NPD Portfolio Management for a Global Manufacturer

PLM BEST PRACTICE CONFERENCE 2009
SEOUL KOREA
Introducing PRTM

PRTM is Premier Operational Strategy Consulting Firm Specializing in Operational Innovation

- 30년 이상의 운영전략, 혁신 및 실행 (Operational Strategy, Innovation and Execution)
  - 제품개발 혁신: PACE® (Product And Cycle-time Excellence)
  - 공급망 혁신: SCOR® (Supply Chain Operations Reference)
- 1,200여 고객사를 대상으로 6,000회 이상의 프로젝트 수행
- 90% 고객이 프로젝트 수행 재 요청
- Consulting Magazine 및 Kennedy Research 에서 “다시 일하고 싶은 좋은 컨설팅 회사” 선정
- 전세계 총 600명 이상의 컨설팅트 보유 및 18개 사무소 운영
- Samsung SDS와 전략적 제휴 체결 (2007)
What is Portfolio Management?

Portfolio Management supports management investment decisions

- Setting, communicating, and aligning project priorities with a company’s strategy
- Choosing the level of investment in projects relative to others
- Making strategic resource allocations

Portfolio Management’s scope includes all types of projects competing more or less for the same scarce resources

- New product development, IT, capital deployment, technology development, customer care, infrastructure, six sigma, acquisition integration, business process improvements
- Includes ongoing, potential, and planned projects
What is Portfolio Management?

Portfolio Management is at the heart of innovation management.
Why Companies Should Care

Informal Approach
- Non-rigorous selection criteria
  - Projects cancelled late
  - Constant second guessing

Weak decisions
- Good projects starved
  - Incremental approach
  - Missed Opportunities

Non-rigorous selection criteria
- Resources spread thin
  - New project queue grows
  - Quality of execution suffers

Problematic Decisions
- Slow, late projects
- Business value not delivered

Poor Business Performance
- Few high value projects
- Too many low value projects
- Development budgets wasted
  - Projects languish, adoption is slow

Case Study Overview: SmartCo

Two billion dollar global supplier and solutions provider with a strong brand equity; markets thousands of products in 60+ countries

Approach:
- Implemented PACE® project and portfolio excellence with PRTM
- Deployed IT-enabled portfolio and process management with Sopheon Accolade

Opportunities
- Opportunities for high-value promotions and tie-ins
- Innovative solutions to drive increased premiums
- Grow market share leadership
- Leverage brand to demand premiums
- Maintain/extend dominance of channels

Possibility: profitable growth

Threats
- Complexity of products increasing
- Increasing commoditization pressures
- The Wal-Mart effect
- Demand for greater product variety/SKU proliferation
- Poor historical track record for project execution

Reality: revenues and margins weakening

Results:
- Dramatic reduction in time to market
- Improved project execution capability
- Reduced administrative burden
- Increased profitability

Possibility: profitable growth
SmartCo Had Hit a Roadblock

SmartCo Lacked Consistent, Strong Project Management Skills

- Project management not integrated; not able to emphasize cross-functional interdependencies
- Project accountability not clearly defined
- Frequent specification/scope changes
- No effective processes or systems to estimate project schedules or resource requirements
- Most project teams unable to develop or manage realistic work plans
- No consistency of process across multiple divisions and locations

The Corporate Portfolio Could Not Be Harmonized Across Opportunities

- Difficult to obtain a realistic forecast of resources and a corporate roll-up of resource supply/demand
- Resource allocation sub-optimized
- Broad portfolio and resource availability not integrated into stage reviews
- Unable to make tradeoff decisions across new product development opportunities
- Difficult to obtain corporate NPD views
- Manual tools not in real time and insufficient to support decision making
Goal: Move SmartCo to Portfolio Excellence

Capabilities are typically additive and implemented in stages, leading to breakthrough improvements.

**Stage 0**
Informal Management
Practices based on individual experience

**Stage 1**
Functional Management
Management of activities within functions to drive quality and consistency

**Stage 2**
Project Excellence
Excellence within and across functions to drive effective, rapid execution from concept through product retirement

**Stage 3**
Portfolio Excellence
Alignment of strategic processes and plans to drive innovation, platform leverage, and portfolio balance

**Stage 4**
Cross-Enterprise Excellence
Collaboration with partners, suppliers, and customers to optimize value, responsiveness, and development of resources across enterprises

**SmartCo Prior to Project**

**Average for Industry**

**Average Growth:**
- Stage 0: 8%
- Stage 1: 12%
- Stage 2: 19%
- Stage 3: —

**Profit Advantage:**
- Stage 0: 35%
- Stage 1: 54%
- Stage 2: 67%
- Stage 3: —

**TTM Index:**
- Stage 0: 2.0
- Stage 1: 1.0
- Stage 2: 0.8
- Stage 3: —
SmartCo’s Processes Provided a Skeleton

Benefits of the Existing Staged Development Process

- Brought structure to a situation that was nearly in chaos
- Introduced common terminology to an organization that was not very process mature
-Outlined expectations for a new product as it moved through the development cycle

Limitations of Generic Staged Development Process

- Difficult to coordinate cross-functional, cross-group work
- No credible way to test the reasonability of project schedules
- No management across projects
- Little emphasis on critical path project planning and management
- Did not always provide adequate info for effective decision making
- Decision processes not well defined
- Resourcing priorities unclear

Existing Processes Could Not Enable Best-in-Class NPD Performance
Improvements Required to Attain Goal

Putting “Meat on the Skeleton”…

- Optimized coordination among functions and teams by including well-defined roles and responsibilities
- Designed tools, templates, and processes for cross-project and cross-divisional consistency
- Developed planning standards based on project complexity and major blocks of work
- Integrated critical path into standard work plans
- Emphasized high-quality information availability for evaluation and tradeoff analysis
- Structured the front-end discovery process to increase the innovation pipeline flow
Three Primary Objectives

1. Maximize Value
   - Maximize corporate NPD return
   - Emphasize value measures other than financial (e.g., urgency, complexity)

2. Balance Resources
   - Balance resource supply and demand
   - Align priorities with staffing decisions

3. Link to Strategy
   - Create a portfolio of programs that helps achieve corporate objectives
   - Ensure that development of priorities aligns with business strategy
**Goal: Create Corporate Portfolio Excellence**

*Clear* roadmap for cross-functionally managing new product development efforts

*Credible* estimates to forecast project cycle-times and the multi-functional resources required for individual projects

*Optimized* standard project management template applicable across all project types,

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**Structured Development Process**

**An Optimized, Critical Path Enabled Project Management Roadmap Is Developed for Each Development Project**

**Cycle-Time and Resource Standards**

<table>
<thead>
<tr>
<th>Project Type / Complexity</th>
<th>Average Best-in-Class Cycle-time (months)</th>
<th>Typical T&amp;D Resources (FTE's)</th>
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<tbody>
<tr>
<td>High (&gt;6.0)</td>
<td>4.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Medium (&gt;3.5, &lt;6.0)</td>
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<td>4.01</td>
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<tr>
<td>Low (&lt;3.5)</td>
<td>20.9</td>
<td>15.84</td>
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</table>

**Generic Project Management Template**

**Customized MS Project Work Plan**

- Resources
- Critical path
- Deliverables
1. Action on Questionable Project Investments

**Accolade Product Portfolio Prioritization**
As of 20 September 2004

<table>
<thead>
<tr>
<th>Active Status</th>
<th>Gate Score</th>
<th>Product Name</th>
<th>Target Market</th>
<th>Stage</th>
<th>2005 Cost</th>
<th>Current NPV</th>
<th>Current IRR</th>
<th>Tech Success</th>
<th>Comm Success</th>
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2005 Costs (Active Projects) = $82,650

Current NPV (Active Projects) = $84,272

Products by Likelihood of Success

Number of Active Projects: 17
2. Critical Skill Sets Balanced

Accolade Resource Usage Analysis
As of 05 October 2004

Net Capacity vs. Demand by Demand Type

Resource Pool: Chemists (FTE)

Chart Area

- Requested
- Assigned
- Net Capacity

Oct 2004
Nov 2004
Dec 2004
Jan 2005
Feb 2005
Mar 2005
Apr 2005
May 2005
Jun 2005
Jul 2005
Aug 2005
Sep 2005
3. Investment Consistent With Strategy

- **2005 Costs by Strategic Bucket**
  - Costs (Active Projects): $53,750

- **Current NPV by Strategic Bucket**
  - NPV (Active Projects): $15,549

- **Products by Likelihood of Success**
  - Number of Active Projects: 20

- **2005 Costs by Strategic Bucket**
  - Costs (Active Projects): $52,650

- **Current NPV by Strategic Bucket**
  - NPV (Active Projects): $84,272

- **Products by Likelihood of Success**
  - Number of Active Projects: 17
4. Prioritized Projects Adequately Staffed
5. Decision Processes Operationalized to Teams
6. Processes Monitored to Track Improvement

- Diagram: Process Effectiveness

- Description: The chart enables executives and process managers to assess how well adopted in the Stage-Gate process over time, based on the number of deliverables that are completed or marked "Not Required." The more deliverables that are marked "Not Required," the less successful is the process adoption. Over time, there should be an increasing trend toward deliverable completion, and fewer deliverables marked "Not Required."
7. Reduced Administrative Burden

<table>
<thead>
<tr>
<th>Stage-Gate Evaluation Criteria</th>
<th>Other Risk Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Fit</td>
<td>Probability of Commercial Success 8</td>
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<tr>
<td>Product &amp; Competitive Advantage</td>
<td>Probability of Technical Success 9</td>
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<tr>
<td>Market Attractiveness</td>
<td>Market Newness 6</td>
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<td>Synergies</td>
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<td>Technical Feasibility</td>
<td>Competitive Strength 7</td>
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<tr>
<td>Financial Reward vs. Reward</td>
<td>Ease of Implementation 6</td>
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<tr>
<td>Project Attractiveness (Gate Score) 8.00</td>
<td>Degree of Financial Risk 8</td>
</tr>
<tr>
<td></td>
<td>Are There Any “Killer” Variables? No</td>
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</tbody>
</table>
Improvements Applied to Critical NPD Areas

Corporate Portfolio Management
- Ensured a tight focus on the most valuable opportunities
- Linked R&D investment with business strategy and risk
- Provided ability to manage critical resources

Operationalized NPD Process
- Upgraded staged development process with cross-functional integration and project management capability
- Aligned lexicon, behaviors, and metrics to increase transparency, predictability, and adoption
- Structured decision forums for effective governance across the company

Enabled Tools and IT Systems
- Used systems and role-based process workflows to make decisions executable and controllable
- Dramatically reduced administrative burden
Results: 66% Reduction in Time to Market

Cycle-Time Performance Before and After Improvement Initiative

Previous Performance

New Performance

66% Reduction Realized

Also
- Increased market share
- Increased product revenue
- Decreased cost
- Increased profitability
Portfolio Management Improves Performance

- Maximizes Value
- Improves Strategic Fit
- Achieves Balance