Project Portfolio Management: Metrics that Work

James C. Brown
Sr. Manager, Research PMO
Pioneer Hi-Bred International
Agenda

PPM Interest
What is Project Portfolio Management?
Challenges
Myths
Benefits
Implementation Steps
Portfolio Management Models
Types of Portfolio Metrics
Measurement Lessons
Dashboard Tips
Sample Dashboards
Screenshots
Project Portfolio Management: Metrics that Work

PPM Interest
Definitions
Challenges
Myths
Benefits
Implementation Steps
PPM Interest

“PPM”-related Searches by Industry
March 2010 – Feb 2011

- Transportation (91%)
- Finance/Public Sector (30%)
- Manufacturing (16%)
- Services (11%)
- Healthcare (8%)
- Energy (5%)
- Retail (4%)
- Misc (3%)
PPM Interest

“PPM”-related Searches by Geography
March 2010 – Feb 2011

North America (69%)
Europe (21%)
Asia-Pacific (6%)
Latin America (4%)
Africa (1%)
PPM Interest

“PPM”-related Searches by Size of Enterprise
March 2010 – Feb 2011

- Large (56%)
- Edu, Gov, Public Sector (30%)
- Small & Midsized (14%)
Project Portfolio Management

From *PMBOK 4th edition*:

The centralized management of one or more portfolios, which includes identifying, prioritizing, authorizing, managing, and controlling projects, programs, and other related work, to achieve specific strategic business objectives.
PPM Scope

PPM allows an organization to measure the impact of project management on procurement, human resources, cost, and product quality at a company-wide level.

Program level – cumulative management of projects contributing to common program objectives.

Portfolio – allows programs or projects to be prioritized for completion by strategic goals, revenue, operational and functional objectives.
Who is your PPM audience?

Most senior executives are not interested in the measures of success used by project management:

- scope
- time
- cost
- quality

Their measures of success are:

- profitability
- return on investment
- delivery of benefits
- taking advantage of windows of opportunity
Who is your PPM audience?

Executives used to be interested in just two things about projects:
- when will they be finished
- what they will cost

Executives are now more interested in:
- what mix of potential projects will provide the best utilization of human and cash resources to maximize long-range growth and return on investment for the company?
- how do the projects support strategic initiatives?
- how will the projects affect the value of corporate shares (stock)?
Project Portfolio Management

From *Project Portfolio Management: A Practical Guide to Selecting Projects, Managing Portfolios, and Maximizing Benefits* (Harvey A. Levine)

The bridge between traditional operations management and project management.
## Past/Current State

<table>
<thead>
<tr>
<th>Operations Management</th>
<th>Project Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategies</td>
<td>Schedule/time</td>
</tr>
<tr>
<td>Objectives, goals</td>
<td>Project costs</td>
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<tr>
<td>Business performance</td>
<td>Project performance</td>
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<tr>
<td>Stockholder satisfaction</td>
<td>Stakeholder satisfaction</td>
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<tr>
<td>Project selection and mix</td>
<td>Scope/change control</td>
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<tr>
<td>Resource availability</td>
<td>Resource utilization</td>
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<tr>
<td>Cash flow, income</td>
<td>Cash usage</td>
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</table>
PPM as the Hub

- Resource Availability
- Strategic and Tactical Plans
- Business Performance
- Budget and Cash Flow
- Project Selection and Portfolio Management
- Scope, Change, Cost Control
- Opportunity Management (Projects)
- Demand (Internal Projects)
- Risk Assessment and Management
- Resource Allocation
- Project Control and Performance
Project Portfolio Management

PPM Enables Project Selection

- Aligns projects with organization priorities and capabilities
- Top-down **governance** approach to determine which projects to fund
- Uses a set of project selection criteria to rank project proposals
- Creates a diversified project portfolio by selecting a proper mix of project work across different technologies and lines of business
- Maps project work to individual applications within the portfolio
Challenges of PPM

Organization

- Projects are often driven and defined by customers who set the milestones, schedules etc.
  - Consulting engagements

- In some industries project timescales reflect product lifecycles and can be up to 40 years long.
  - Defense, Infrastructure, Pharmaceutical

- The other end of the spectrum is a three to four month project timescale
  - Mobile phones, computers, electronic games
Challenges of PPM

Cultural

• There is a big brother perspective.

• Management not buying into the process because they may get exposed. Pet projects become exposed.

• Heard more failure stories than success.

• Brings a level of detail that may create a fear factor among some.
Challenges of PPM

Knowledge

• There is a lack of knowledge from consultants in this space.

• Reliance on consultants to solve the problem. Implementation of PPM is a change management process.

• Advocated by software consultants, but often they are not equipped to address issues around change management.

• The consultancy market tends to use a ‘bus load’ of consultants for large software deployment and this is a dead end.

• Some design at a very high level of maturity (e.g. level four of five) but the majority of companies are below level three.
MM: Three Dangerous Myths

Myth 1: PPM resides with IT

Defining a PPM rollout involves strategic questions often outside IT's purview.

What are all the company projects under way or in the queue? Are they projects the company should be doing? How does each relate to its strategic initiatives? How are they prioritized? Budgeted? Resourced? Which business lines are profiting by them, and which are not? How does management obtain insights into their progress?
PPM: Three Dangerous Myths

Myth 2: The Right Tool Drives PPM Success

Begin with an assessment of the organization's PPM maturity level and its appetite and ability to advance. If it's at level 1 now, realistically how feasible is level 4 or 5, and how rapidly can the company achieve it?

- Is there an executive commitment to the effort and expense involved?
- Is the rest of the organization prepared for the effort?
- What path will maturity take?
- What business benefits must PPM deliver?

The choice of tool is secondary to these considerations. The best tool is the one that most fully serves the very particular needs of the company, regardless of the judgment of the technology marketplace.
PPM: Three Dangerous Myths

Myth 3: The Best Starting Place is PPM Best Practices

Rarely are companies ready to implement PPM best practices out of the gate.

Start first with:

- Standard definitions
- Cost and benefits estimates
- Labor and non-labor estimates
- Stakeholder impacts

- Measureable success criteria
- Return on investment
- External dependencies
- Stakeholder inputs
Benefits of PPM (but not a Silver Bullet)

1. Getting products to market on time resulting in safeguarded or increased revenue.

2. Driving delivery of quality products with increases client satisfaction and reduces warranty claims.

3. Reducing cost through supporting procurement in the effective acquisition and use of material resources.

4. Increasing productivity by assigning human resources to priority work and ensuring that they are assigned according to their skill sets.
Benefits of PPM (but not a Silver Bullet)

5. Increasing profitability by emphasizing projects that provide maximum return on investment.

6. Planning/forecasting human resource and equipment demand and comparing them to available resource and equipment in order to better understand enterprise capacity and meet present and future human resource and equipment needs.
Implementing PPM

1. Apply a PPM approach to the management of their projects.

2. Identifying what scope of programs/projects is to be managed with the PPM system.

3. Determining what project performance information is measured for example, duration vs. effort vs. costs.

4. Developing and employing a common methodology, including inputs, processes, roles and outputs, to manage the completion of priority projects.

5. Selecting the right technology tools to support their PPM system.
Implementing PPM

6. Role training project and product management resources on the use and application of the methodology.

7. Measuring compliance on the use of the methodology and configuring tools to gather and report performance information.

8. Acquiring and maintaining management’s support in the ongoing use and improvement of PPM.
Project Portfolio Management: Metrics that Work

Portfolio Management Tools
Examples of Portfolio Management Models

- Portfolio Value vs. Cost
- Capital Expenditure vs. Non-Capital
- Effort Hours and ROI
- Strategic Impact Matrix
- Risk vs. Return Chart
- Launch Pipeline Calendar
- Market by Technology
- Newness Risk vs. Innovation
- Minimum Requirement Checklist
- And more . . .
Strategic Linkage

Mission

Goal

Goal

Goal

Goal

Strategies:

- Strategy
- Strategy
- Strategy
- Strategy
- Strategy
- Strategy
- Strategy
- Strategy

Projects:

- Project x
- Project 1
- Project 2
- Project 3
- Project 4
- Project 5
- Project 6
- Project 7
- Project 8
- Project 9
- Project 10
- Project 11
- Project 12
- Project 13
- Project y

Ends:
Desired outcomes

Means:
Methods to achieve them

What:
Actions we will take
Sample Strategy Elements

Mission

- Growth to $5 Billion
  - Improved customer satisfaction
  - Increased $ from new products

Acquisitions
- Buy & integrate Y
- Buy & integrate Z

Developing sales channels in Asia
- Research & recommend 3 channels
- Establish IP security
- Establish 5 customer involvement centers

Continuous customer participation in our decisions
- Fund university Collaborative X
- Build sustainable recurring program

Building industry-leading competence in X

Ends
- Goals

Means
- Strategies

Project/Program Candidates for Portfolio
Project Scoring Model

Total Project Score

- Project Deliverable
  - Total Cost
  - Scope
  - Duration
  - Quality

- Value to the Organization
  - Financial
    - ROI
    - Payback Period
    - Benefit/Cost Ratio
  - Strategic
    - Competitive Issues
    - New Business Issues
    - Capability Improvement
Project Scoring Model  (Addition of Schema, Points)

Total Project Score  
70 of 100 points

- Project Deliverable  
  30 of 40 points
  - Total Cost  
    5 of 10 points
  - Duration  
    5 of 8 points
  - Scope  
    10 of 12 points
  - Quality  
    10 of 10 points

- Value to the Organization  
  40 of 60 points
  - Financial  
    20 of 24 points
    - ROI  
      6 of 8 points
    - Payback Period  
      4 of 4 points
    - Cost-Benefit Ratio  
      10 of 12 points
  - Strategic  
    20 of 36 points
    - Competitive Issues  
      4 of 6 points
    - New Business Issues  
      10 of 12 points
    - Capability Improvement  
      6 of 18 points
The Popular Risk-Reward Bubble Diagram

Projects are plotted as bubbles on this two-dimensional risk and reward grid. The bubble sizes denote the resources committed to each project.

Source: Cooper, Edgett, and Kleinschmidt, "Portfolio Management for New Products"
Launch the Right Programs
Select high value – low risk programs

- High Value, High Risk: Postpone, Shift Right
- High Value, Low Risk: Good to Go
- Low Value, High Risk: Rethink
- Low Value, Low Risk: Retarget, Shift Up
Resource Allocation in the Portfolio

### Breakdown by Project Types
- **Cost Reductions**: 27% (Target=10%)
- **New Products**: 23% (Target=40%)
- **Platforms**: 9% (Target=15%)
- **Fixes**: 18% (Target=10%)
- **Extensions**: 23%

### Breakdown by Market Sector
- **Medical**: 10% (Target=10%)
- **Automotive**: 20% (Target=20%)
- **Industrial**: 25% (Target=20%)
- **Residential**: 39% (Target=40%)
- **Institutional**: 6% (Target=10%)

23% Target=40%
27% Target=10%
20% Target=10%
0x0
## Objectives Matrix

<table>
<thead>
<tr>
<th>Objective</th>
<th>Project 1</th>
<th>Project 2</th>
<th>Project 3</th>
<th>Project 4</th>
<th>Project 5</th>
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<th>Project 12</th>
<th>Project 13</th>
<th>Project 14</th>
<th>Project 15</th>
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<td>Increase Capacity/Headcount Ratio</td>
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<td>Establish Infrastructure for Growth</td>
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</tbody>
</table>

### Column Scores:

- **5**: No Contribution (0)
- **2**: Supports (1)
- **3**: Fulfills (2)

### Row Scores:

- **7**: Establish Competitive Product Lines
- **8**: Maintain Product Competitiveness
- **10**: Reduce Operating Costs
- **7**: Increase Capacity/Headcount Ratio
- **6**: Establish Infrastructure for Growth
- **4**: Maintain Infrastructure
- **4**: Growth Through Acquisition
Project Portfolio Management: Metrics that Work

5 Types of Portfolio Metrics
Measurement Lessons
Dashboard Tips
<table>
<thead>
<tr>
<th>Category</th>
<th>Key Questions</th>
<th>Sample Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portfolio Mix</td>
<td>Is our funding aligned to strategic objectives?</td>
<td>% of Portfolio spend in “run the business”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of Portfolio in “grow the business”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of Portfolio in “innovate the business”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of Portfolio in Short/Medium/Long-term projects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of portfolio in Large and Extra Large Projects</td>
</tr>
</tbody>
</table>
## 5 Types of Portfolio Metrics

<table>
<thead>
<tr>
<th>Category</th>
<th>Key Questions</th>
<th>Sample Metrics</th>
</tr>
</thead>
</table>
| Demand & Capacity     | Do we have the right prioritization and sequencing of projects given current capacity? | % of growth in project intake  
% of growth in initiatives  
Resource utilization (human, material, capital)  
Recruiting pipeline  
Production capacity |
## 5 Types of Portfolio Metrics

<table>
<thead>
<tr>
<th>Category</th>
<th>Key Questions</th>
<th>Sample Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>For our portfolio, to what extent did we achieve our objectives?</td>
<td>% on time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% on budget</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Portfolio and sub-portfolio IRR</td>
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<tr>
<td></td>
<td></td>
<td>$ saved for consolidation efforts</td>
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</tbody>
</table>
### 5 Types of Portfolio Metrics

<table>
<thead>
<tr>
<th>Category</th>
<th>Key Questions</th>
<th>Sample Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portfolio Health</td>
<td>For programs/projects in-flight, how is our execution progressing?</td>
<td>Counts and amounts for programs and projects</td>
</tr>
<tr>
<td></td>
<td></td>
<td># of issues by severity</td>
</tr>
</tbody>
</table>
## 5 Types of Portfolio Metrics

<table>
<thead>
<tr>
<th>Category</th>
<th>Key Questions</th>
<th>Sample Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Management</td>
<td>How effectively are we managing program and project budgets and what are the financial trends?</td>
<td>% variance to plan</td>
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<tr>
<td></td>
<td></td>
<td>% funding in-flight</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$ committed but not spent</td>
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</tbody>
</table>
Portfolio Measurement Lessons

Introduce new metrics only when necessary

Quality versus Quantity

Prototype early and often

Data credibility is key to adoption success

Keep the visuals clear and messages crisp
10 Dashboard Tips

1. Know the questions your dashboard is trying to answer before building it

2. Make sure you can actually collect the data you want to measure

3. Know your audience and understand how they consume information

4. Begin by summarizing and analyzing data you already deliver
Dashboard Tips

5. Your first dashboard should never use a dashboard tool – That will come later

6. Dashboards should always have a printable version

7. Incorporate application instrumentation into system design process

8. Make sure those responsible for creating the dashboard understand who is reading it – it will increase quality
Dashboard Tips

9. Create a report to perform checks and balances on core dashboard data to increase credibility

10. Keep a list that tracks decisions and changes made as a result of dashboard analysis; attach quantitative and qualitative benefits that result
Sample Dashboards

Portfolio Management Template

Future Cost Model 5 Year Plan (Excel based PPM)
Wrap Up

What is most important is that you do it

Pick the analytics that fit your business and company

Find what works / is accepted, and use it consistently
Thank You!

James Brown, PMP, PGMP, OPM3, PMI-SP

e-mail: james.brown@pioneer.com
Potential Enterprise Tools $$$$$

Gartner (June 2010)
## Portfolio Selector

<table>
<thead>
<tr>
<th>Test</th>
<th>Example Unit</th>
<th>Qualification</th>
<th>Launch</th>
<th>Development</th>
<th>Definition</th>
<th>Cost</th>
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## Portfolio Selector

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### Notes
- Sustaining Engineering
- Concept Start
Technology Solution Sample Screens
Achieve PPM Success

Methods – employ a common methodology

Human Resource and Organizational Competency – train on a common PM process

Technology Tools – through consistent, concise, relevant, reliable and timely information

Performance Measurement

PPM Scope – decide which projects should be managed by its PPM system