Dan Fuller & Chris Waggoner
Agile Transformation Metrics
Lift Off

Battlestar Galactica – EMP Museum Seattle
Which Types of Agile Metrics are we Talking About?

There are typically three different levels of Metrics relating to an Agile Transformation:

- **Metrics that Measure Transformation Outcomes**: This is our focus.
- **Metrics that Measure Transformation Progress**
- **Metrics that Measure Team Success and Adoption**
Why do Large Agile Transformations Fail?

Let’s focus initially on these two reasons!

1. No winning strategy;
2. Failure to make a compelling and urgent case for change;
3. Failure to distinguish between decision-driven and behavior-dependent change;
4. Over-reliance on structure and systems to change behavior;
5. Lack of skills and resources;
6. Failure to experiment;
7. Leaders’ inability or unwillingness to confront how they and their roles must change;
8. Failure to mobilize and engage pivotal groups;
9. Failure to understand and shape the informal organization;
10. Inability to integrate and align all the initiatives;
11. No performance focus;
12. Excessively open-ended process;
13. Failure to make the whole process transparent and meaningful to individuals.

What Makes for a Winning Agile Strategy?
Winning Strategies are Goal Oriented

- Intermediate Objectives Map is a technique for defining a strategy.
- Origins were from the Theory of Constraints in the field of Physics (Logical Thinking Process, Cohen and Goldratt).
- Adapted from physics domain to systems thinking by H. William Dettmer.

Goals should be Big, Hairy and Audacious

**Vision**

- **Core Ideology**
- **Envisioned Future**
- **Core Values**
- **Core Purpose**
- **Vivid Description**
- **Big Hairy Audacious Goals (BHAG)**

**Target BHAG:** Become a $125 billion company by the year 2000 (Wal-Mart, 1990)

**Common Enemy BHAG:** *Yamaha wo tsubusu!* We will destroy Yamaha! (Honda, 1970s)

**Role Model BHAG:** Become the Harvard of the West (Stanford University, 1940s)

**Internal Transformation BHAG:** Transform this company from a defense contractor into the best diversified high-technology company in the world (Rockwell, 1995)

Goals can sometimes Compete Against Each Other

Is this a Winning Agile Strategy?

**Vision:** We strive to become on par with our competitors as it relates to the agility of our Technology Group.

<table>
<thead>
<tr>
<th>Goal 1 - Train 25% of our teams in Scrum</th>
<th>Goal 2 - Train all product managers in product ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal 3 - Establish an internal Agile coaching competency</td>
<td>Goal 4 - Provide ongoing Agile coaching to teams</td>
</tr>
</tbody>
</table>

Probably not, lack of description of future state. Goals are also not very BHAG. Seems more like necessary conditions or success factors to a higher goal, not goals in themselves.
**Is this a Winning Agile Strategy?**

**Vision:** We will become the recognized leader in our industry space with shorter time-to-market for highly innovative products that delight our customers

<table>
<thead>
<tr>
<th>Goal 1 - Reduce the amount of time it takes to get new product to market</th>
<th>Goal 2 - Increase the amount of collaboration between engineering and product</th>
</tr>
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<tbody>
<tr>
<td>Goal 3 - Maintain current levels of software product quality</td>
<td>Goal 4 - Increase customer satisfaction with our products</td>
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**Getting Better:**
Much more vivid vision.
Describes outcomes not success factors or necessary conditions.

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Is this a Winning Strategy?

<table>
<thead>
<tr>
<th>Vision: We reach for new heights and reveal the unknown for the benefit of humankind.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal 1</strong> - Expand the frontiers of knowledge, capability, and opportunity in space.</td>
</tr>
<tr>
<td><strong>Goal 3</strong> - Serve the American public and accomplish our Mission by effectively managing our people, technical capabilities, and infrastructure.</td>
</tr>
</tbody>
</table>

This is NASA’s current Strategy!

What Data to Collect?
Quantitative vs. Qualitative Metrics

**Quantitative Data**
- Test hypotheses
- Distinct variables
- Systematic and standardized
- Numeric and precise
- Can be replicated
- Statistics, tables and charts

**Qualitative Data**
- Discover Meaning
- Themes and concepts
- Individual setting
- Words and observations
- Hard to replicate
- Themes and generalizations

**Quantitative Methods**
- Surveys (using a scale)
- Statistics
- Scientific tests
- Interval data (from a tool)

**Qualitative Methods**
- Observation
- Interview
- Focus Groups
- Case Studies

Quantitative great for continuously measuring and improving behavior over time

Qualitative great for establishing initial baselines and understandings of behavior

Beware of Vanity Metrics

Effective Metrics

• Support effective action
• Illustrate Trends vs. absolutes
• Understandable
• Ratios

Vanity Metrics

• Misleading
• Not actionable
• Not focused on the goal
• Can be gamed
  - Page views
  - New visitors

Source: Croll, Alistair; Yoskovitz, Benjamin (2013-03-08). Lean Analytics: Use Data to Build a Better Startup Faster (Lean Series).
Importance of Benchmarking

Current State
• Might not have data for brand new behavior
• Benchmarking is essential
  • Use both quantitative and qualitative methods when possible
  • At minimum do a qualitative benchmark if quantitative data doesn’t exist or too costly to collect

Future State
• Often we are seeking brand new behavior
• Start collecting data ASAP
  • Compare future state qualitative data against current state qualitative data
  • Use quantitative metrics to continuously improve from that point forward

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Some Common Agile Transformation Metrics

Defect Density
Defect Leakage
Analyst Rating

HOW GOOD?

New Customers
Business Value
Cost Savings

HOW MUCH?

Time to Market
Idea to Cash
Concept to Execution

HOW FAST?

Stakeholder Satisfaction
Customer Satisfaction
Team Morale

HOW HAPPY?
<table>
<thead>
<tr>
<th></th>
<th>Goal</th>
<th>Current State Quantitative</th>
<th>Future State Quantitative</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Describe one of the Big, Hairy, Audacious Goals Specific to your Agile Transformation.</td>
<td>Identify any metrics that are already being captured in the current state that could be used to measure this goal quantitatively.</td>
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<tr>
<td>2</td>
<td>Current State Qualitative</td>
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<td>3</td>
<td>Benchmarking</td>
<td>When there is a lack of any current state metrics, define what activities you will need on your roadmap to benchmark the current state to provide a basis for comparison.</td>
<td>Gaming</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>If you were being measured against these future state metrics, is there anything you could do to falsely influence the results?</td>
</tr>
<tr>
<td>5</td>
<td>Future State Qualitative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
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Example One

**Goal**
Describe one of the Big, Hairy, Audacious Goals Specific to your Agile Transformation.

**Current State**

**Quantitative**
Identify any metrics that are already being captured in the current state that could be used to measure this goal quantitatively.

**Qualitative**
Identify any metrics that are already being captured in the current state that could be used to measure this goal qualitatively.

**Future State**

**Quantitative**
Identify any metrics that could be collected in the future state to measure progress against this goal quantitatively.

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**Benchmarking**

When there is a lack of any current state metrics, define what activities you will need on your roadmap to benchmark the current state to provide a basis for comparison.

**Gaming**

If you were being measured against these future state metrics, is there anything you could do to falsely influence the results?
Example One

**Agile Transformation Metrics Canvas**

1. **Goal**
   Describe one of the Big, Hairy, Audacious Goals Specific to your Agile Transformation.

   Reduce the amount of time it takes to get new product to market

2. **Current State Quantitative**
   Identify any metrics that are already being captured in the current state that could be used to measure this goal quantitatively.

   We have existing measures of cycle time from concept to cash

3. **Current State Qualitative**
   Identify any metrics that are already being captured in the current state that could be used to measure this goal qualitatively.

   We don’t currently have anything qualitative in the current state

4. **Future State Quantitative**
   Identify any metrics that could be collected in the future state to measure progress against this goal quantitatively.

   We could continue to measure this in the future for every feature

5. **Future State Qualitative**
   Identify any metrics that could be collected in the future state to measure progress against this goal qualitatively.

   Do we need this in the future state?

   We could start doing surveys...

6. **Benchmarking**
   When there is a lack of any current state metrics, define what activities you will need on your roadmap to benchmark the current state to provide a basis for comparison.

   We at least have current and future state quantitative so all set here

7. **Gaming**
   If you were being measured against these future state metrics, is there anything you could do to falsely influence the results?

   Data will come from auditable Agile Lifecycle Management Tool
<table>
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**Example Two**
Example Two

Agile Transformation Metrics Canvas

1. **Goal**
   
   Describe one of the Big, Hairy, Audacious Goals Specific to your Agile Transformation.

   **Increase the amount of collaboration between engineering and product management**

2. **Current State**

   **Quantitative**

   We don’t currently have anything quantitative in the current state

3. **Current State**

   **Qualitative**

   We don’t currently have anything qualitative in the current state

4. **Future State**

   **Quantitative**

   Start doing Likert Scale surveys monthly to measure stakeholder impressions

5. **Future State**

   **Qualitative**

   Will follow up future state surveys with interviews

6. **Benchmarking**

   Will need to do interviews and surveys to collect current state starting point

7. **Gaming**

   Will need to make sure interviews and surveys are carefully designed
Mission Briefing
Instructions

Duration: 10 minutes

1. Self Organize into teams at your tables
2. Decide on a goal from one your Table’s Agile Transformations
3. Use Post-Its and Sharpies Provided to your Table
4. Fill out the Metrics Canvas for that Goal as a Group to arrive at a set of Metrics for that Goal

Mission Objective:
Fill out the Agile Metrics Canvas for your Agile Transformation
1.) Define a Winning Strategy
   • Envisioned Future State
   • Big, Hairy, Audacious Goals

2.) Align the Organization to the Strategy
   • Create that shared sense of purpose

3.) Choose the Right set of Metrics to Measure Outcomes
   • Mix of qualitative and quantitative as appropriate
   • Be sure to benchmark current state
   • Avoid vanity metrics

4.) Make Outcomes Big and Visible
   • Create an information radiator for the Agile Transformation
   • Make progress against goals visible to the whole organization
Mission Debrief / Retro

Saturn V Retro Rockets – Kennedy Space Center
Touch Down

Lunar Module – Smithsonian National Air and Space Museum

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http://www.solutionsiq.com/aligning-metrics-to-your-agile-vision/