



**Scrum.org™**  
*The Home of Scrum*

# How do you know if you're really agile?

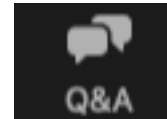
**Matthew Hodgson & Mia Horrigan**

Zen Ex Machina

18 March 2021

# 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



**Consistent**

**Global**

**Community**

# Bio



**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



## PRODUCTIVITY

- Financial benefits – savings
- Business impacts – throughput, pivot, and time to market



## COST

- Reduced time requirement
- Lower investment needed
- Lower operational costs to sustain



## RISK

- Lower organisational risk
- Lower technical risk
- Lower delivery risk
- Greater transparency

# Do **projects** measure enterprise outcomes?

Schedule



Scope



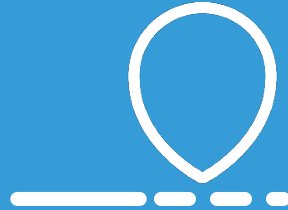
Budget



% Tasks complete



% Stage complete



Risk (RAG)



Good for:

- Activity
- Deliverables
- Efficiency

Don't measure:

- Future impact trends
- Outcomes and benefits
- Productivity
- **Predictability**

# What does **agile** software measure?



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

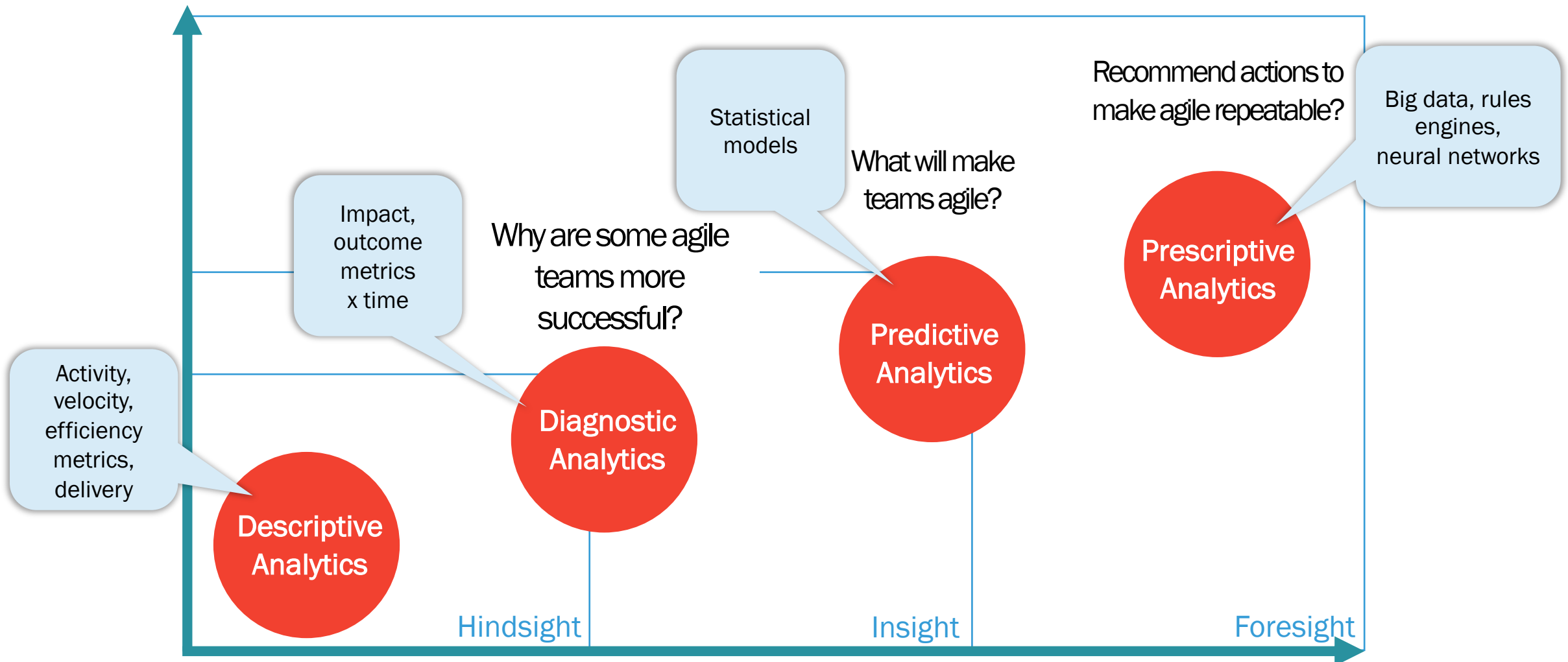
Outcomes?

- Vanity metrics?
- Measure activity
- Dunning-Kruger

**They don't predict enterprise agility.**

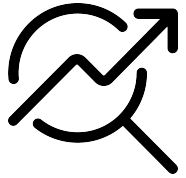


# To measure enterprise agility we need **different metrics**



# The Hypothesis

Could we generate a data analytics model to:



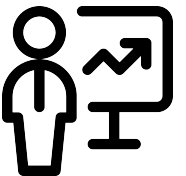
## FACTORS

Identify behavioural factors for measuring enterprise agility.



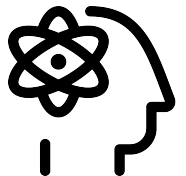
## METRICS

Identify metrics strongly correlated with outcomes - reduction in costs, improved ability to pivot, reduced defects/rework.



## PREDICT EVOLUTION

Describe how teams and programs evolve to be more agile and deliver agile outcomes.



## INSIGHTS

Provide insights, recommendations to create repeatability, especially at scale across the enterprise.

# Modelling Agile Culture & Agile Mindset

## Model requirements:

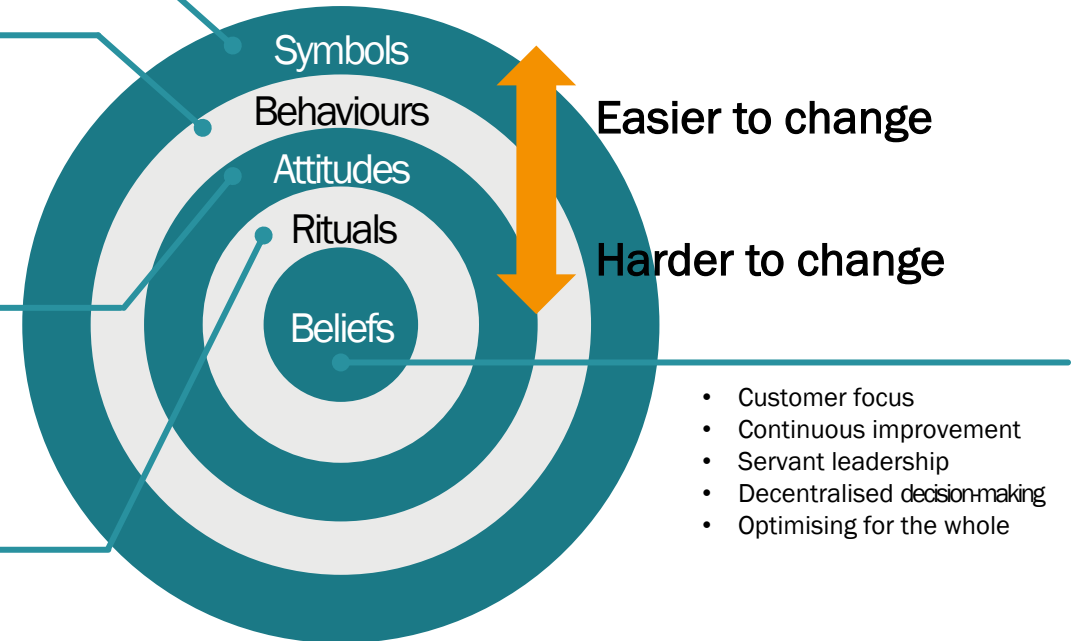
- Multiple factors (not simple correlation – human systems are complex)
- Organisational culture.
- Take account of time to change behaviours.
- Incorporate behaviours at **every level**, not just “team happiness”.

- Visual management
- Team names and team spaces

- Team-based work
- Collaboration
- Short work cycles (“Sprints”)

- Consistency of practice
- Scalability
- Minimise waste and re-work
- Transparency
- Systems thinking
- “Fail fast”

- Feedback loops
- Aligned work cadence
- Empiricism
- Experimentation
- Evidence-based management



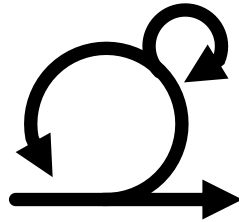
- Customer focus
- Continuous improvement
- Servant leadership
- Decentralised decisionmaking
- Optimising for the whole

# Methodology

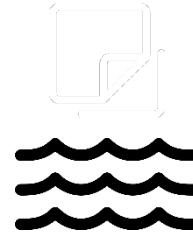
85 questions based on:



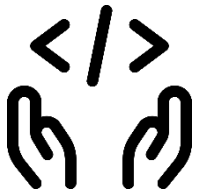
Agile Manifesto  
and its 12 Principles



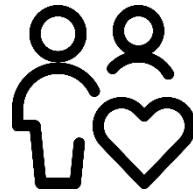
Scrum Guide



Kanban and  
Lean



eXtreme  
Programming (XP)

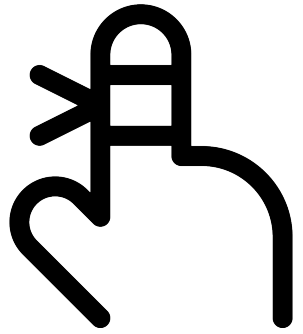


Management 3.0/  
Agile Leadership



Systems  
Thinking

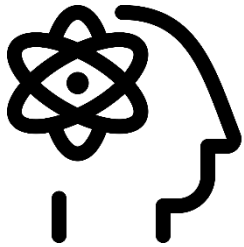
# Methodology



Removed questions in post-hoc analysis that didn't have significant correlation in the model

# Methodology

Used techniques from **psychology** to collect data:



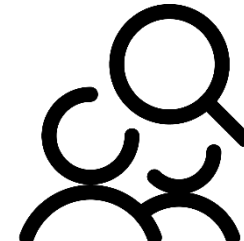
Expert  
review



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**



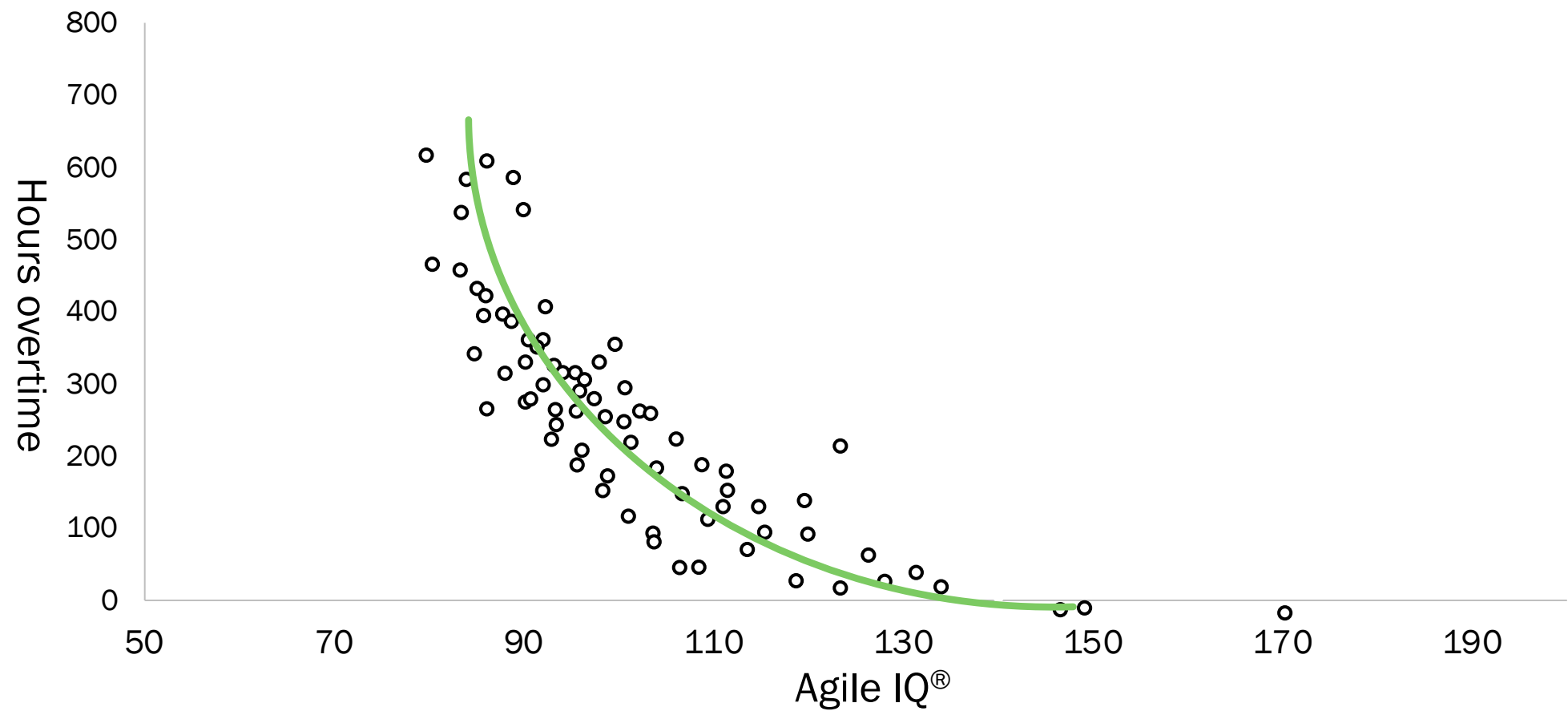
# Results

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



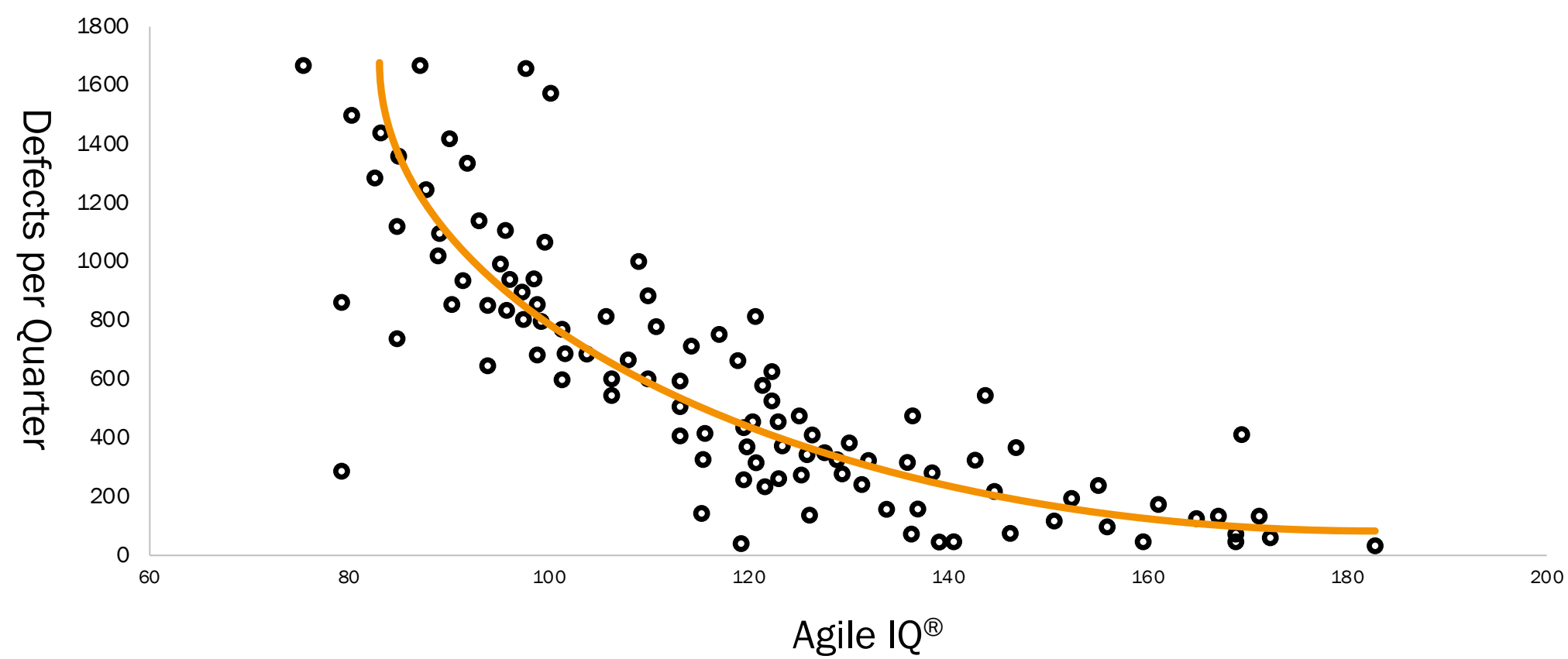
# Results / Predictive Analytics

Decrease in overtime (hours) by program as Agile IQ<sup>®</sup> increases



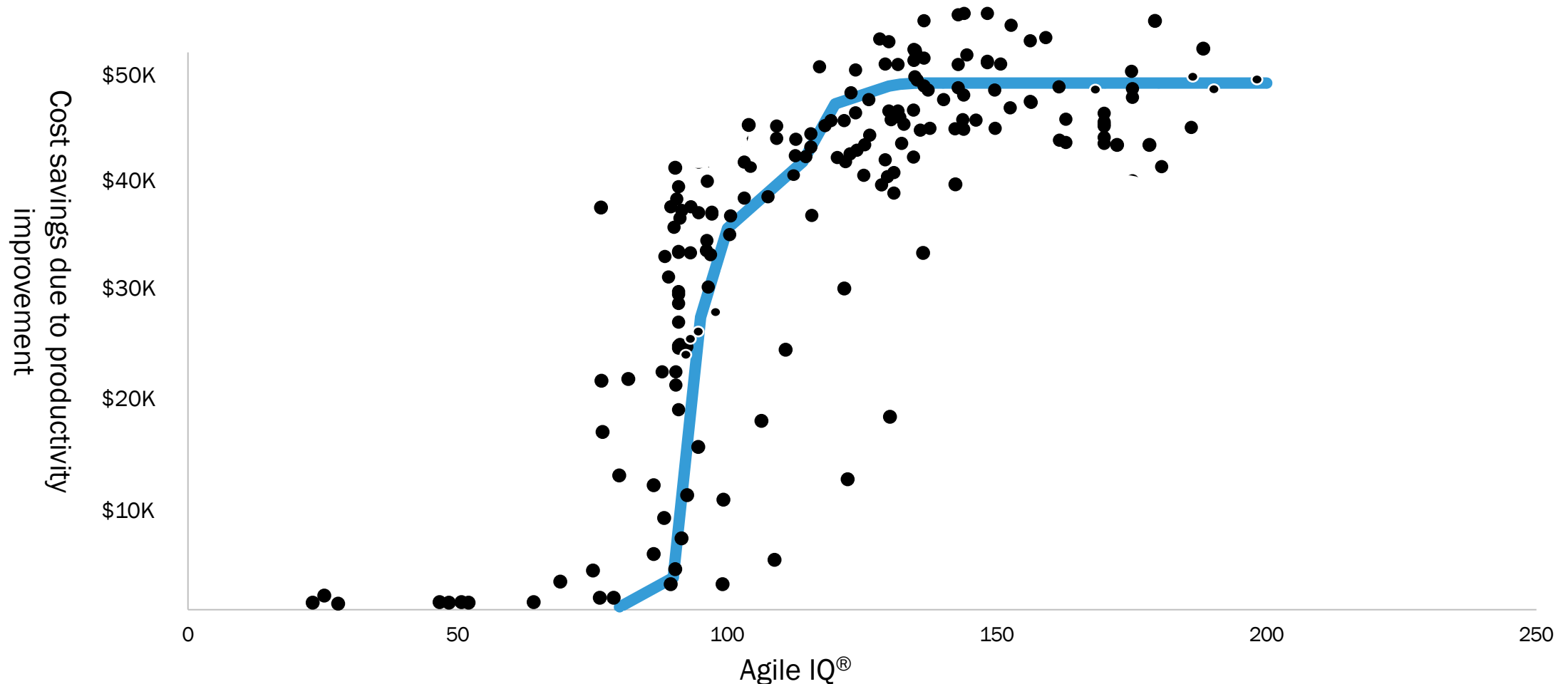
# Results / Predictive Analytics

Decrease in defects and re-work as Agile IQ<sup>®</sup> increases



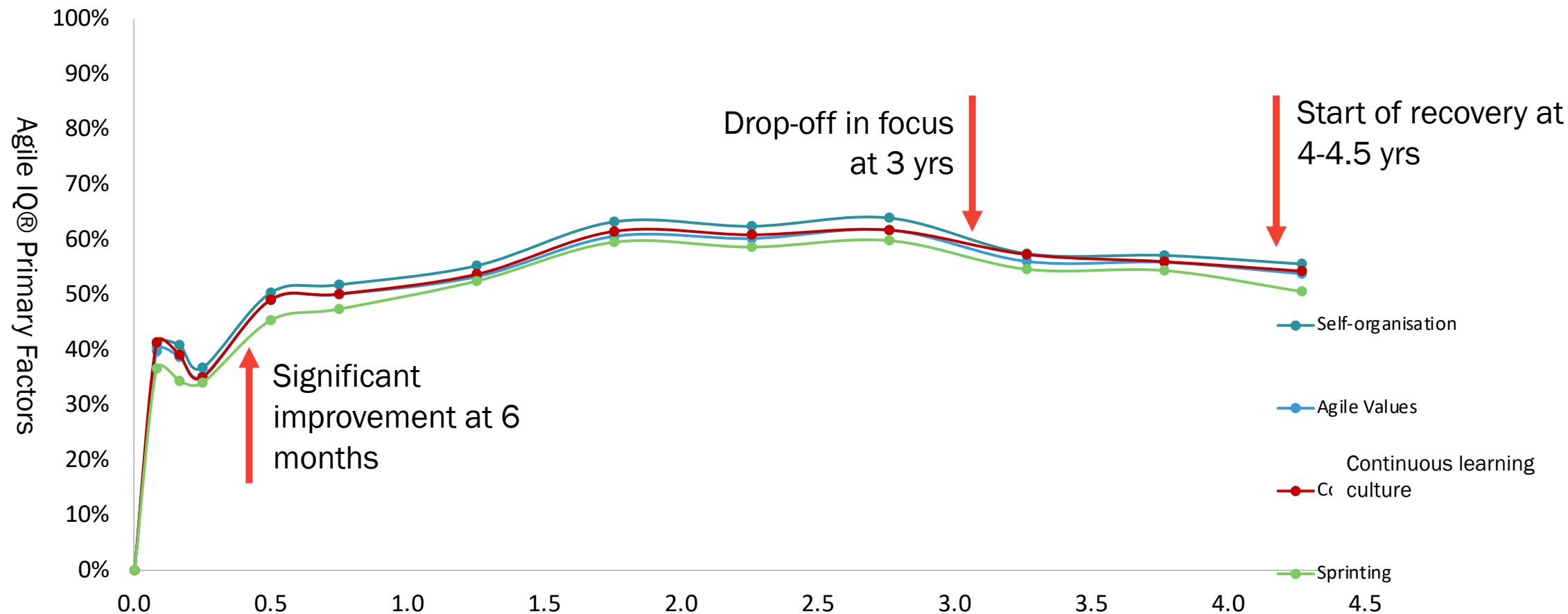
# Results / Predictive Analytics

Cost savings decrease per team per month (10 people incl. contractors) as Agile IQ<sup>®</sup> increases



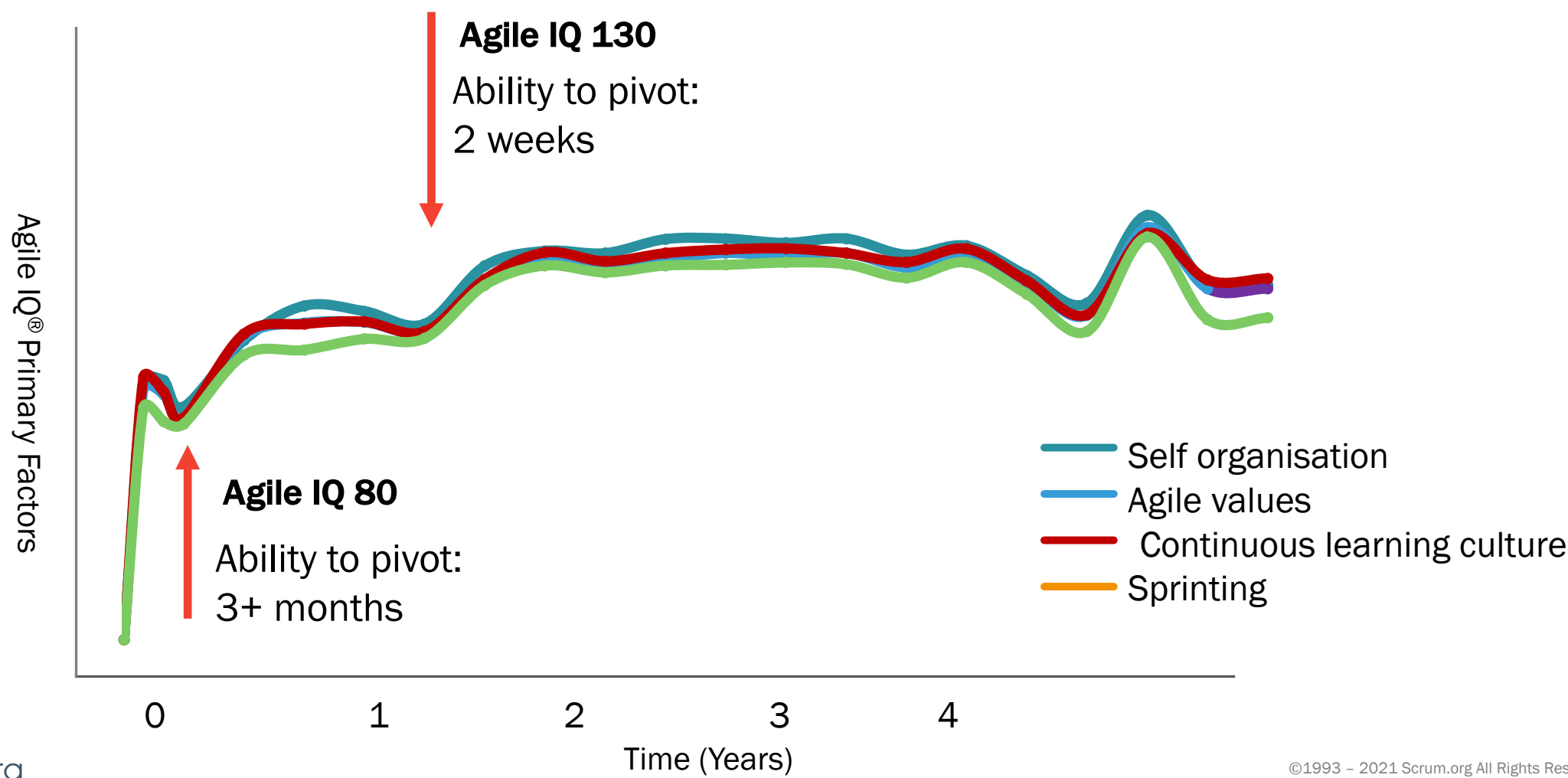
# Results / Predictive Analytics

Agile behaviours decrease over longer periods – teams go “backwards” if leadership support wanes



# Results / Predictive Analytics

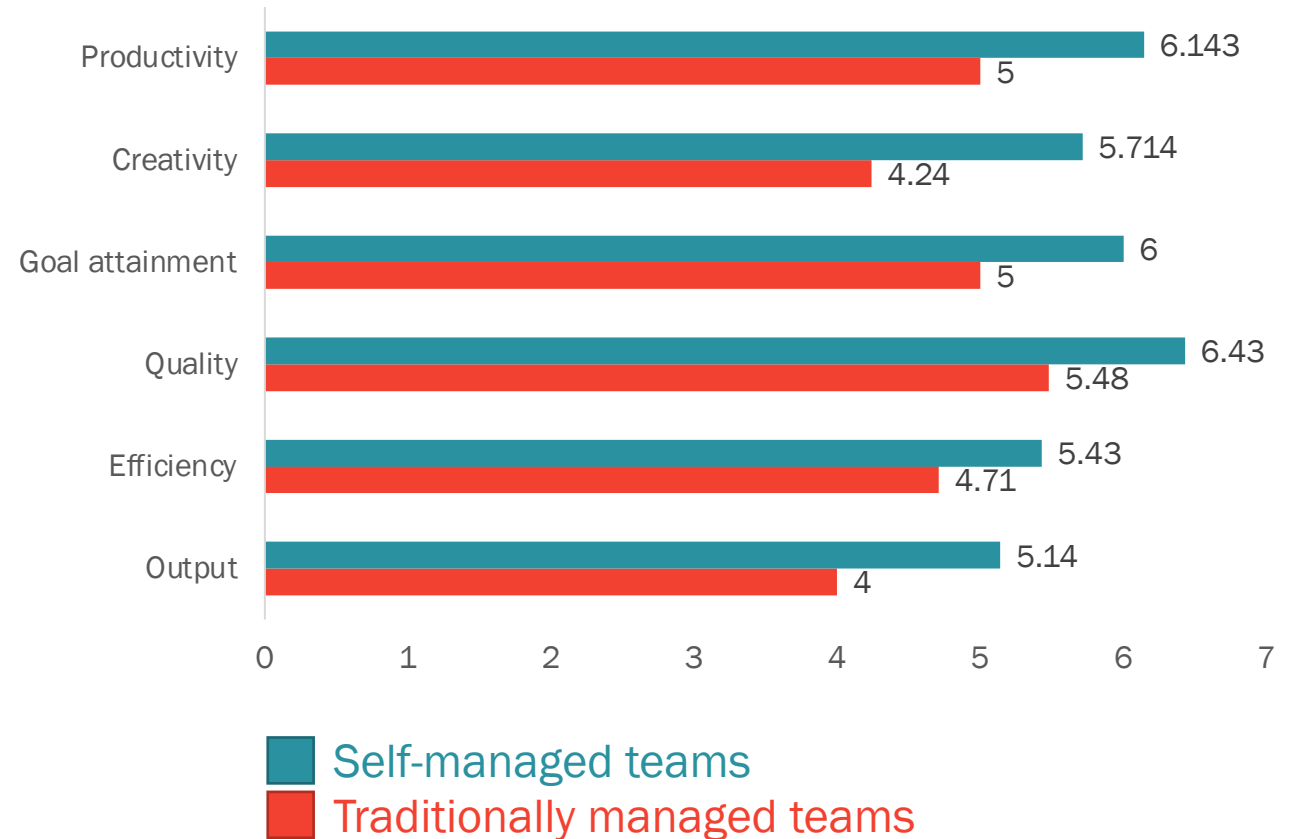
Increased ability to pivot as Agile IQ<sup>®</sup> increases



# Findings are replicated by industry research

# 20%

Greater productivity in  
self-managed teams  
than traditionally  
managed teams

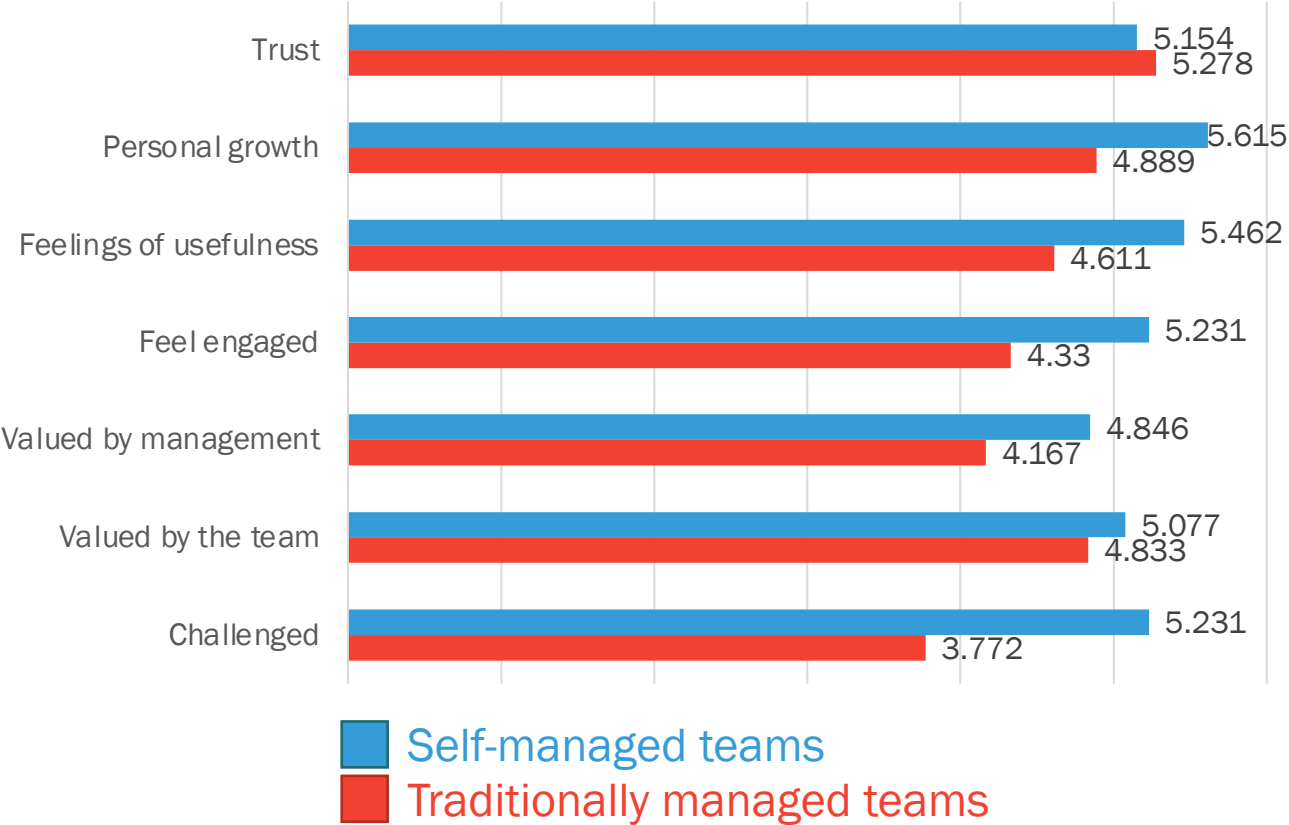


Source: The effectiveness of self-managed teams and self-leading teams measured in performance , quality of work life and absenteeism  
B. Loerakker, Kirsten van de Grift (2015).Online at: <https://www.semanticscholar.org/paper/The-effectiveness-of-self-managed-teams-and-teams-%2C-Loerakker-Grift/29e29e3f140987bb91669b2bec6c4587406fe89c>

# Findings are replicated by industry research

22%

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  
B. Loerakker, Kirsten van de Grift (2015).Online at: <https://www.semanticscholar.org/paper/The-effectiveness-of-self-managed-teams-and-teams-%2C-Loerakker-Grift/29e29e3f140987bb91669b2bec6c4587406fe89c>



# 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

Research by Bain & Co. 2020

**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

Google's Project Aristotle

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

## Psychological Safety

Amy Edmondson

**11 Sub-Factors:** Clear structure, Goal clarity, Dependability, Self-improvement, Shared purpose, Connectedness, Organisational agility, Value focussed, Management commitment, Team commitment, Collaboration.

## Professional Scrum Competency Model

Scrum.org™

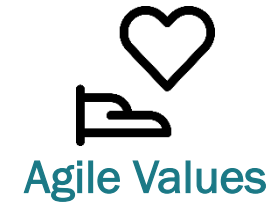
**14 Sub-Factors:** Managing products with agility, Clear structure, Goal clarity, Developing people and teams, Empiricism, Shared purpose, Servant leadership, Connectedness, Agile planning cadence, Product Backlog management, Evolving the Agile Organisation, Value focussed, Team commitment, Collaboration.

# 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.



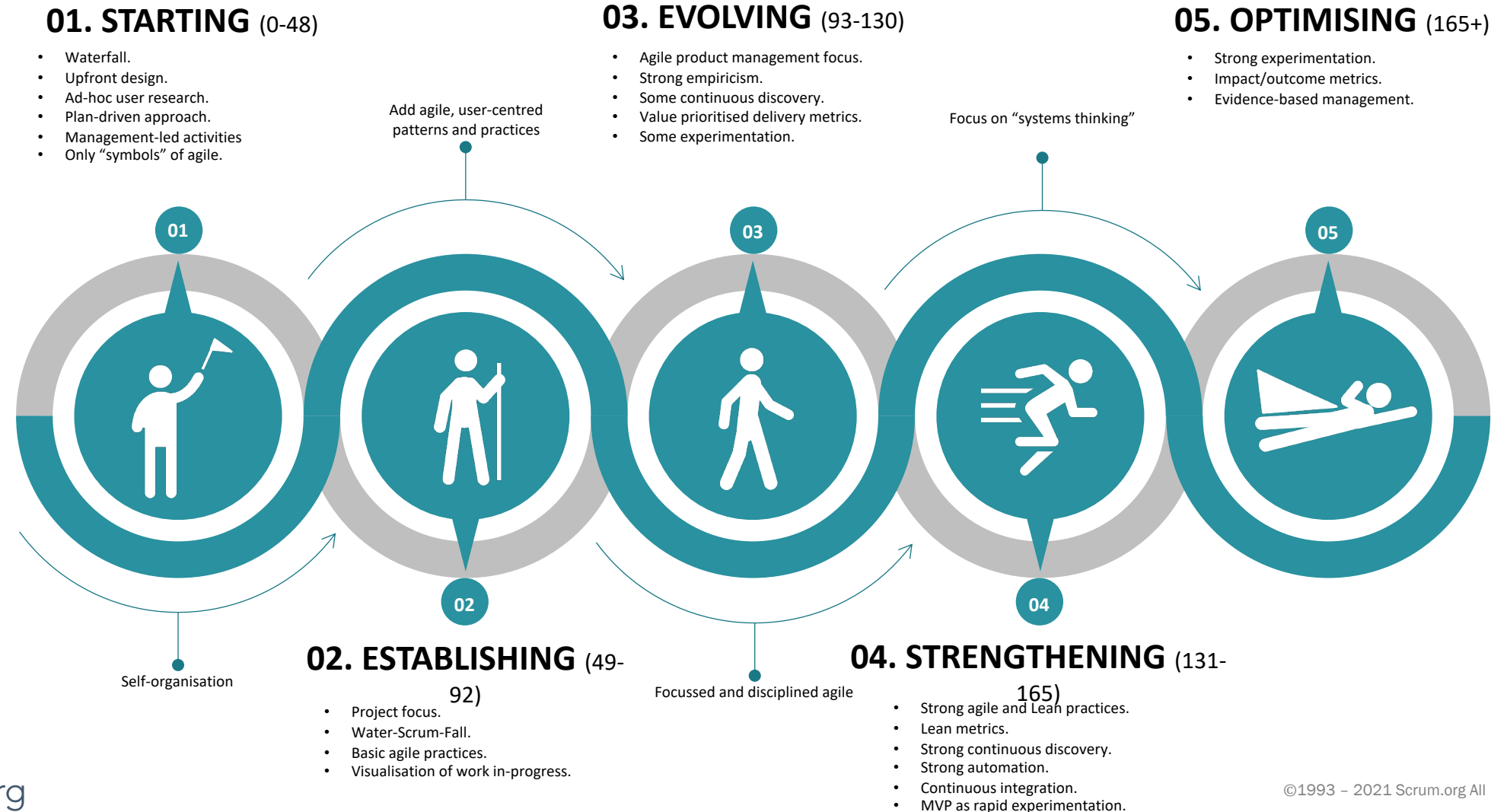
Management commitment to and support for continuous improvement.



## Enterprise outcomes from agility



# Agile IQ® - 5 Stages Of Agile Capability Maturity



Predictive analytics to help the enterprise be more agile

# **THE AGILE IQ® PLAYBOOK**

# Agile IQ® Playbook / Prescriptive Analytics



Positive behaviours observed:

- Teams “thinking” about agile
- Some practices added

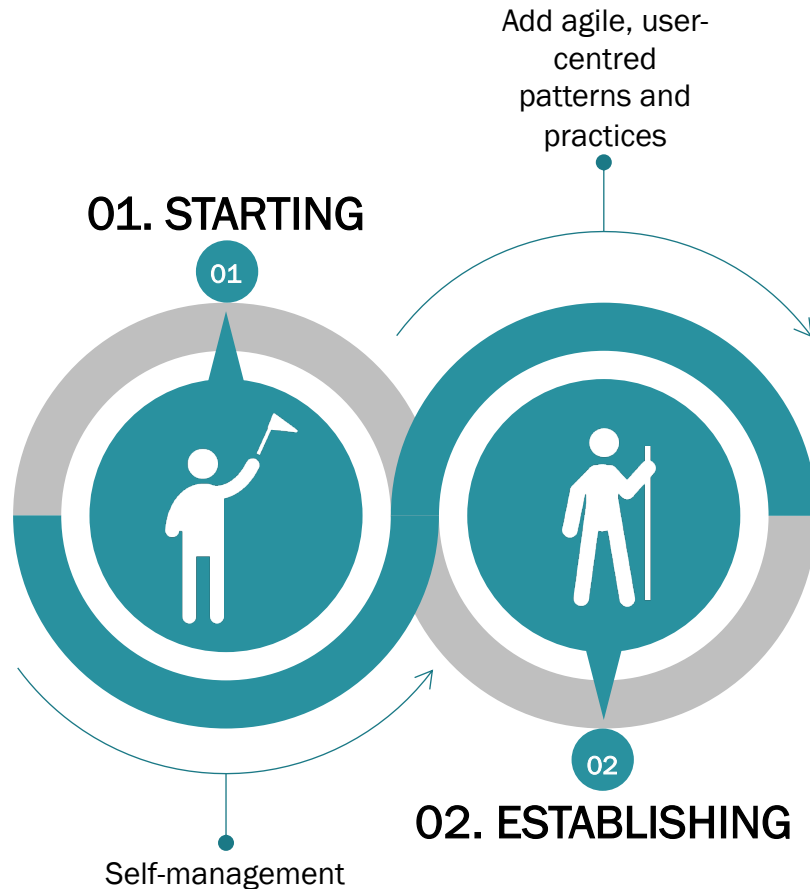
Negative behaviours observed:

- 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

# Agile IQ® Playbook / Prescriptive Analytics



## Positive behaviours observed:

- Good baseline of practices
- Commitment to changing the way of working

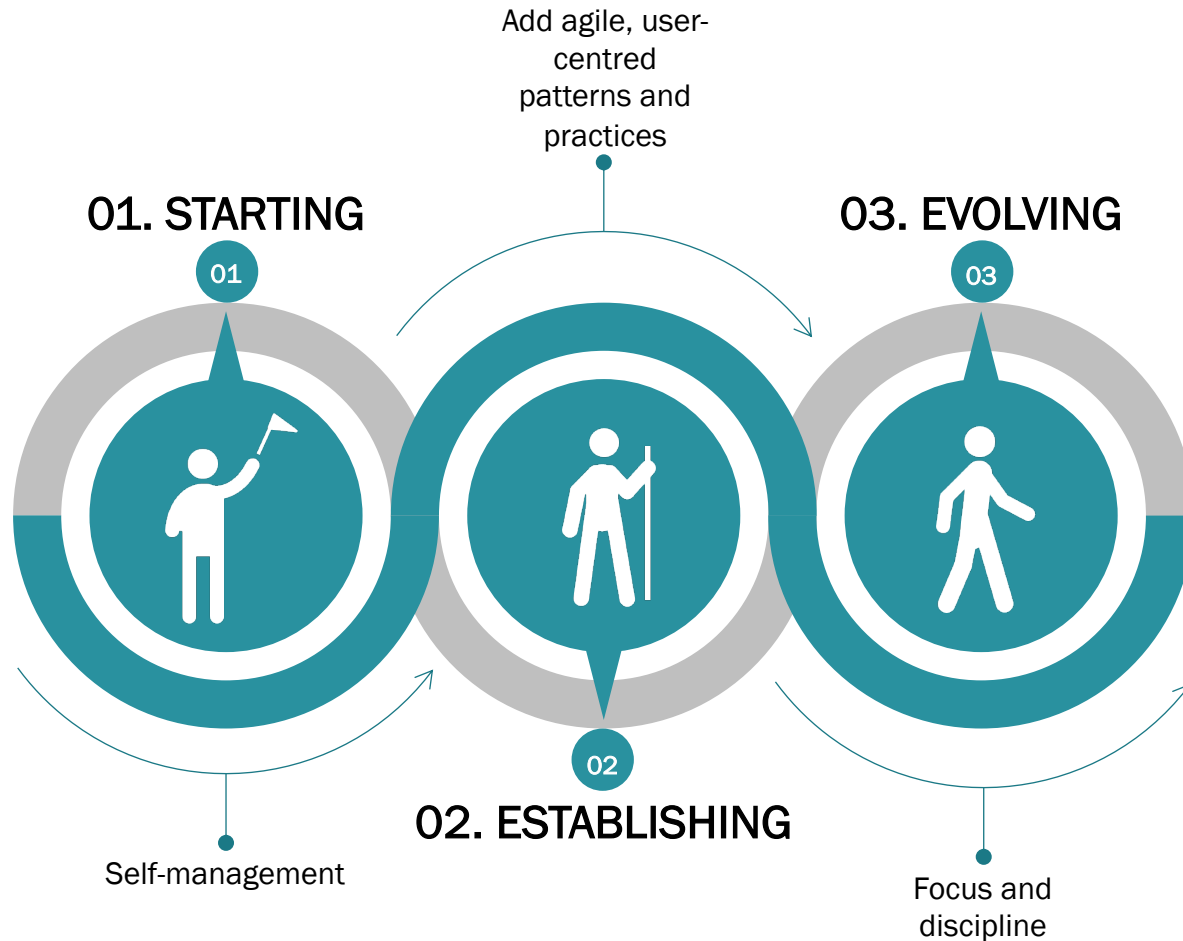
## Negative behaviours observed:

- “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**

# Agile IQ® Playbook / Prescriptive Analytics



## Positive behaviours observed:

- Strong empiricism

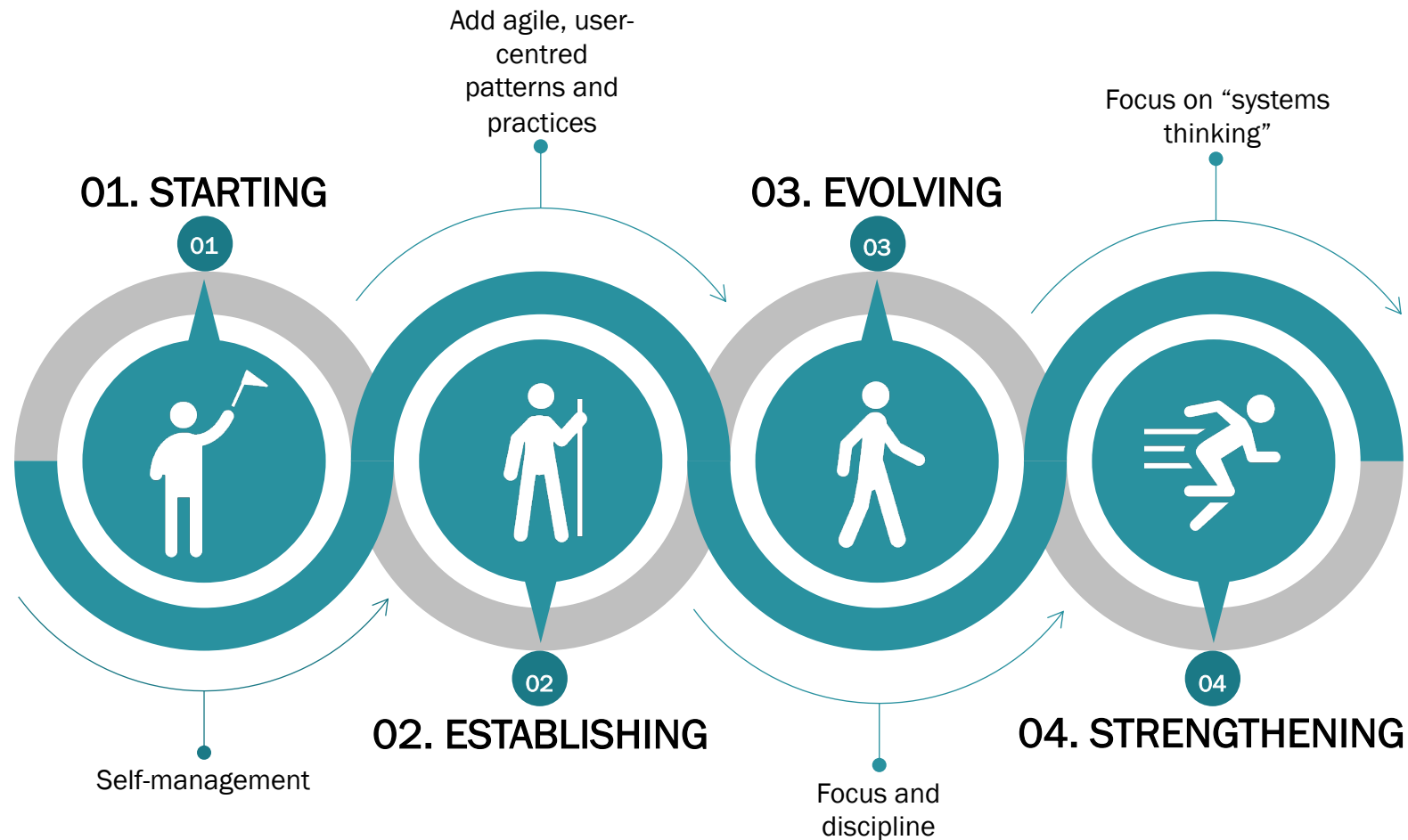
## Negative behaviours observed:

- Groupthink
- In-group vs out-group struggle

## Key to growth:

- Focus and discipline
- Metrics
- Outcomes/impacts focussed

# Agile IQ® Playbook / Prescriptive Analytics



Positive behaviours observed:

- Lean and flow

Negative behaviours observed:

- Tall Poppy syndrome from other teams

Key to growth:

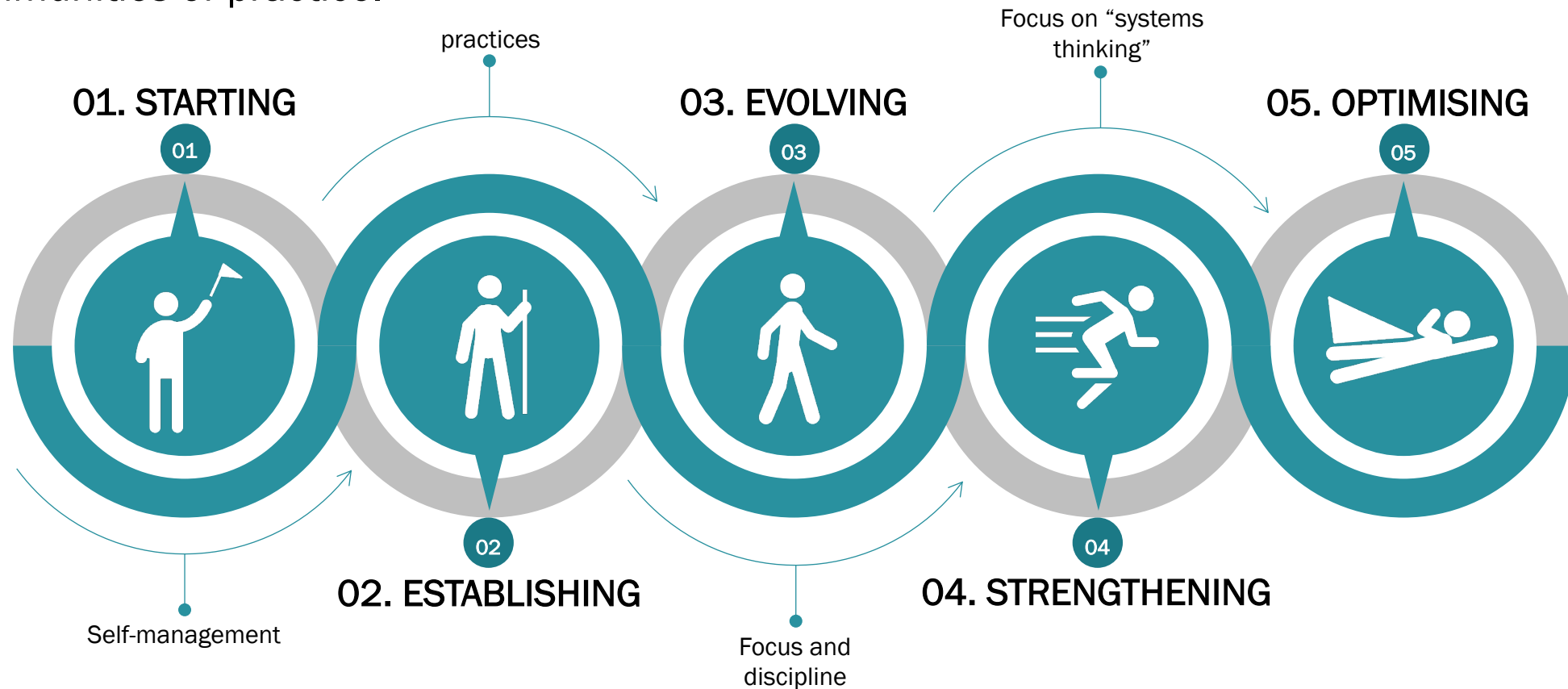
- Systems Thinking
- Moving from divisional silos to value streams



# Agile IQ® Playbook / Prescriptive Analytics

Positive behaviours observed:

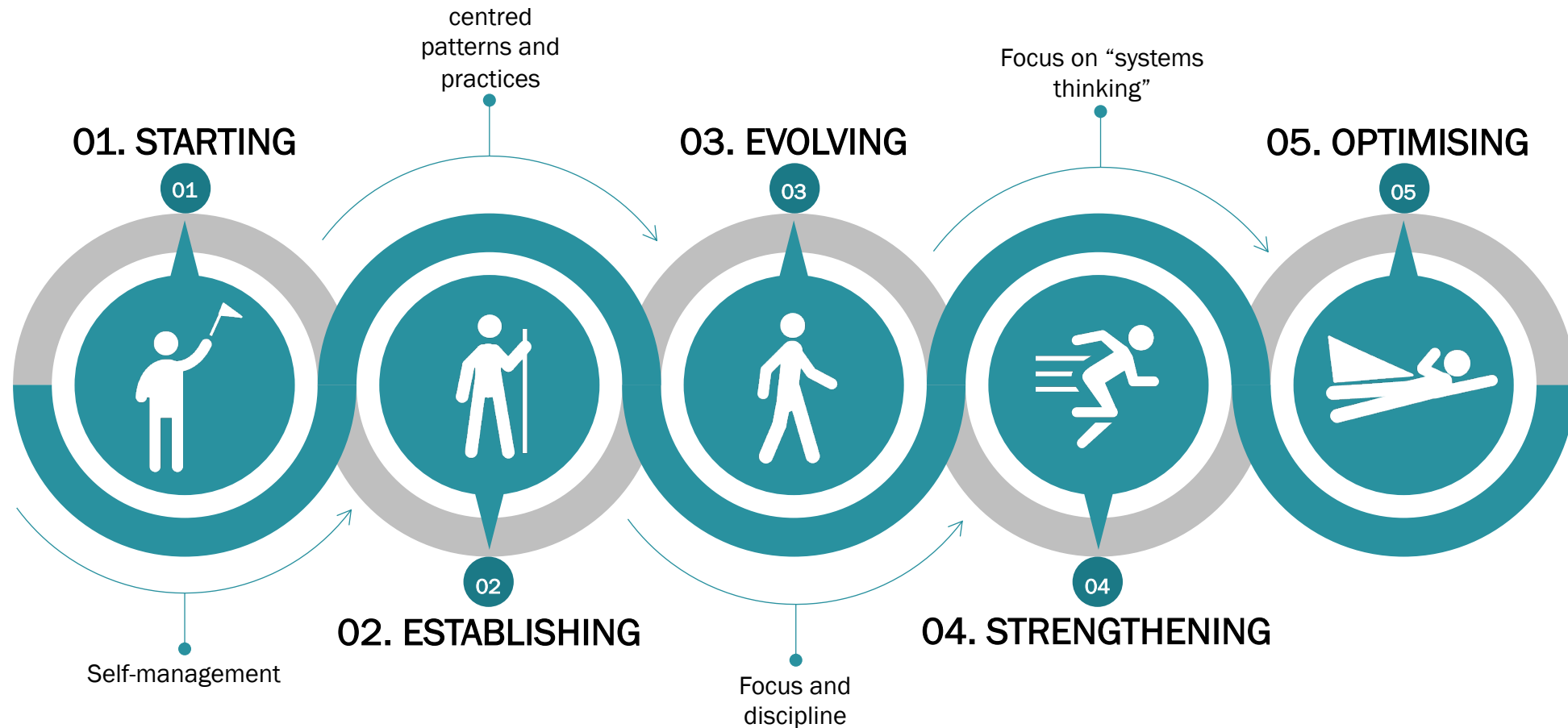
- Helping other teams, managers, units, divisions be agile, emerging as “leaders” for agile communities of practice.



# Agile IQ® Playbook / Prescriptive Analytics

Negative behaviours observed:

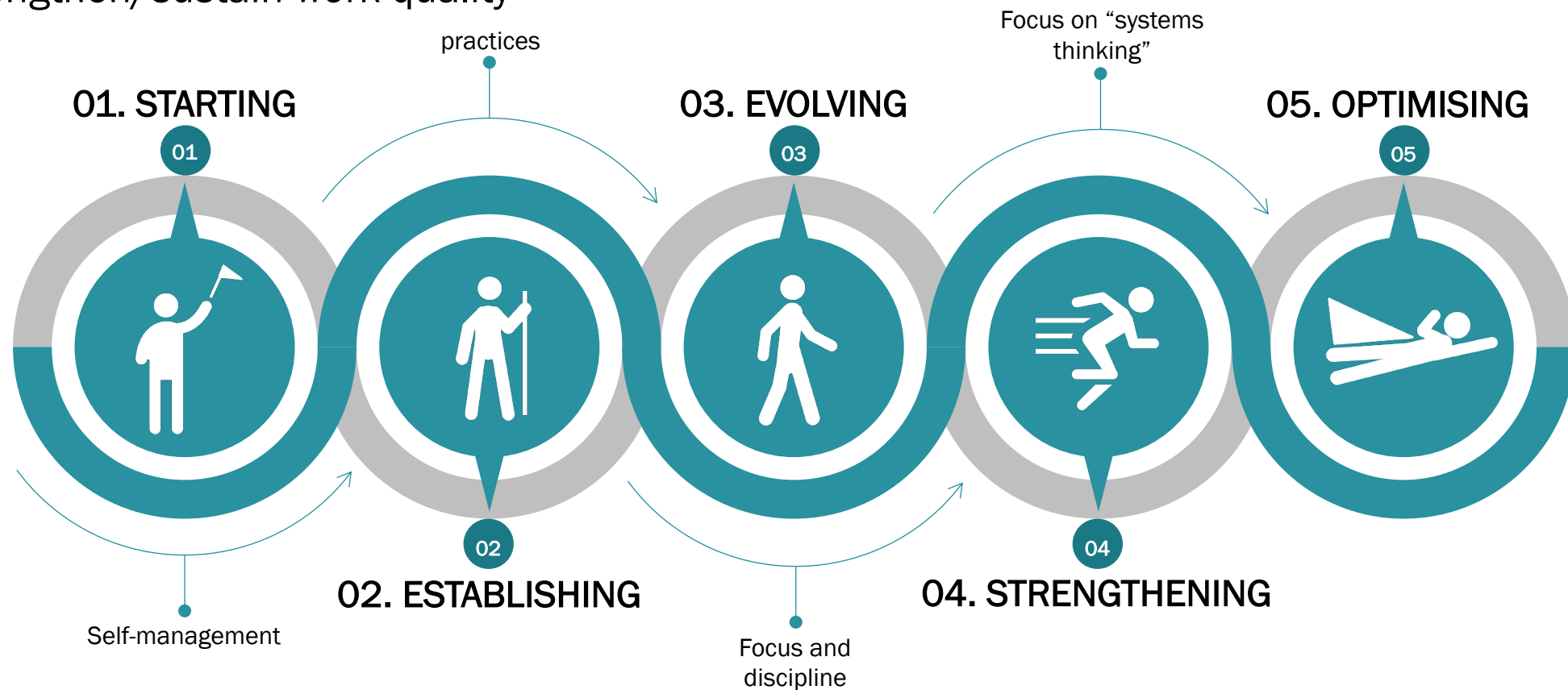
- Occasional hero work



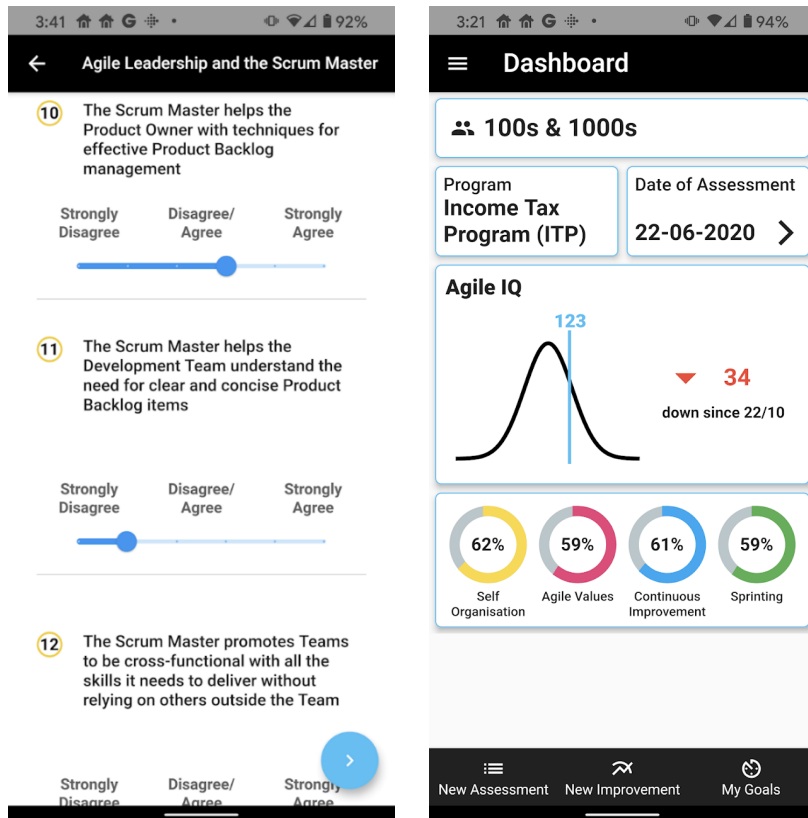
# Agile IQ® Playbook / Prescriptive Analytics

Key to sustaining:

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



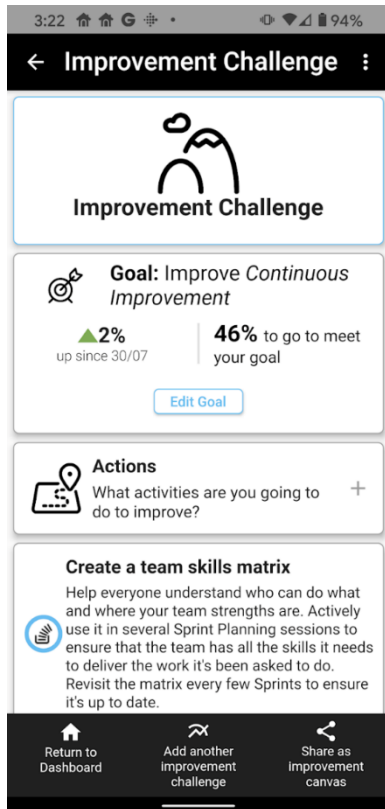
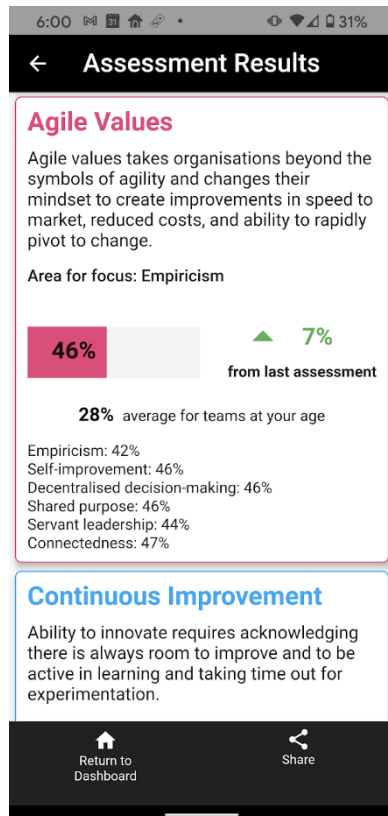
# Put the playbook into an Agile IQ® App / Prescriptive Analytics & Team Coaching



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

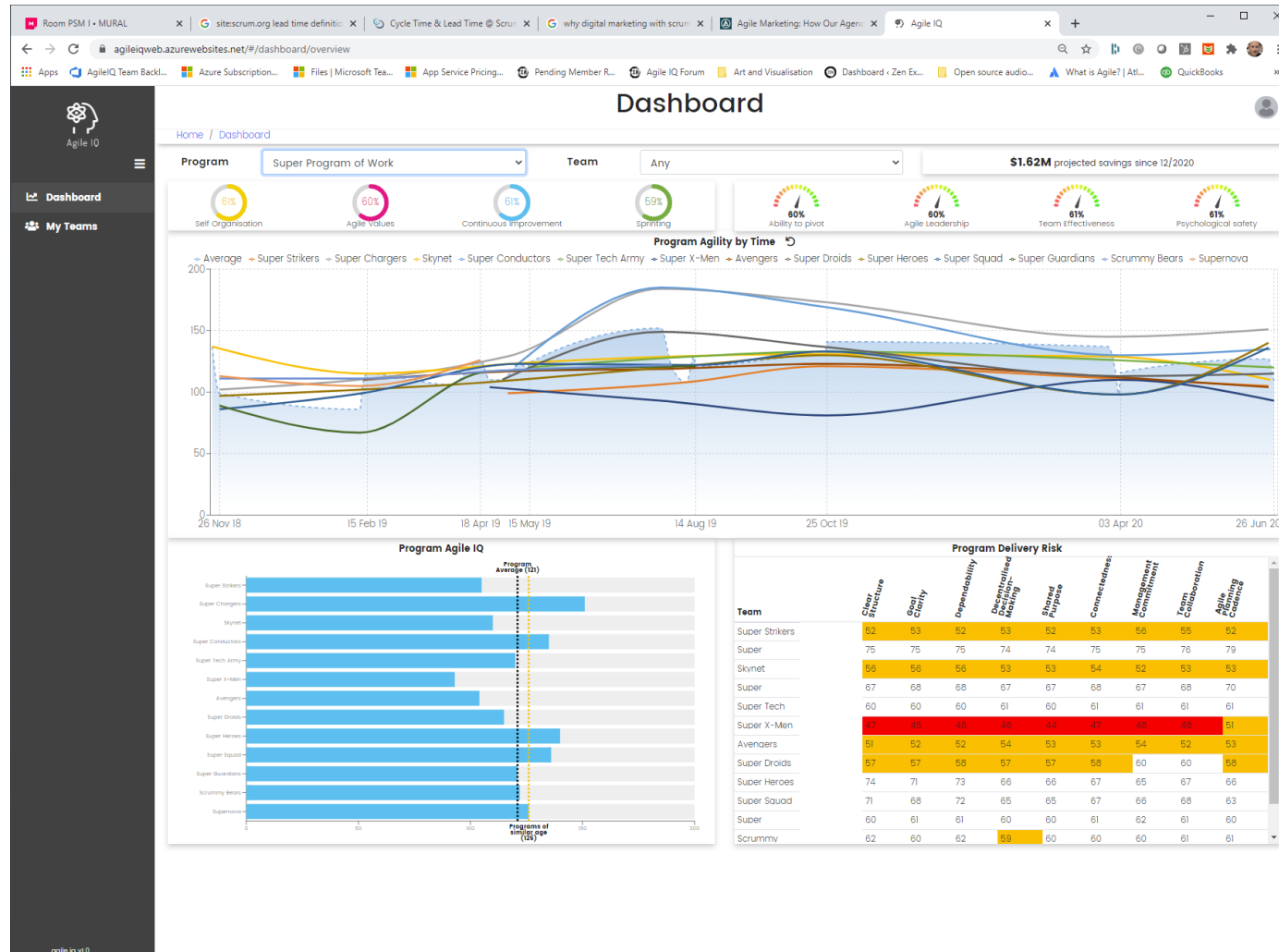
Currently for Android (Beta). iOS due out April 2021.

# Put the playbook into an Agile IQ® App / Prescriptive Analytics & Team Coaching



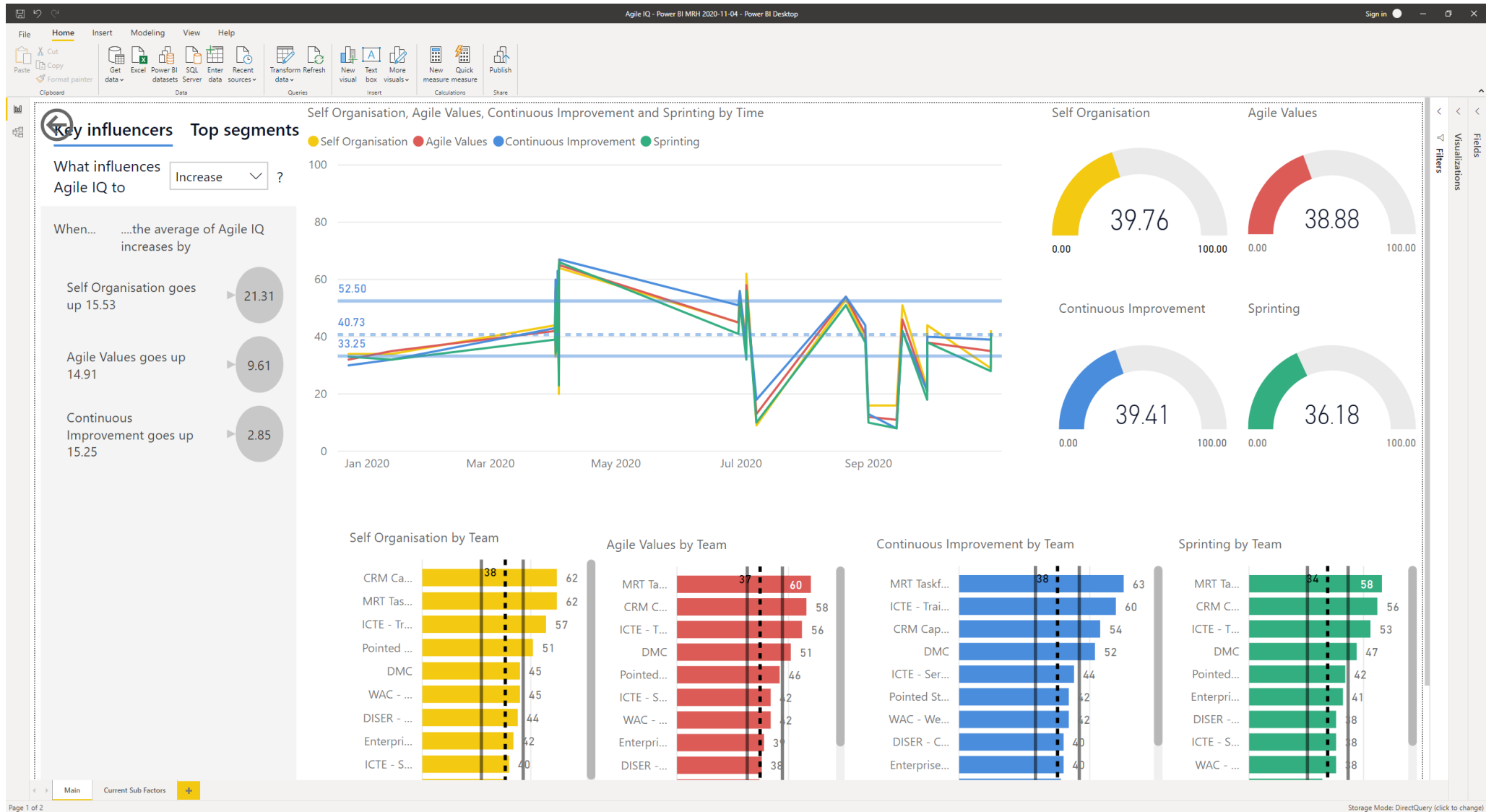
- Advice to move through stages.
- Customised coaching tips.
- Certified training recommendations (e.g. PSM I, PSK, PAL-E, etc).
- Setting goals and actions.

# 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



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# Get Involved In Our Beta!

Register, download, 30 days free:

- [agileiq.com](https://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](mailto:support@agileiq.com)



# FINAL THOUGHTS

# Traditional metrics **don't measure agility**

Only gives us a picture of what has happened, **not what will happen**

Burnup



Burndown



Velocity



Cumulative  
flow



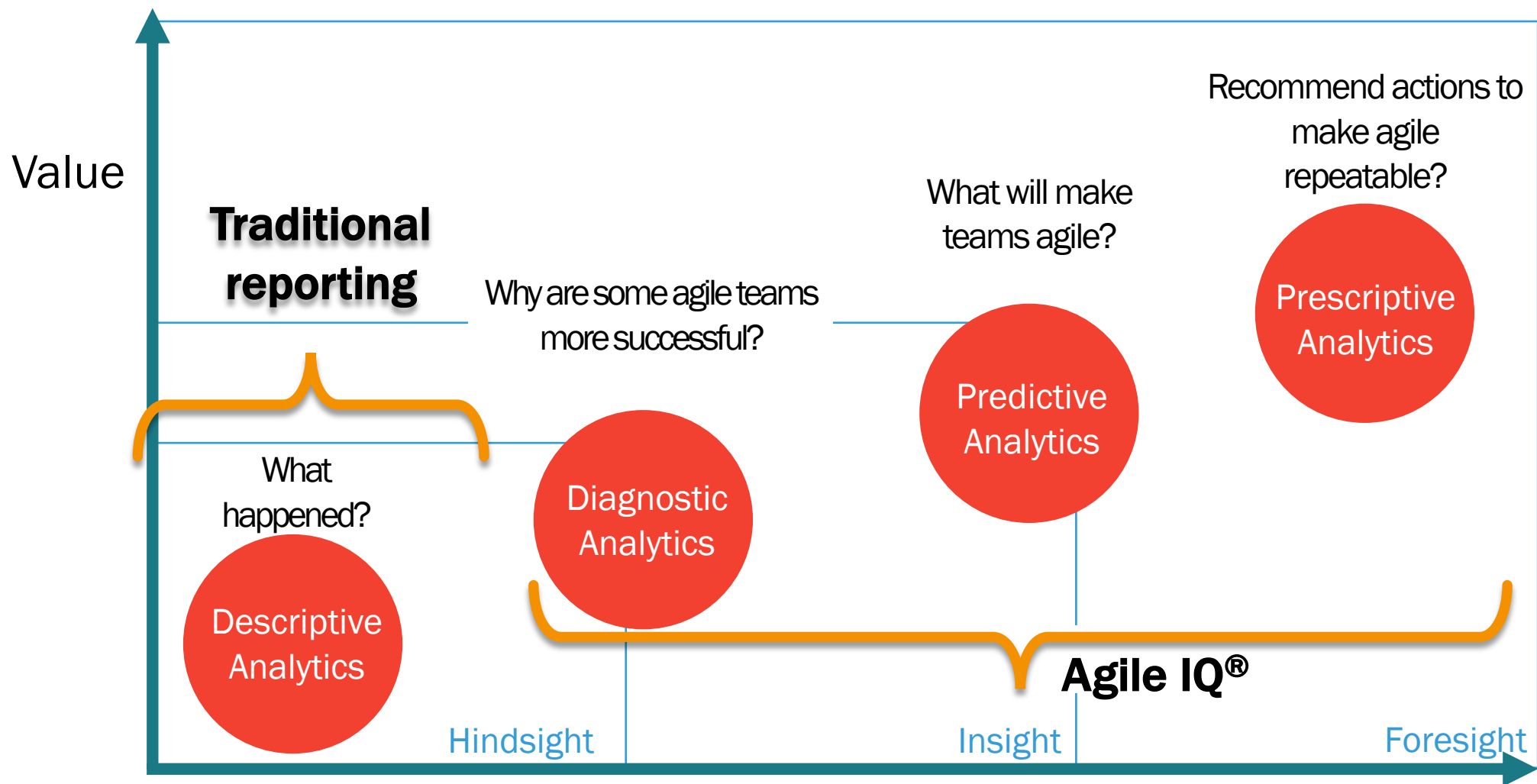
% Complete



Defects



# Data models are necessary for understanding business agility



# 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

# Questions

# Each role has a clear Learning Path

Product Owner

Developers

Scrum Master

Agile Leaders

## Product Owner Learning Path

★★★★★ 4.9 from 5 ratings

Unwatch

As described in the [Scrum Guide](#), a Scrum Product Owner is responsible for maximizing the value of the product resulting from the work of the Development Team. How this is done may vary widely across organizations, Scrum Teams, and individuals.

The learning path is organized by a set of [Professional Scrum Competencies](#) which each contain a number of focus areas. Resources are laid out in a prescribed order, however it is your journey, so follow in the best way that helps you learn.

Understanding and Applying the Scrum Framework

Empiricism

Scrum Values

Scrum Roles

Scrum Events

Scrum Artifacts

Sprint Goal

Done

Scaling Scrum

Managing Products with Agility

### Understanding and Applying the Scrum Framework / Empiricism

The Agile Manifesto

Created by 17 visionaries in 2001, the Agile Manifesto was developed to look at the core principles and values for Agile software development. [0:04:00]

★★★★★ 4.8 from 6 ratings

Completed

Empiricism, the Act of Making Decisions Based on What Is

Ken Schwaber writes about commitment and Scrum as an empirical process. [0:03:30]

★★★★★ 4.8 from 7 ratings

Completed

The Three Pillars of Empiricism (Scrum)

READ THE SCRUM GUIDE

VIEW THE SCRUM FRAMEWORK

THE SCRUM GLOSSARY

FIND TRAINING

GET CERTIFIED

- <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>

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LinkedIn.com  
/company/Scrum-  
org



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Facebook.com  
/Scrum.org



**RSS**  
Scrum.org/RSS



Insights from Scrum.org's community of experts

## SCRUM PULSE

A free monthly webcast by Scrum.org **Professional Scrum Trainers** addressing common challenges faced by the software profession.





# Thank you!