How do you know if you’re really agile?

Matthew Hodgson & Mia Horrigan

Zen Ex Machina
Quick Guidelines

- Your microphones will be muted throughout.
- This session is recorded. The recording and slides will be available after the webinar within 24 hours.
- Please ask questions!
  - Submit questions by selecting the Q & A icon:
Who is Scrum.org

Ken Schwaber
Scrum.org Founder, Chairman and Co-creator of Scrum

Thought Leadership

Helping people and teams solve complex problems

Training

Certification

Ongoing Learning

Consistent

Global

Community
Matthew Hodgson  
Zen Ex Machina, CEO

Matthew has been coaching agile transformations for two decades: from executives and leadership to help scale agile across portfolios, programs and teams. He's highly regarded amongst his clients and peers for the unique approach he has brought to the industry focussing on scale using organisational psychology, change and culture.

Mia Horrigan  
Zen Ex Machina, Executive Vice President and Chief Operating Officer

Mia is an experienced Enterprise Agile Coach and Senior Program Manager with over 20 years senior executive experience leading and implementing agile and digital transformations. Mia has been working with agile programs for over 15 years and is an experienced Product Manager with significant proven success in delivering business outcomes through implementation of agile across dozens of enterprises.
How Do You Know if You're Really Agile?

Metrics that executives care about

<table>
<thead>
<tr>
<th>PRODUCTIVITY</th>
<th>COST</th>
<th>RISK</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Financial benefits – savings</td>
<td>• Reduced time requirement</td>
<td>• Lower organisational risk</td>
</tr>
<tr>
<td>• Business impacts – throughput, pivot, and time to market</td>
<td>• Lower investment needed</td>
<td>• Lower technical risk</td>
</tr>
<tr>
<td></td>
<td>• Lower operational costs to sustain</td>
<td>• Lower delivery risk</td>
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<td></td>
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<td>• Greater transparency</td>
</tr>
</tbody>
</table>
Do projects measure enterprise outcomes?

Good for:
- Activity
- Deliverables
- Efficiency

Don’t measure:
- Future impact trends
- Outcomes and benefits
- Productivity
- Predictability
What does **agile** software measure?

- **Burnup**
- **Burndown**
- **Velocity**
- **Cumulative flow**
- **# Stories complete**
- **Defects**

Good for:
- Activity
- Output

Outcomes?
- Productivity trends?
- Predictability?
- Transparency?

They don’t predict enterprise agility.
Do agile surveys measure agility?

Good for:
- Self reflection
- Team reflection

Outcomes?
- Vanity metrics?
- Measure activity
- Dunning-Kruger

They don’t predict enterprise agility.
To measure enterprise agility we need **different metrics**

- **Descriptive Analytics**
  - Activity, velocity, efficiency metrics, delivery

- **Diagnostic Analytics**
  - Impact, outcome metrics x time

- **Predictive Analytics**
  - Statistical models
  - What will make teams agile?

- **Prescriptive Analytics**
  - Big data, rules engines, neural networks
  - Recommend actions to make agile repeatable?

- **Hindsight**
- **Insight**
- **Foresight**

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*Adapted from: Gartner (2020). Types of data analytics for executives*

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*Why are some agile teams more successful?*

*What happened?*

*Activity, velocity, efficiency metrics, delivery*
The **Hypothesis**

Could we generate a data analytics model to:

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>Identify behavioural factors for measuring enterprise agility.</th>
</tr>
</thead>
<tbody>
<tr>
<td>METRICS</td>
<td>Identify metrics strongly correlated with outcomes - reduction in costs, improved ability to pivot, reduced defects/rework.</td>
</tr>
<tr>
<td>PREDICT EVOLUTION</td>
<td>Describe how teams and programs evolve to be more agile and deliver agile outcomes.</td>
</tr>
<tr>
<td>INSIGHTS</td>
<td>Provide insights, recommendations to create repeatability, especially at scale across the enterprise.</td>
</tr>
</tbody>
</table>
Modelling Agile Culture & Agile Mindset

Model requirements:

- Multiple factors (not simple correlation – human systems are complex)
- Organisational culture.
- Take account of time to change behaviours.
- Incorporate behaviours at every level, not just “team happiness”.

Source: Zen Ex Machina
Methodology

85 questions based on:

- Agile Manifesto and its 12 Principles
- Scrum Guide
- Kanban and Lean
- eXtreme Programming (XP)
- Management 3.0/Agile Leadership
- Systems Thinking
Methodology

Removed questions in post-hoc analysis that didn’t have significant correlation in the model.
Methodology

Used techniques from psychology to collect data:

- Expert review
- Naturalistic Observation
- Diary studies
- Contextual inquiry

Expert review *not* self-assessment to avoid Dunning-Kruger effect and forms of cognitive bias.
Methodology

Data profile:
• 10 years data collection.
• 30 organisations.
• Incl. large, complex, scaled agile environments.
• 500+ teams.
• Multi-million dollar programs.
• Organisations with significant compliance and audit requirements.
• Longitudinal data – 5+ yrs for many teams.
• Software and non-software teams – incl. HR, finance, marketing, change management, leadership, government policy.
A model for enterprise agility

THE RESULTS
Results

- Model predicts 85% of agile outcomes based on 4 behaviours in agile teams.
- 4 primary factors.
- 23 sub-factors.
Results / Predictive Analytics

Decrease in overtime (hours) by program as Agile IQ® increases
Decrease in defects and re-work as Agile IQ® increases
Results / Predictive Analytics

Cost savings decrease per team per month (10 people incl. contractors) as Agile IQ® increases
Agile behaviours decrease over longer periods – teams go “backwards” if leadership support wanes.

Significant improvement at 6 months

Drop-off in focus at 3 yrs

Start of recovery at 4-4.5 yrs
Results / Predictive Analytics

Increased ability to pivot as Agile IQ® increases

- **Agile IQ 130**
  - Ability to pivot: 2 weeks

- **Agile IQ 80**
  - Ability to pivot: 3+ months

Primary Factors:
- Self organisation
- Agile values
- Continuous improvement
- Continuous learning culture
- Sprinting
Findings are replicated by industry research

20%

Greater productivity in self-managed teams than traditionally managed teams

Source: The effectiveness of self-managed teams and self-leading teams measured in performance, quality of work life and absenteeism
Findings are replicated by industry research

Greater feelings of wellbeing in self-managed teams than traditionally managed teams

Source: The effectiveness of self-managed teams and self-leading teams measured in performance, quality of work life and absenteeism
Findings are replicated by industry research

Strong alignment with existing industry research and agile competency frameworks.

**Delivery Risk**

8 Sub-Factors: Clear structure, Goal clarity, Decentralised decision-making, Shared purpose, Connectedness, Agile planning cadence, Management commitment, Team commitment.

**Ability to Pivot**

11 Sub-Factors: Clear structure, Goal clarity, Dependability, Decentralised decision-making, Shared purpose, Connectedness, Agile planning cadence, Product Backlog management, Management commitment, Systems Thinking, Team commitment.

**Team Effectiveness**

5 Sub-Factors: Clear structure, Goal clarity, Shared purpose, Connectedness, Value focussed.

**Psychological Safety**


**Professional Scrum Competency Model**

14 Sub-Factors: Managing products with agility, Clear structure, Goal clarity, Developing people and teams, Empiricism, Shared purpose, Servant leadership, Connectedness, Agile planning cadence, Product Backlog management, Evolving the Agile Organisation, Value focussed, Team commitment, Collaboration.
Implications for executives and leadership

Move from manager-led teams to self-managing product teams.

Promote agile values and lead by example – e.g. value-driven prioritisation of work, decentralised decision-making.

Create long-lived small teams with short work cycles and feedback loops.

Management commitment to and support for continuous improvement.

Enterprise outcomes from agility

- Improved productivity
- Lower costs
- Lower risk

Agile Values
Self-Organisation
Sprinting
Continuous learning culture
Agile IQ® - 5 Stages Of Agile Capability Maturity

01. STARTING (0-48)
- Waterfall.
- Upfront design.
- Ad-hoc user research.
- Plan-driven approach.
- Management-led activities
- Only "symbols" of agile.

02. ESTABLISHING (49-92)
- Self-organisation
- Project focus.
- Water-Scrum-Fall.
- Basic agile practices.
- Visualisation of work in-progress.

03. EVOLVING (93-130)
- Agile product management focus.
- Strong empiricism.
- Some continuous discovery.
- Value prioritised delivery metrics.
- Some experimentation.

04. STRENGTHENING (131-165)
- Focussed and disciplined agile
- Strong agile and Lean practices.
- Lean metrics.
- Strong continuous discovery.
- Strong automation.
- Continuous integration.
- MVP as rapid experimentation.

05. OPTIMISING (165+)
- Strong experimentation.
- Impact/outcome metrics.
- Evidence-based management.

Add agile, user-centred patterns and practices
Focus on "systems thinking"
Predictive analytics to help the enterprise be more agile

THE AGILE IQ® PLAYBOOK
Positive behaviours observed:
- Teams “thinking” about agile
- Some practices added

Negative behaviours observed:
- Cargo cult agile
- Dunning-Kruger
- Micro-management
- Homeostasis - “but we deliver”
- “We’re pragmatic” / “You’re just an agile purist”

Key to growth:
- Self-management
- Managers set guardrails
- Lead by example
- Metrics on agile creates better outcomes than Waterfall
- Kotter’s “burning platform” for change
Positive behaviours observed:
• Good baseline of practices
• Commitment to changing the way of working

Negative behaviours observed:
• “It’s just common sense”
• “We always did this”

Key to growth:
• Supporting growth mindset
• Master the basics, then experiment with adding more practices such as Kanban
Positive behaviours observed:
- Strong empiricism

Negative behaviours observed:
- Groupthink
- In-group vs out-group struggle

Key to growth:
- Focus and discipline
- Metrics
- Outcomes/impacts focussed
Positive behaviours observed:
• Lean and flow

Negative behaviours observed:
• Tall Poppy syndrome from other teams

Key to growth:
• Systems Thinking
• Moving from divisional silos to value streams
Positive behaviours observed:

- Helping other teams, managers, units, divisions be agile, emerging as “leaders” for agile communities of practice.
Negative behaviours observed:
• Occasional hero work
Key to sustaining:

- Using Stage 5 teams to create, lead and grow communities of practice and strengthen/sustain work quality

Focus on “systems thinking”
Put the playbook into an Agile IQ® App / Prescriptive Analytics & Team Coaching

- Identifies the team’s stage in the model.
- One assessment.
- Team dashboards with trends.
- Compare to teams of a similar age.
- Export results (PDF).

Currently for Android (Beta). iOS due out April 2021.
Put the playbook into an Agile IQ® App / Prescriptive Analytics & Team Coaching

- Advice to move through stages.
- Customised coaching tips.
- Certified training recommendations (e.g. PSM I, PSK, PAL-E, etc).
- Setting goals and actions.
Agile IQ® Dashboard / Program Coaching Assistant

- Agility trends.
- Longitudinal trends.
- Compare teams.
- Compare to other programs.
- Agile leadership.
- Team effectiveness trends.
- Delivery risk.
- Ability to pivot.
- Projected cost savings.
Agile IQ® API / Power BI
Get Involved In Our Beta!

Register, download, 30 days free:

• agileiq.com

Supported platforms:

• Android 9+
• Windows and OSX with Bluestacks
• No iOS support (forecast April 2021)

We want feedback!

• Tell us what you like, don’t like, what features you’d pay for.
• Contact support@agileiq.com
FINAL THOUGHTS
Traditional metrics don’t measure agility

Only gives us a picture of what has happened, not what will happen
Data models are necessary for **understanding business agility**

- **Descriptive Analytics**
- **Diagnostic Analytics**
- **Predictive Analytics**
- **Prescriptive Analytics**

- **Recommend actions to make agile repeatable?**

- **What happened?**
  - **Descriptive Analytics**

- **Why are some agile teams more successful?**
  - **Diagnostic Analytics**

- **What will make teams agile?**
  - **Predictive Analytics**

- **Agile IQ®**
  - **Insight**
  - **Foresight**

Adapted from: Gartner (2020). Types of data analytics for executives
Measuring enterprise agility

• How agile is your organisation, programs and teams?
• Are you on track to get agile’s benefits?

**Metrics For Enterprise Agility**

- Self-organisation
- Agile Values
- Sprinting
- Continuous Learning Culture

**Predictive Analytics On**

- Ability to pivot
- Team effectiveness
- Agile leadership
- Reduced costs
- Reduced overtime
- Improved output (more with less)
- Delivery risk
- Reduced defects
- Psychological safety

**Enterprise Outcomes For**

- Productivity
- Cost
- Risk

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Questions
Each role has a clear Learning Path

Product Owner

Developers

Scrum Master

Agile Leaders

https://www.scrum.org/pathway/scrum-master
https://www.scrum.org/pathway/product-owner-learning-path
https://www.scrum.org/pathway/team-member-learning-path
https://www.scrum.org/pathway/agile-leader-learning-path