Innovation Portfolio Management: Balancing Value and Risk

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<table>
<thead>
<tr>
<th>TIME</th>
<th>CONTENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:45</td>
<td><strong>Open Innovation: Gateway to Breakthrough Ideas</strong></td>
</tr>
<tr>
<td></td>
<td>A case-based best practice presentation on how Amway Corp established an Open Innovation (OI) team to capture emerging technologies and support a stage-gate product development process.</td>
</tr>
<tr>
<td></td>
<td><strong>FACILITATOR:</strong> Keith O’Brien, <em>Vice President, Global Research, Growth Team Membership,</em>™ Frost &amp; Sullivan</td>
</tr>
<tr>
<td></td>
<td><strong>CO-FACILITATOR:</strong> David Groh, <em>Manager of Health &amp; Beauty New Technology R&amp;D,</em> Amway Corp.</td>
</tr>
<tr>
<td>10:45</td>
<td><strong>Innovation Portfolio Management: Balancing Value and Risk</strong></td>
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<td></td>
<td>A case-based best practice presentation on how a B2B company implemented a system to evaluate and compare the value and risk of all projects in the innovation portfolio.</td>
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<tr>
<td></td>
<td><strong>CO-FACILITATOR:</strong> David Matheson, <em>President &amp; CEO, SmartOrg, Inc.</em></td>
</tr>
</tbody>
</table>
The Growth Team Membership™ (GTM)

GTM is a subscription program that supports executives within the functions that report to the CEO

CEO’s Growth Team™

GTM provides best practices, events, and services that enable executives to address challenges within their companies

GTM: Creating Client Value

1. Speed the design and implementation of initiatives by not reinventing the wheel
2. Save money and reduce risk by avoiding mistakes made by other companies
3. Accelerate problem-solving with a cross-industry perspective
4. Improve their functions’ and companies’ performance and productivity
### Profiled Best Practice Company

**Firm:** Beta Inc.*  
**Industry:** Information and Communication Technology  
**Headquarters:** United States  
**Geographic Footprint:** Global  
**Ownership:** Public  
**Revenue (2011):** $3–5 billion USD

* Beta Inc. is a pseudonym. All statistics in this guidebook are illustrative.
**Problem:**

Beta seeks to generate better returns from its product portfolio (both existing products and those still in development). However, the company struggles to evaluate and compare the value and risk* of all projects in its development pipeline, which hampers funding and decision-making.

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*Risk is defined as the range of uncertainty around the commercial value of the project.*
Beta’s portfolio management process evaluates projects both individually and as part of the innovation portfolio.

### Innovation Portfolio Management Process and System

1. **Screen Project**
2. **Evaluate Project**
3. **Calibrate Information**
4. **Balance the Portfolio**
5. **Adjust the Portfolio Strategy**
6. **Track Progress**

#### Executive Team
**Role:** Sets the company’s innovation strategy and manages the innovation portfolio.

#### Project Teams
**Role:** Performs the day-to-day activities to develop the project and track its metrics in the Portfolio Management System.

#### Calibration Committee
**Role:** Conducts a peer review of all the projects in the Portfolio Management System prior to portfolio prioritization and funding.
Limit entry into the portfolio management process using specific strategic and economic criteria

1. **Screen Project**
   - **Is there a market opportunity?**
     - The Executive Team evaluates the project’s potential based on the size and growth of the market.
   - **Portfolio Screening Criteria**

2. **Can we win?**
   - The Executive Team examines Beta’s competitive position in the project’s designated market.

3. **Can we make money?**
   - The Executive Team benchmarks the project’s projected values against the investment hurdle for its Life Cycle Stage—Emerge, Grow, or Mature.

**Market Attractiveness Indicators**
- ✔ Market need
- ✔ Market size
- ✔ Market growth rate
- ✔ Market saturation

**Competitive Advantage Indicators**
- ✔ Does it fit with our strategic direction?
- ✔ Does it take advantage of our core competencies?
- ✔ What is our market share?
- ✔ What is our brand presence?
- ✔ Do we have appropriate distribution?

**Investment Hurdle**

<table>
<thead>
<tr>
<th>Life Cycle Stage</th>
<th>EMERGE</th>
<th>GROW</th>
<th>MATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Productivity Rate (NPV/Cost)</td>
<td>&gt;5</td>
<td>&gt;10</td>
<td>&gt;15</td>
</tr>
<tr>
<td>Payback Years</td>
<td>&lt;10</td>
<td>&lt; 8</td>
<td>&lt; 6</td>
</tr>
</tbody>
</table>

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Establish proof points to assess the chance of success at each product development phase

Proof Point Development

Case in Point: Mark

PROOF POINTS

Proof Points allow the Project Team to consistently and objectively determine whether a project is viable. The Project Team uses the following question as a prompt to identify proof points:

What would you want to know before mortgaging your house to fund the product?

<table>
<thead>
<tr>
<th>Product Development Phase</th>
<th>Proof Point</th>
<th>Duration</th>
<th>Cost (USD)</th>
<th>Chance of Success</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demo</td>
<td>Increase the predictive performance of three major marketing campaigns by 50%</td>
<td>One Year</td>
<td>$1 million</td>
<td>50%</td>
</tr>
<tr>
<td>Pilot</td>
<td>Prove product marketability through a pilot with five customers</td>
<td>Three months</td>
<td>$2 million</td>
<td>60%</td>
</tr>
<tr>
<td>Distribution</td>
<td>Sign up three major marketing agencies to distribute the product</td>
<td>One Year</td>
<td>$5 million</td>
<td>80%</td>
</tr>
</tbody>
</table>

Overall Chance of Success 24%

1. In my judgment, we have a 50% chance of successfully completing the demo. We just acquired a technology that allows us to analyze social media chatter.

2. If the integration goes smoothly, we should have a 60% chance of completing the pilot phase. Due to the loyalty of our customers, it will be easy to find five current customers to participate in a pilot of Mark.

3. Securing three major marketing agencies to distribute Mark will be easy. I think we have an 80% chance of completing the distribution phase.
Estimate the project’s commercial value using a concise, fixed set of indicators

2 Evaluate Project

Forecasting Commercial Value

Seven Indicators of Commercial Value
1. Total available market
2. Market penetration
3. Potential market share
4. Market duration
5. Price at maturity
6. Fixed annual cost
7. Sales and marketing costs

Discuss
The Project Team discusses the available evidence on the project.

Estimate
The Project Team estimates high, base, and low values for each of the seven indicators.

Document
The Project Team documents the rationale for the range of uncertainty.

We can expect a minimum 10% of the market share, if competitors introduce their solution before us.

However, since there is little competition in this space, we could get as high as 40% of the market share. But we are more likely to garner around 25%.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Range of Uncertainty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential market share</td>
<td>High: 40% Base: 25% Low: 10%</td>
</tr>
</tbody>
</table>

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Growth Team Membership™ research.
Pinpoint the indicators with the greatest impact on a project’s net present value (NPV)

**Project Risk and Value Model (Tornado Diagram)**

*Case in Point: Mark*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Bars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Available Market (thousands of units)</td>
<td>5 20</td>
</tr>
<tr>
<td>Potential Market Share (percentage)</td>
<td>10 40</td>
</tr>
<tr>
<td>Unit Price ($ thousands)</td>
<td>20 60</td>
</tr>
<tr>
<td>Market Penetration (percentage)</td>
<td>0.1 0.3</td>
</tr>
<tr>
<td>Market Duration (years)</td>
<td>4 10</td>
</tr>
<tr>
<td>Fixed Annual Cost ($ millions)</td>
<td>7 3</td>
</tr>
<tr>
<td>Sales and Marketing Cost ($ millions)</td>
<td>30 10</td>
</tr>
<tr>
<td>Combined Uncertainty</td>
<td></td>
</tr>
</tbody>
</table>

The longer bars signify factors who have high levels of uncertainty and impact on the project’s NPV.

The smaller bars signify factors with less impact on the NPV.

The width of the bar indicates the overall uncertainty of the project’s commercial value.
Improve project value and reduce risk by addressing the areas of greatest uncertainty

Initial Evaluation

The Project Team identifies the indicators with the largest range of uncertainty.

Clarification

To refine its assumptions, the Project Team:

- Organizes a conference on social media data analysis
- Surveys 1,000 social media professionals on their data analysis needs and product use
- Conducts in-depth interviews with 20% of the survey respondents

Adjusted Evaluation

By adjusting the indicators with the largest range of uncertainty, the overall risk of the project is reduced and its NPV is increased.

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Use peer reviews to ensure project team assumptions are credible and comparable

3 Calibrate Information

Calibration Committee Review

Case in Point: Mark

Compare Mark to the Portfolio at Large

Commercial Contribution Given Technical Success NPV ($million)

Why does Fly have a better range of NPV than Mark?

Compare Mark and Fly’s Indicators

Commercial Contribution Given Technical Success NPV ($million)

Fly and Mark are targeting the same industry, but their assumptions about the unit price vary widely.

Refine Mark’s Assumptions and Expectations

Commercial Contribution Given Technical Success NPV ($million)

According to the Portfolio Management System, the Fly Project Team researched pricing models for this industry. Therefore, we trust the Fly team’s assumptions about the unit price, and we should use its pricing model for Mark.
Prioritize all projects in the portfolio based on their comparative value, cost, and risk

Balance the Portfolio

CFO Chart: Measures Investment Productivity

The CFO Chart ranks each project’s economic value based on its investment productivity and categorizes the projects as high, medium, or low productivity.

Commercial Uncertainty Chart: Measures Combined Uncertainty

The Commercial Uncertainty Chart highlights each project’s risk and potential value via the combined uncertainty bar.

<table>
<thead>
<tr>
<th>Project</th>
<th>Cumulative Value ($million)</th>
<th>Cumulative Cost ($million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fly</td>
<td>500</td>
<td>100</td>
</tr>
<tr>
<td>Flow</td>
<td>400</td>
<td>20</td>
</tr>
<tr>
<td>Zoom</td>
<td>300</td>
<td>15</td>
</tr>
<tr>
<td>Mark</td>
<td>200</td>
<td>10</td>
</tr>
<tr>
<td>Life</td>
<td>150</td>
<td>5</td>
</tr>
<tr>
<td>AB</td>
<td>100</td>
<td>0</td>
</tr>
</tbody>
</table>

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Assess the portfolio’s ability to meet strategic and business line goals

Managing Portfolio Mix

The Executive Team assesses the portfolio mix using the following classification scheme: Bread & Butter, Oysters, Pearls, and White Elephants.

Project Value by Product Line

The Executive Team conducts a side-by-side comparison of the projects in each product line to assess potential value, product mix, and gaps.

The red lines indicate the product line’s projected financial goals.

The Executive Team conducts a side-by-side comparison of the projects in each product line to assess potential value, product mix, and gaps.

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Growth Team Membership™ research.
Adjust financial goals and resource constraints to optimize the portfolio

5 Adjust the Portfolio Strategy

Portfolio Strategy and Long-Term Financial Goals

The Executive Team's evaluation of the current portfolio's financial performance has strategic implications.

Beta's goal is to grow by $500 million in four years from new innovations. The risk-adjusted financial projections indicate we won't meet that goal. However, the potential financial projections indicate we can. What can we do to achieve the goal?

If we hire an external marketing team to assist with Fly, Mark, and Life, we will have the resources we need to meet the projected target.

Risk-Adjusted Financial Projections ($million)

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>0</td>
<td>6</td>
<td>54</td>
<td>250</td>
</tr>
<tr>
<td>Cost</td>
<td>0</td>
<td>5</td>
<td>47</td>
<td>202</td>
</tr>
<tr>
<td>Profit</td>
<td>0</td>
<td>1</td>
<td>7</td>
<td>48</td>
</tr>
</tbody>
</table>

Potential Financial Projections ($million)

<table>
<thead>
<tr>
<th></th>
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<th>2014</th>
<th>2015</th>
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<tbody>
<tr>
<td>Revenue</td>
<td>0</td>
<td>20</td>
<td>260</td>
<td>600</td>
</tr>
<tr>
<td>Cost</td>
<td>0</td>
<td>19</td>
<td>208</td>
<td>480</td>
</tr>
<tr>
<td>Profit</td>
<td>0</td>
<td>1</td>
<td>52</td>
<td>120</td>
</tr>
</tbody>
</table>

Portfolio's Cumulative Resource Requirements

The Executive Team assesses the cumulative employee and non-staff needs of the projects.

The Executive Team's evaluation of the current portfolio's financial performance has strategic implications.

Executive Team

If we hire an external marketing team to assist with Fly, Mark, and Life, we will have the resources we need to meet the projected target.

Risk-Adjusted Financial Projections ($million)

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<td>Profit</td>
<td>0</td>
<td>1</td>
<td>52</td>
<td>120</td>
</tr>
</tbody>
</table>

Portfolio Projects

<table>
<thead>
<tr>
<th>Portfolio Projects</th>
<th>Zorfus</th>
<th>Fly</th>
<th>Mark</th>
<th>Life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Productivity</td>
<td>94.63</td>
<td>71.18</td>
<td>15.25</td>
<td>2.3</td>
</tr>
<tr>
<td>Cumulative Resources</td>
<td>R&amp;D FTE</td>
<td>3.6</td>
<td>4.8</td>
<td>8.4</td>
</tr>
<tr>
<td></td>
<td>Marketing FTE</td>
<td>2.7</td>
<td>4</td>
<td>6.7</td>
</tr>
<tr>
<td></td>
<td>Non-staff Cost</td>
<td>$5.9</td>
<td>$10.9</td>
<td>$16.8</td>
</tr>
<tr>
<td></td>
<td>Total Cost</td>
<td>$6.5</td>
<td>$11.5</td>
<td>$18.1</td>
</tr>
</tbody>
</table>

Red values indicate resource restraints.

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Conduct annual assessments and refine projects based on their commercial value and impact on the portfolio mix

**Case in Point: Mark**

The Executive Team conducts annual in-depth project reviews for projects with a +/- 10% change in value.

The Project Team uses the Portfolio Management System to identify the root cause of the change in project value.

The Executive Team prescribes next steps to address the root cause.

The Executive Team assesses how each project’s role in the portfolio shifts and adjusts the portfolio strategy accordingly.

Conduct a Root Cause Analysis

Determine Next Steps

The Project Team uses the Portfolio Management System to identify the root cause of the change in project value.

The Executive Team prescribes next steps to address the root cause.

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Business Results

### Portfolio Performance Metrics

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2011</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideas screened</td>
<td>20</td>
<td>35</td>
<td>60%</td>
</tr>
<tr>
<td>Projects approved for development</td>
<td>10</td>
<td>15</td>
<td>50%</td>
</tr>
<tr>
<td>Projects launched</td>
<td>3</td>
<td>6</td>
<td>100%</td>
</tr>
<tr>
<td>Projects terminated</td>
<td>4</td>
<td>8</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Portfolio Return

The numbers in red are the investment productivity for each project.

### Project Management Improvement

The portfolio management process has helped Beta:
- Reduce the amount of time it takes a project to move through the innovation process
- Improved efficiency by removing four man years of overhead effort from the annual portfolio cycle
- Conduct consistent project evaluations, including comparison of different types of projects for funding decisions
- Weed out underperforming projects quickly
- Facilitate cross-regional projects

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**Summary**

**Industry:** Information and Communication Technology  
**Firm:** Beta Inc.  
**Geographic Footprint:** Global  
**Ownership:** Public  
**Headquarters:** United States  
**Revenue Range:** $1–5 billion USD

Beta seeks to generate better returns from its product portfolio (both those in development and those still in development). However, the company struggles to evaluate and compare the value and risk of all projects in its development pipeline, which confuses funding and decision-making.

**Beta implements a six-step, portfolio management process to focus on the most valuable opportunities.** The portfolio management process:

- Screens projects for entrance into the portfolio based on strategic fit and economic value
- Models, evaluates, and refines projects using seven key indicators and ranges of uncertainty
- Uses calibration committees to standardize assessments across the portfolio
- Balances the portfolio to meet business and strategic goals
- Conducts annual assessments of projects and the portfolio's economic and strategic value

**Business Results:**
- 100% increase in products successfully launched
- 30% increase in the portfolio's ROI

**Resources Required:**
- Executive team—senior management in R&D, Marketing, Manufacturing, and Finance
- Portfolio Management Software—portfolio evaluation and tracking
- Project teams—cross-functional project management teams to oversee the development of specific products

**Applicability of Best Practice to Executive Functions:**

<table>
<thead>
<tr>
<th>Function</th>
<th>Applicability</th>
</tr>
</thead>
<tbody>
<tr>
<td>R&amp;D/Innovation</td>
<td></td>
</tr>
<tr>
<td>Corporate Strategy</td>
<td></td>
</tr>
</tbody>
</table>

**Case-In-Point: Mark**

Beta creates statistical analysis products that make this a strategically relevant project. Beta's strategy is to target emerging data-intensive software. Beta's portfolio management process evaluates projects both individually and as part of the innovation portfolio ranges of uncertainty, and economic value.

**Executive Team**

The Executive Team assesses each project's strategic fit, likelihood of success, and commercial potential using specific strategic and economic criteria. The Executive Team evaluates the project's potential based on the size and growth of the market.

**Marketing, Sales, and Finance; each team is led by a representative from R&D, Product Launch, and Manufacturing.**

**Market Attractiveness Indicators**

- Market size
- Market saturation
- Market growth
- Market competition
- Market trends

**Do we have appropriate distribution?**

**What is our brand presence?**

**What is our market share?**

**Does it take advantage of our core competencies?**

**Does it fit with our strategic direction?**

**Function Applicability**

<table>
<thead>
<tr>
<th>Function</th>
<th>Applicability</th>
</tr>
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<tbody>
<tr>
<td>R&amp;D/Innovation</td>
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**Application**

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