Active Portfolio Management
About Presenter – John Rudd

» President and Chief Impediment Buster at SolutionsIQ.

» Formerly a partner in a boutique financial consulting & investment banking firm.
  
  - Led the firm’s financial practice specializing in advisory services, mergers & acquisitions, and interim management.
  
  - Filled multiple interim executive roles including CEO, president, CFO, and chief restructuring officer.

» Previously the CFO of a West Coast oil company and a commodity lender for ING.

» B.S. in Economics from the University of Minnesota
  
  MBA from the University of Southern California
About Today

Session:
Active Portfolio Management

Objective:
To define how you can make active investment decisions across portfolios when you have Agile capabilities.

Target Audience:
» Non-technical individuals on the business side of an aspiring Agile organization
» Individuals on the delivery side of the organization who are looking for a way to get the business more engaged

Full Disclosure

Who’s In The Room?
What is the Goal of Portfolio Management?

» The sole goal of portfolio management is to... maximize shareholder value.
» The sole purpose of governance is to... keep the portfolio management goal on track.
» These goals don’t change but the means to obtain them do change.
Session Hypothesis

» Traditional practices are not working.
» We are failing at providing prudent investments for our shareholders.
» If we can’t do a better job, we should give them back their money.
Traditional Approach Draws from Construction

This works really well when...

1. We have a very clear idea of the end state.
2. There’s long-term market stability.
## Shorter Lifecycles Mean Shorter Return Horizons

<table>
<thead>
<tr>
<th>Investment</th>
<th>Expected return</th>
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</thead>
</table>
Shorter Lifecycles Mean Shorter Return Horizons

Investment | Expected return

Investment | Return horizon shrinking
Shorter Lifecycles Mean Shorter Return Horizons

Investment → Expected return

Investment → Return horizon shrinking

Investment ← Expected return
Addressing Increasing Market Uncertainty

» Shorter cycle-time
» Smaller investment size
» Incremental progress
A New Paradigm

Old: Project-Centric

» Choose the best solution
» Do it "right" the first time
» Centralize control
» Fungible labor

New: Continuous Feature Flow

» Learn as you go
» Incremental progress
» Empower teams
» Leverage worker’s knowledge
Is Agile Something that *Happens* to You…

… or is this an opportunity to address the Hypothesis statement?
What If You Had a Magic Box?
Traditional Governance Doesn’t Support Leveraging Agile Delivery Capabilities
Revised Governance: Active Portfolio Management

1. Investment sectors and budget allocation
2. Iterative risk mitigation
3. Dynamic business case
4. Continuous feature flow
5. Unified prioritization
6. Continuous optimization
Revised Governance: Active Portfolio Management

1. Investment sectors and budget allocation
2. Iterative risk mitigation
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6. Continuous optimization
1. Investment Sectors and Budget Allocation

Old

» Fixed annual plan

» Funding allocation by project

New

» Funding by sectors based on investment risk

» Allocation based on market opportunity
Investment Sectors: A New Approach

- Compliance
- Efficiency
- Enhancement
- Innovation
Expected Return Thresholds
New Look at Portfolio Strategy

1. Identify market opportunities
2. Direction: Harvest vs. Plant
3. Allocate funding across Sectors
4. Small diversified investments
Revised Governance: Active Portfolio Management

1. Investment sectors and budget allocation
2. Iterative risk mitigation
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2. Iterative Risk Management

Old

» Prediction reliable

» Risk management largely completed before investment begins

New

» Prediction is unreliable

» Risk managed continuously
Sector Variance Thresholds

Compliance

Efficiency

Enhancement

Innovation
## Determining Model Risk

<table>
<thead>
<tr>
<th>Assumptions</th>
<th>Low</th>
<th>High</th>
<th>Average</th>
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<tbody>
<tr>
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<td>Total Units per Annum</td>
<td>10,000</td>
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<tr>
<td>Cost per Unit</td>
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<td>Capital Expense</td>
<td>$300,000</td>
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<td>$450,000</td>
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<tr>
<td>Annual Growth Rate</td>
<td>1.00%</td>
<td>7.00%</td>
<td>4.00%</td>
</tr>
</tbody>
</table>

Unacceptable level of variance (Risk)
Mitigating High Model Variance

Assumption #1

Assumption #2

Assumption #3

STOP

Active Portfolio Management, John Rudd, SolutionsIQ
Revised Governance: Active Portfolio Management

1. Investment sectors and budget allocation
2. Iterative risk mitigation
3. Dynamic business case
4. Continuous feature flow
5. Unified prioritization
6. Continuous optimization
3. Dynamic Business Case

Old
» Business case result final
» Charter: Spend all the money

New
» Business case result conditional
» Charter: Probationary
Components of the Dynamic Business Case

» Meet the organizational return and variance thresholds

» Funding is conditional

» New information used to recalibrate return expectation

» Each business case needs to continue to compete with existing and new opportunities
Revised Governance: Active Portfolio Management

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6. Continuous optimization
4. Continuous Feature Flow

Old

» Discrete projects
» Project-based funding

New

» Continuous delivery of features
» Perpetual funding of capacity
What is Continuous Feature Flow?

» Traditional: The project is a fixed investment to achieve a fixed end.

» Agile: The “project” is a continuous flow of features, which:
  - Eliminates the concept of a project
  - Breaks work into key-value-based independent features
  - Builds higher-value features first
  - Is biased toward entering the market quickly
  - Allows work to flow into persistent teams that can deliver continuously
Revised Governance: Active Portfolio Management

1. Investment sectors and budget allocation
2. Iterative risk mitigation
3. Dynamic business case
4. Continuous feature flow
5. Unified prioritization
6. Continuous optimization
5. Unified Prioritization

Old

» Locally optimized or politically negotiated

New

» Aligned under a common language
Expected Return Governance

1. Use internal rate of return (IRR) to evaluate investments.
2. Establish minimum Sector-based return threshold (hurdle rate).
3. Within a Sector, the highest return establishes the *initial* priority sequence.
4. More granular “sub-features” or persistent near-term work should use a lighter-weight approach to prioritization (i.e. value points)
Pop Quiz: Which Investment Would You Pick?

Investment X

NPV = $70,000

Investment Y

NPV = $40,000
### Pop Quiz: Which Investment Would You Pick?

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<thead>
<tr>
<th>Investment X</th>
<th>Investment Y</th>
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<td>NPV = $70,000</td>
<td>NPV = $40,000</td>
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<td>Investment = $2.0 million</td>
<td>Investment = $400K</td>
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<td>Investment = $2.0 million</td>
<td>Investment = $400K</td>
</tr>
<tr>
<td>IRR = 12%</td>
<td>IRR = 22%</td>
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IRR as a common language
Quick Example

» Sector Hurdle Rate = 15%
» Waterfall “project” approach gives an overall return of 17%
» The same features are then compared being delivered using an iterative approach:
  - MVP requires three months before first release
  - All subsequent releases require one month
By Valuing Incremental Releases, Our Investment Decision Will Change

15% Hurdle Rate

» 17% IRR
Platform Investment Effect

15% Hurdle Rate
Lower value features may not meet IRR threshold

15% Hurdle Rate
Business case analysis

“Avoid being precisely inaccurate.”

Alan Shapiro, Professor of Finance, University of Southern California
Prioritizing More Granular or Certain Work
Fixed Value Points Allocated

R1: 25.0%
R2: 16.0%
R3: 13.0%
R4: 11.0%
R5: 9.0%
R6: 7.0%
R7: 6.0%
R8: 5.0%
R9: 4.0%
R10: 4.0%
Prioritizing the Next Level Down

1. List value-based features on the wall.
2. POs independently allocate 1000 points.
3. Delivery teams independently affinity-estimate effort for each feature.
4. For each feature, divide the PO points by the delivery estimate to determine the “value ratio.”
5. Arrange the backlog by highest to lowest value ratio.
Revised Governance: Active Portfolio Management

1. Investment sectors and budget allocation
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6. Continuous Optimization

**Old**
- Annual budgeting locks in investments
- Limited and larger bets

**New**
- Active management
- Multiple and smaller bets
“Desire vs Capacity” or “Desire Based on Capacity”
“People to Projects” or “Work to Teams”
Return on Assets (ROA)

» Established high performing teams as enduring corporate assets

» Maximize return on those assets
Approach to Portfolio Optimization

» Investment Considerations
  - Sunk costs
  - Cost of delay
  - Cost of early exit

» Option value

» “Nesting” (Slotting) – optimization based on delivery constraints

» Portfolio rather than “project” optimization
Portfolio Simulation

» Company: Solar Systems

» Portfolio Team: Responsible for managing investments in Enhancement Sector

» Eight Product Lines:
  - Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune

» Capacity: One team

» Traditional waterfall approach with one release per year
# Traditional Annual Planning

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<tr>
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<tbody>
<tr>
<td>Mercury</td>
<td>76%</td>
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<td>5</td>
</tr>
<tr>
<td>Jupiter</td>
<td>31%</td>
<td>3</td>
</tr>
<tr>
<td>Saturn</td>
<td>46%</td>
<td>5</td>
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</table>
Portfolio Simulation Assumptions

» Change from traditional approach to iterative

» Features can be released monthly
  - Unit of Production = 1 team for 1 month

» Minimum viable product (MVP) before later features

» Portfolio return determined by adding up the monthly returns for the whole year and dividing by 12

» Quarterly portfolio review
## Traditional Annual Planning

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# Breaking Value Down by Features

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<tr>
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<td>7</td>
<td>4</td>
<td>73% 73% 73% 73% 145% 71% 24%</td>
</tr>
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<td>2</td>
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<td>3</td>
<td>45% 45% 45% 58% 55%</td>
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<td>27% 27% 27% 88% 62%</td>
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- MVP
- Varying return by feature
- Post-MVP value phenomenon
Team ROA (Based on One Team for One Month)

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<td>24%</td>
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</table>

» Why show the average value in each month rather than the total value in the last month?

» What is the return on that “one team for one month” unit of capacity?
# Building a 12-Month Plan

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<table>
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<tr>
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<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
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<tr>
<td>73%</td>
<td>73%</td>
<td>73%</td>
<td>73%</td>
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<td>45%</td>
<td>45%</td>
<td>45%</td>
<td>58%</td>
<td>55%</td>
<td>65%</td>
</tr>
</tbody>
</table>
With Your Team Create an Annual Plan

<table>
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<td>3</td>
<td>27%</td>
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- Need to achieve MVP before subsequent features
- Can “nest” MVPs and features in any sequence
- Goal is to optimize your portfolio of investments
## End of First Quarter

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<tbody>
<tr>
<td></td>
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<td>3</td>
<td>27%</td>
</tr>
<tr>
<td>Uranus²</td>
<td>57%</td>
<td>4</td>
<td>2</td>
<td>89%</td>
</tr>
</tbody>
</table>

1. Competitor just released innovative solution
2. Marketing came up with new feature enhancement
Evaluating the Mercury Investment

Did your team choose the Mercury investment in Q1?
How do you determine how to address the lower expected return?
## End of Second Quarter

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<tr>
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<td>24%, 24%, 24%, 24%, 127%, 16%, 0%</td>
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<tr>
<td>Venus</td>
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<td>43%, 43%, 35%, 16%</td>
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<td>4</td>
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</tr>
<tr>
<td>Mars¹</td>
<td>20%</td>
<td>5</td>
<td>3</td>
<td>22%, 22%, 22%, 33%, 2%</td>
</tr>
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<td>Jupiter</td>
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<td>5</td>
<td>3</td>
<td>27%, 27%, 27%, 88%, 62%</td>
</tr>
<tr>
<td>Uranus²</td>
<td>33%</td>
<td>7</td>
<td>5</td>
<td>36%, 36%, 36%, 36%, 36%, 32%, 16%</td>
</tr>
</tbody>
</table>

1. Market for Mars tanks.
2. Because of a technology issue, it will take three more months to deliver MVP.
Sunk costs

“When you have dug yourself into a hole, the best thing you can do is stop digging.”

Alan Shapiro, Professor of Finance, University of Southern California
### End of Third Quarter

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<td>24% 24% 24% 24% 127% 0% 0%</td>
</tr>
<tr>
<td>Venus¹</td>
<td>62%</td>
<td>4</td>
<td>2</td>
<td>98% 98% 35% 16%</td>
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<td>5</td>
<td>36% 36% 36% 36% 36% 32% 16%</td>
</tr>
<tr>
<td>Neptune³</td>
<td>189%</td>
<td>3</td>
<td>3</td>
<td>189% 189% 189%</td>
</tr>
</tbody>
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1. Customer will pay premium for features, if delivered in December.
2. VP of Sales made an announcement to the market that these features would be delivered by year’s end.
3. Startup acquired: ability to get new product delivered to customers
How Did Our Waterfall Project Fare?

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<th>Feb</th>
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Active Portfolio Management Summary

1. Portfolio sectors and budget allocation
2. Iterative risk mitigation
3. Dynamic business case
4. Continuous feature flow
5. Unified prioritization
6. Continuous optimization
What If You Had a Magic Box?
Q&A