How Effective Project Planning & Implementation Impacts an Operating Company’s Market Value

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Camargo Associates LLC
Compelling Statements

Many define those ambitions with compelling statements like:

“Our capital effectiveness must be in the top quintile.”

“Our capital predictability must be in the top quintile”

“There will be no accidents or incidents, period”
Focusing On

“Capital Effectiveness”
Equals
Project Actuals
Industry Benchmark

(Where 1.0 is the Average)
## Capital Effectiveness

<table>
<thead>
<tr>
<th>Quintiles</th>
<th>Capital Plan $</th>
<th>Capital Effectiveness Measurement (SAY)</th>
<th># Of Companies Benchmarked (250 SAY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top</td>
<td>0.7 B</td>
<td>0.7</td>
<td>50</td>
</tr>
<tr>
<td>2nd</td>
<td></td>
<td>0.9</td>
<td>50</td>
</tr>
<tr>
<td>3rd</td>
<td>1.0 B</td>
<td>1.0</td>
<td>50</td>
</tr>
<tr>
<td>4th</td>
<td></td>
<td>1.2</td>
<td>50</td>
</tr>
<tr>
<td>5th</td>
<td>1.6 B</td>
<td>1.6</td>
<td>50</td>
</tr>
</tbody>
</table>

*Capital Effectiveness*
# Capital Project Work Process

<table>
<thead>
<tr>
<th>Planning</th>
<th>Execution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> Concept</td>
<td><strong>4</strong> Procurement</td>
</tr>
<tr>
<td><strong>2</strong> Options</td>
<td><strong>4</strong> Construction</td>
</tr>
<tr>
<td><strong>3</strong> Preliminary Design</td>
<td><strong>5</strong> Start-Up</td>
</tr>
<tr>
<td><strong>4</strong> Detail Engineering</td>
<td></td>
</tr>
</tbody>
</table>

## Project Authorization

<table>
<thead>
<tr>
<th>Phase</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept</td>
<td>2%</td>
</tr>
<tr>
<td>Options</td>
<td>1½%</td>
</tr>
<tr>
<td>Preliminary Design</td>
<td>3.5%</td>
</tr>
<tr>
<td>Detail Engineering</td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td></td>
</tr>
<tr>
<td>Start-Up</td>
<td></td>
</tr>
<tr>
<td>Procurement</td>
<td>93%</td>
</tr>
</tbody>
</table>

Effective Project Cost Distribution (Normal Distribution)

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Owner Input & Decision Making

Reasons for NOT Achieving Top Quintile Performance

Quality Of Owner’s Input And Decision Making
Premise:

“No one knows their business better than the owner”

Major owner’s sources of input / knowledge

- Business Unit
- Operations / Production
- Maintenance
- Engineering
- Projects
- Health, Safety, Environment
- More
Owner’s Critical Input

- Scope of Work
- P&IDs
- Process Description
- Process Flow Description
- Control Strategies
- Hazard Review
Difficulty Getting Owner’s Input

- Lack of Resources
- Lack of Time
- Uptime
- Urgent vs. Important
- Junior vs. Senior Expertise
- Poor Engagement
- Wasteful Meetings
System Model Communication

- Pre-existing corp. alignment is strong
- Top Quintile Performance
- I maintain a strong, trusting relationship with project group
- I will have to win them over with a reluctant engineering group
- I actively lead in project communication
- I believe my input is critical
- Fear of decision failing
- Contractual issues
- Individual and/or group who is responsible
- Communication metrics should be in place
- Lack of corporate funding to work on projects
- No-one holds me accountable
- If work slows down we’ll have more time
- Understanding the of impact of poor communication
- Effective re-occurring communication between groups
- My other accountabilities keep me busy
- Current priorities trivialize projects
- Require detailed information on decisions timing
- Fear of decision failing
- Requires detailed information on decisions timing
- Current priorities trivialize projects

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Capital Project Work Process

- Quality of Critical Owner’s Input / Decisions
Capital Project Work Process

Waves of Critical Owner’s Input and Decisions

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Capital Project Work Process

- Quality of Critical Owner’s Input / Decisions

1% 0.5% 2%
Grows from 93% to 110% or more

Project Cost Distribution 4th and 5th Quintile Owners

Cost and Schedule Growth

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“The Double Bet”

<table>
<thead>
<tr>
<th>Company Owner Understanding Of What They Need</th>
<th>Hi</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Value</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One Sided Solution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL JOINT SOLUTION</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Partner Understanding of What the Operating Company Needs
How Does “NetPoint” Help?

- More detailed scheduling around input / review
- Allows smaller meeting schedules to break down details
- “Slicing the Salami”
  - Process
  - Hazards
  - PFDs
  - Control & Safety
  - P&IDs
  - Others
- Improves process safety input / reviews
Get Them to the Table with NetPoint

Work with the tool that engages all stakeholders, not just scheduling experts, in productive planning meetings

To get more from your entire team
Pick your Scheduling Approach

Maybe the organization conducts planning sessions with post-its

- Add NetPoint for collaborative review as final step of process
- With no handover to scheduler for calculation
- Or skip post-its altogether and go straight to NPT for real time electronic full-wall scheduling before your eyes

To get higher yield engagement earlier
Improve Critical Deliverables

Gate 1 Deliverables
1. Project objectives
2. Feasibility study report
3. Market study
4. Identification & preliminary screening of options
5. Alternative analysis and test study plan Developmental projects
6. Regulatory and permitting
7. Requirements evaluation
8. Order of magnitude cost estimate
9. Economic analysis
10. Qualitative risk analysis
11. Project execution strategy
12. Stage schedule
13. Approved stage design plan
14. Recommendations for path forward

Gate 2 Deliverables
1. Updated project objectives
2. Project execution plan with contracting & procurement strategy
3. Project procedures
4. Process description
5. Process design guide and criteria
6. Design safety & environmental requirement plan
7. Preliminary site plan & plot plan, PFTs, or red lining of existing PN IDs, HN M ballots, materials selection diagrams, preliminary equip list with process design data, long lead equip data sheets, preliminary motor list, preliminary building sizes
8. Control systems philosophy
9. Utility summary & infrastructure requirements
10. Catalyst and license agreement
11. Project schedule
12. Study cost estimate, + or -25-30%
13. Overall economic analysis
14. Conceptual stage report
15. Recommendations for path forward

Gate 3 Deliverables
1. Updated project objectives updated project execution plan
2. Updated project procedures
3. Updated process description
4. Design basis
5. Site and plot plans, equipment location plans, preliminary piping layout model, PF D’s and H&M balance, material selection diagrams, process & utility diagrams, building plans & elevations, equip list & data sheets, line list, tie-in list, buyer protection requirements, electrical single lines, motor list, area classification, control system index and specs for special instrument or control requirements, geotechnical report
6. Request for alliance quotes & bid tab, major equipment
7. Purchase requisitions for major equipment A
8. Appropriate regulatory and permitting documents
9. Project schedule with resources and loaded CPM
10. Cost control estimate
11. Updated economic analysis
12. Preliminary engineering stage report complete
13. Recommendations for path forward
14. Constructability checklist click complete

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Get the Total Joint Solution

- More expert feedback throughout the early phases
- Expose issues earlier by better qualifying early deliverables
- Smooth out the tsunami effect of major decisions in Gate 3
- Better go/no go decisions
## Financial Impact to Company “A”

### Real Company “A”

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
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<tbody>
<tr>
<td>Market Cap</td>
<td>$13.4 B</td>
</tr>
<tr>
<td>Revenue</td>
<td>$16.6 B</td>
</tr>
<tr>
<td>Net Income</td>
<td>$1.3 B</td>
</tr>
<tr>
<td>Capital Project Spending</td>
<td>$1.2 B</td>
</tr>
<tr>
<td>PP&amp;E</td>
<td>$4.4 B</td>
</tr>
<tr>
<td>Depreciation</td>
<td>$0.5 B</td>
</tr>
<tr>
<td>Share Price 1-1-14</td>
<td>$90</td>
</tr>
<tr>
<td># of Shares Outstanding</td>
<td>149 MM</td>
</tr>
<tr>
<td>Average PE</td>
<td>10.2 x</td>
</tr>
</tbody>
</table>
Capital Project Delivery Improvement

- Using CAPM – Capital Asset Pricing Model to determine the Intrinsic value of the stock assuming a “capital effectiveness” of 1.4

- Reassessed the value using a capital effectiveness of 1.0 changing the capital spending over a two year period (2014 thru 2015)
  - Analysis variables:
    - Capital Spending
    - Free cash flow
    - Depreciation
    - Earnings

- Assumptions of the future performance based on past:
  - Revenue Growth of 10% per yr. (conservative) over 10 years,
  - Then a terminal growth of 4% (very conservative) for the next 10 years
  - NPV of 12%
Capital Project Delivery Improvement

Company "A"

<table>
<thead>
<tr>
<th>Current Stock Price</th>
<th>Intrinsic value (1.4)</th>
<th>Intrinsic value (1.0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>144</td>
<td>183</td>
</tr>
</tbody>
</table>

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Impact

- **Company “A” - Private sector**
  - Capital Expenditures Savings over 20 years
    - $ 26.4 B
    - NPV (12%) - $ 17.2 B

- **Public Sector – Benefit Cost Ratio**
  - $ 1.2 B capital spending (annual)
    - NPV (4%) - $ 18.5 B Savings
    - BCR = 1.34, means that the benefits outweigh the costs by 34%
It Takes Two...

Owner

Core Knowledge

Improve Technology

Innovation

Partner

Core Knowledge

Improve Technology

Innovation
Groups of Knowledge Coming Together
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PRESENTED BY:

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