3. Good project management is a massively important asset (not a cost)

