Best Practices of Agile Teams

v4.0.2

Today:

Which practices separate great agile teams from others?

Practicalities

Not actually a Scrum talk: it's just common

Practicalities

Not actually a Scrum talk: it's just common

Questions welcome

Practicalities

Not actually a Scrum talk: it's just common

Questions welcome

QR-code for slides at the end

Who am I

Jakob Buis

~~Developer~~
~~Team lead~~
~~Engineering Manager~~
Management consultant

Professional team builder

www.jakobbuis.nl (now with blogging!)

Should you listen to me?

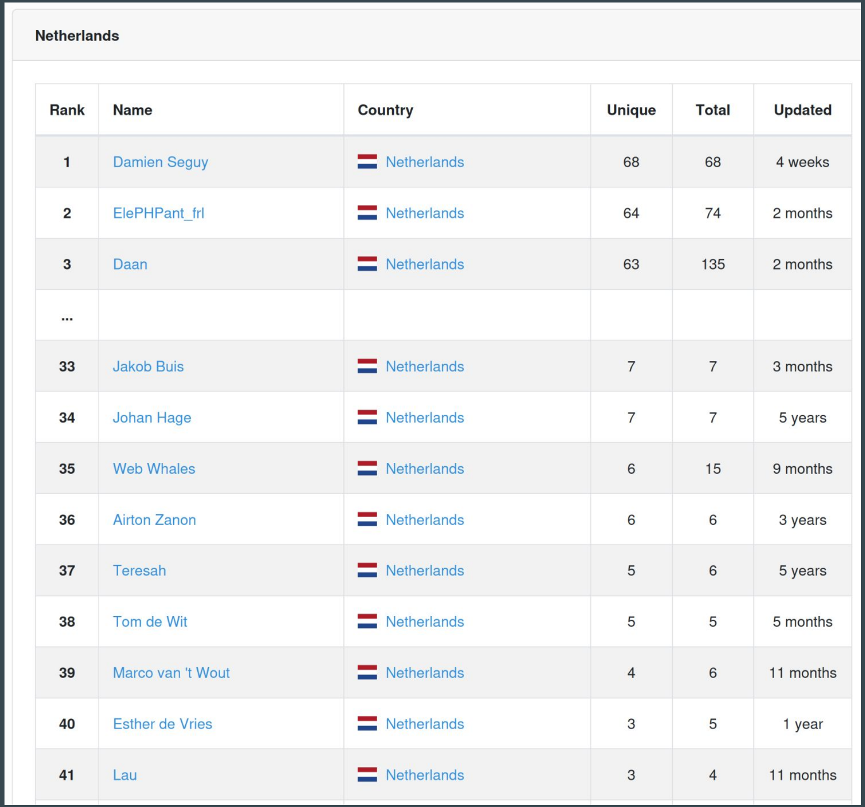
Yes, because:

Never been fired

Worked with 15+ agile teams in various companies & industries

Professional Scrum Master II

Herd of 7 elePHPants



Netherlands

Rank	Name	Country	Unique	Total	Updated
1	Damien Seguy	Netherlands	68	68	4 weeks
2	ElePHPant_frl	Netherlands	64	74	2 months
3	Daan	Netherlands	63	135	2 months
...					
33	Jakob Buis	Netherlands	7	7	3 months
34	Johan Hage	Netherlands	7	7	5 years
35	Web Whales	Netherlands	6	15	9 months
36	Airton Zanon	Netherlands	6	6	3 years
37	Teresah	Netherlands	5	6	5 years
38	Tom de Wit	Netherlands	5	5	5 months
39	Marco van 't Wout	Netherlands	4	6	11 months
40	Esther de Vries	Netherlands	3	5	1 year
41	Lau	Netherlands	3	4	11 months

elephpant.me

Should you listen to me?

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No, because:

I fuck up, a lot

Worked with 17 teams

Mostly in smaller companies
(< 300 people, < 30 engineers)

Most of my ideas come from other people
(links included!)

1. Working, tested software every sprint

Manifesto for Agile Software Development

We are uncovering better ways of developing
software by doing it and helping others do it.
Through this work we have come to value:

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

That is, while there is value in the items on
the right, we value the items on the left more.

Kent Beck	James Grenning	Robert C. Martin
Mike Beedle	Jim Highsmith	Steve Mellor
Arie van Bennekum	Andrew Hunt	Ken Schwaber
Alistair Cockburn	Ron Jeffries	Jeff Sutherland
Ward Cunningham	Jon Kern	Dave Thomas
Martin Fowler	Brian Marick	

Twelve Principles of Agile Software

View Signatories

About the Authors
About the Manifesto

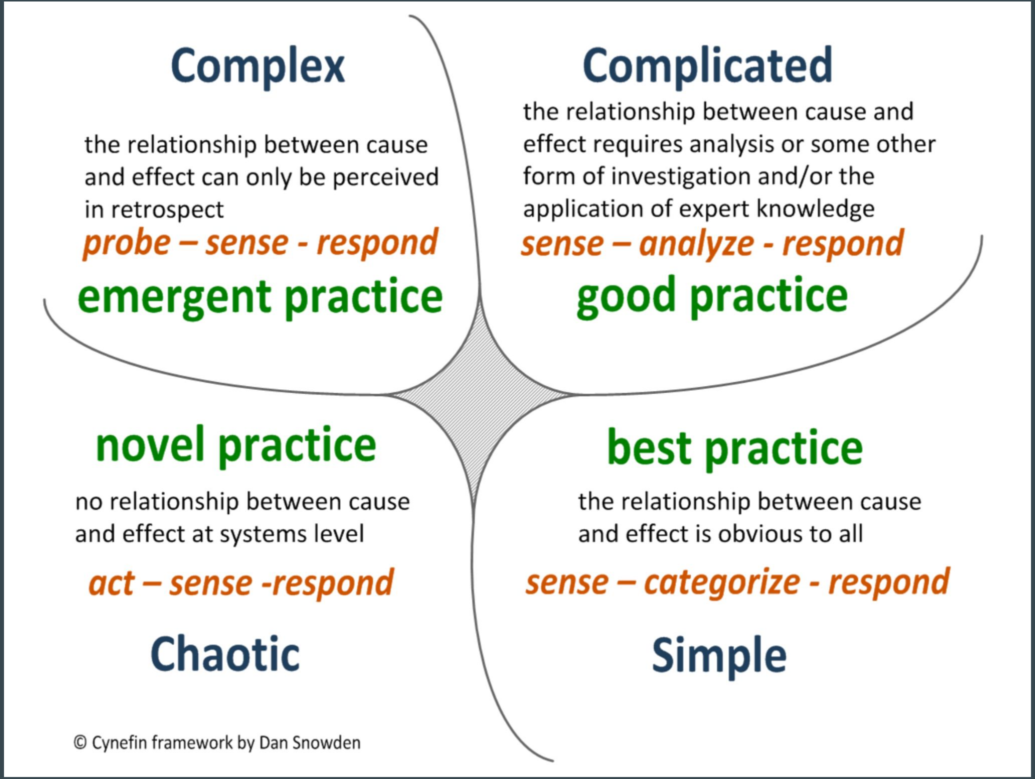
Principle 1:

Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

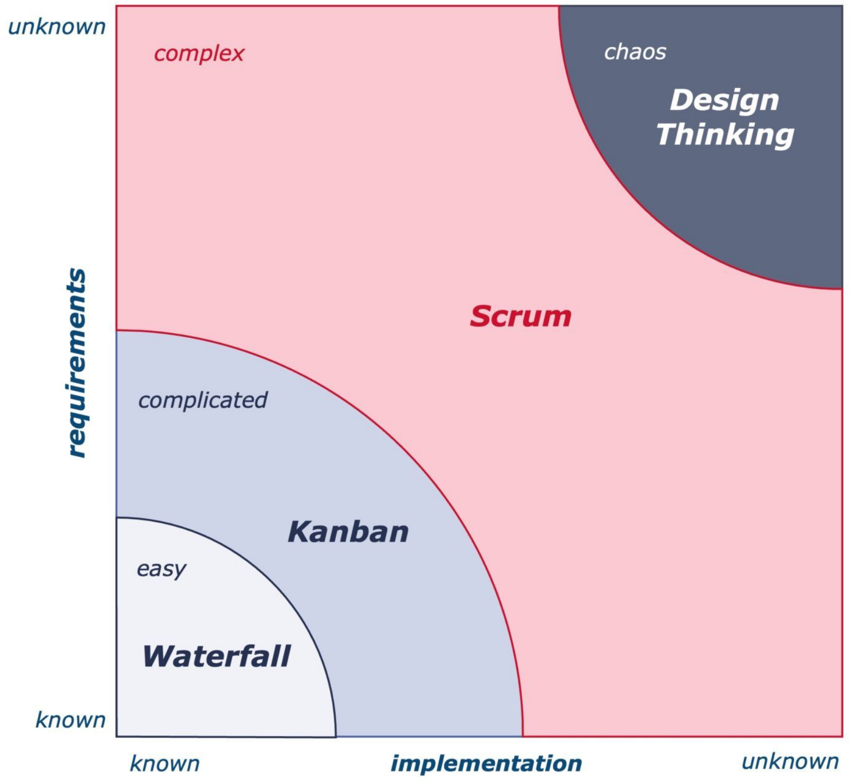
Principle 7:

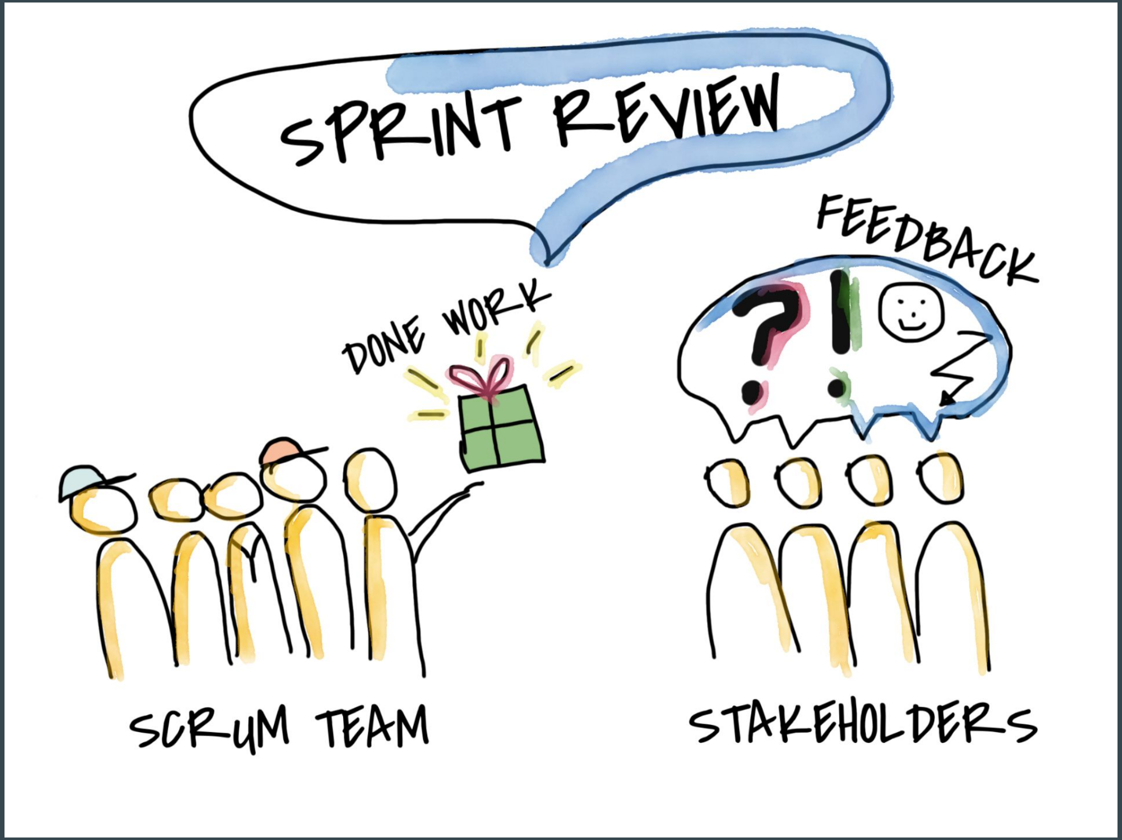
Working software is the primary measure of progress.

Software development is complex work


Complex
the relationship between cause and effect can only be perceived in retrospect
probe – sense - respond
emergent practice
Complicated
the relationship between cause and effect requires analysis or some other form of investigation and/or the application of expert knowledge
sense – analyze - respond
good practice
novel practice
no relationship between cause and effect at systems level
act – sense -respond
Chaotic
best practice
the relationship between cause and effect is obvious to all
sense – categorize - respond
Simple
© Cynefin framework by Dan Snowden

Stacey Matrix




SPRINT REVIEW
DONE WORK
FEEDBACK
?!
SCRUM TEAM
STAKEHOLDERS

Working tested software, every sprint

Get really good at vertical slicing

- https://www.youtube.com/watch?v=urZ1TIycedU

Working tested software, every sprint

Get really good at vertical slicing

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Erase all dependencies

- decoupling architecture & operations
- team changes (Team Topologies)

Working tested software, every sprint

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https://www.youtube.com/watch?v=urZ1TIycedU

Erase all dependencies

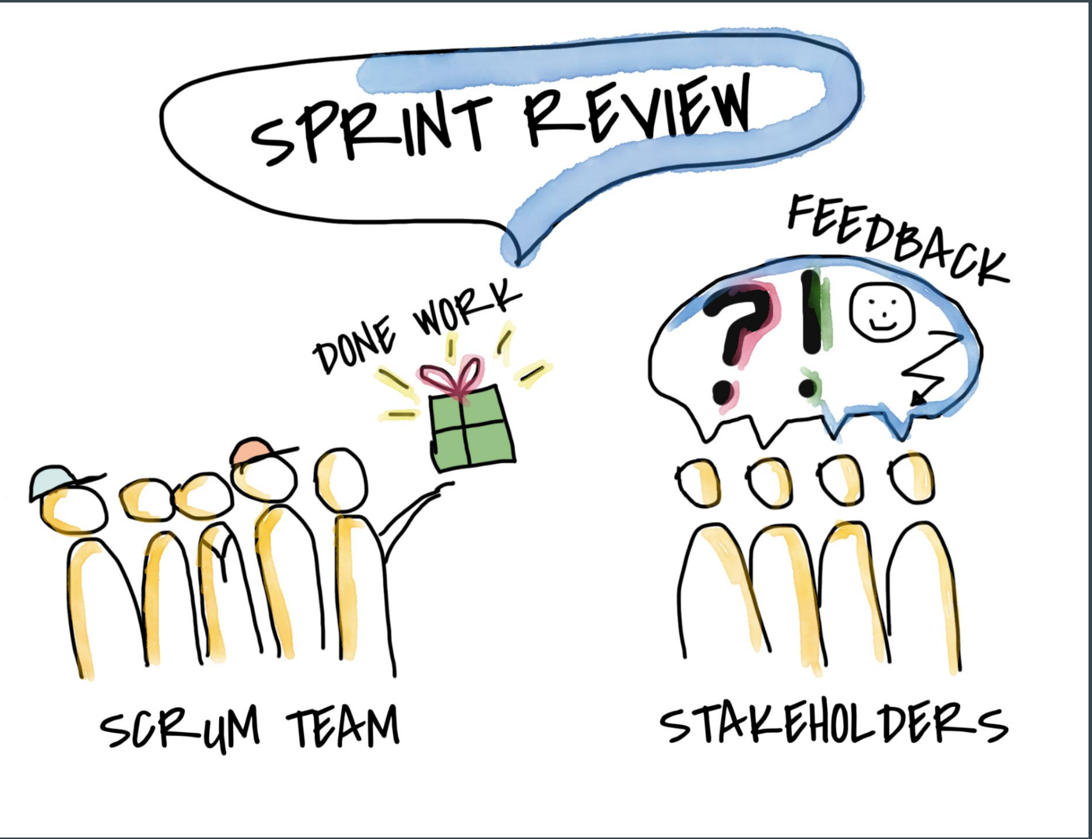
- decoupling architecture & operations
- team changes (Team Topologies)

Avoid big-design up-front

Incur (some) technical debt

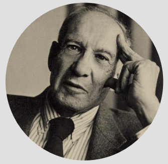
1. Working, tested software every sprint

2. Measure actual usage


SPRINT REVIEW
DONE WORK
FEEDBACK
?!
SCRUM TEAM
STAKEHOLDERS

There is nothing so useless
as doing with great efficiency
that which should not be done at all.

Peter Drucker

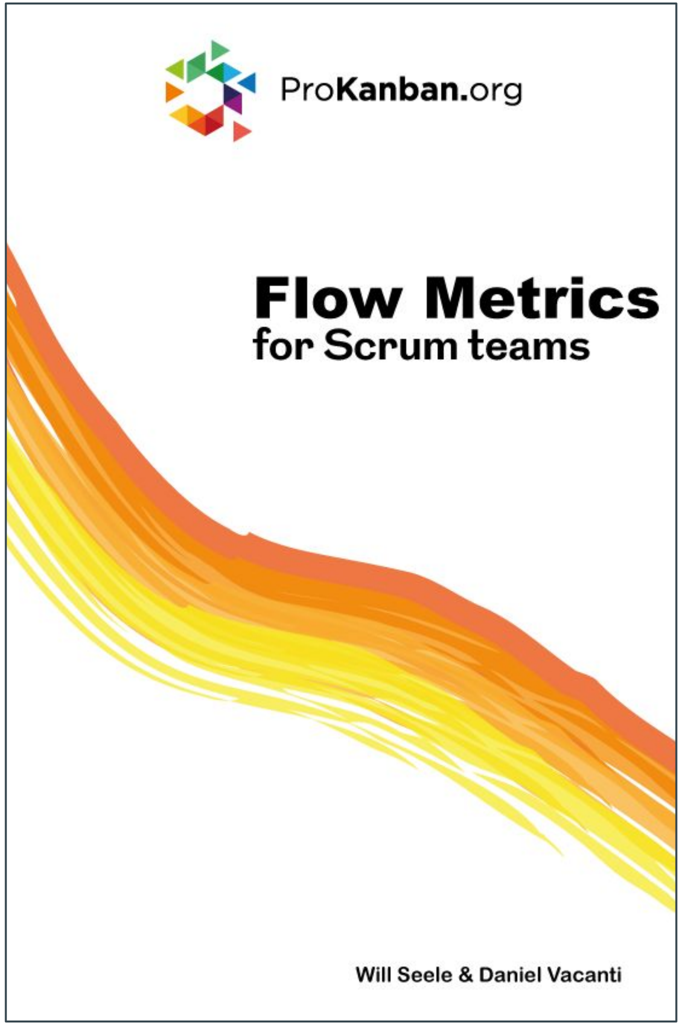


Add tracking tables

feature_foo_clicks		
id	**user_id**	**timestamp**
1	1	2025-03-10T14:30:10Z
2	2	2025-03-10T14:31:23Z
3	1	2025-03-11T09:16:00Z
4	3	2025-03-12T04:10:59Z

Board expansion

1. Options (Backlog)
2. Discovery
3. Building
    a. Not started
    b. Coding
    c. Code Review
    d. Ready for release
4. Validating
5. Done


ProKanban.org

Flow Metrics
for Scrum teams

Will Seele & Daniel Vacanti

2. Measure actual usage

3. Data-driven estimation

This guy is a software engineer, you can tell by his awesome estimation skills

Subject to biases

Optimism bias

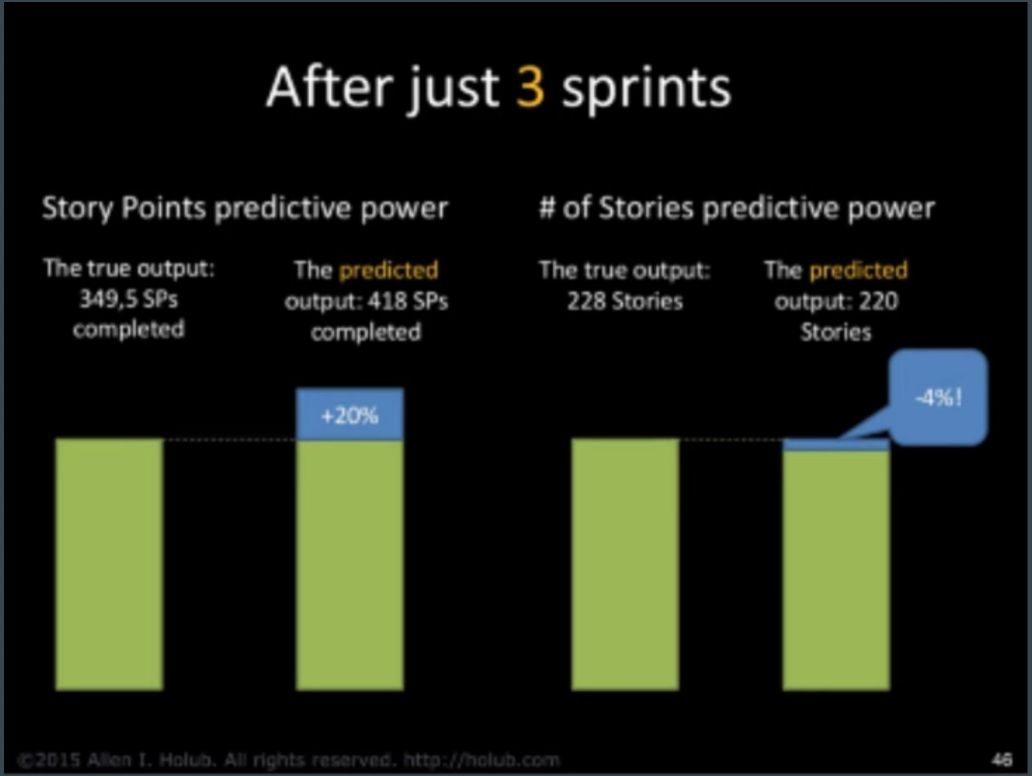
Confirmation bias

Group-think / bandwagon

Flaw of averages

Re-estimation bias

#NoEstimates



#NoEstimates (Allen Holub)
https://www.youtube.com/watch?v=QVBInCTu9Ms

Improving estimation

Good:

- make items smaller
- multi-point estimates
- same-sizing everything: "1 story point" and "too big"
- https://mdalmijn.com/p/roman-estimation-a-simple-easy-and

Improving estimation

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Better:

- use data

Monte Carlo simulation

Record throughput per day:

0 7 2 6 6 3 7 2 9 1 13 0 0 2 4

Monte Carlo simulation

Record throughput per day:

0 7 2 6 6 3 7 2 9 1 13 0 0 2 4

Sample next 5 days:

2 0 2 7 0

Monte Carlo simulation

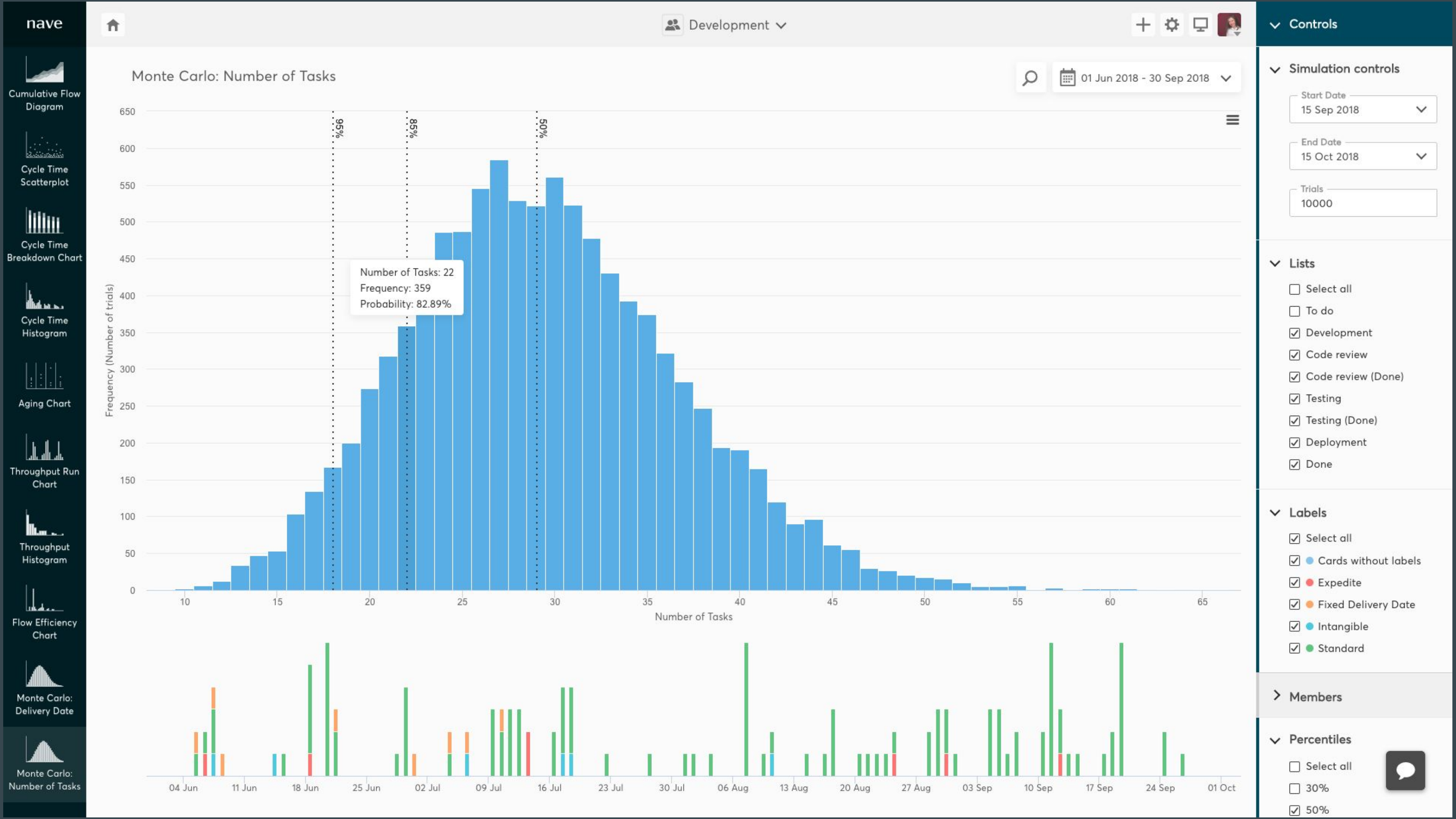
Record throughput per day:

0 7 2 6 6 3 7 2 9 1 13 0 0 2

Sample next 5 days:

2 0 2 7 0 = 11

Next week, we'll finish 11 stories



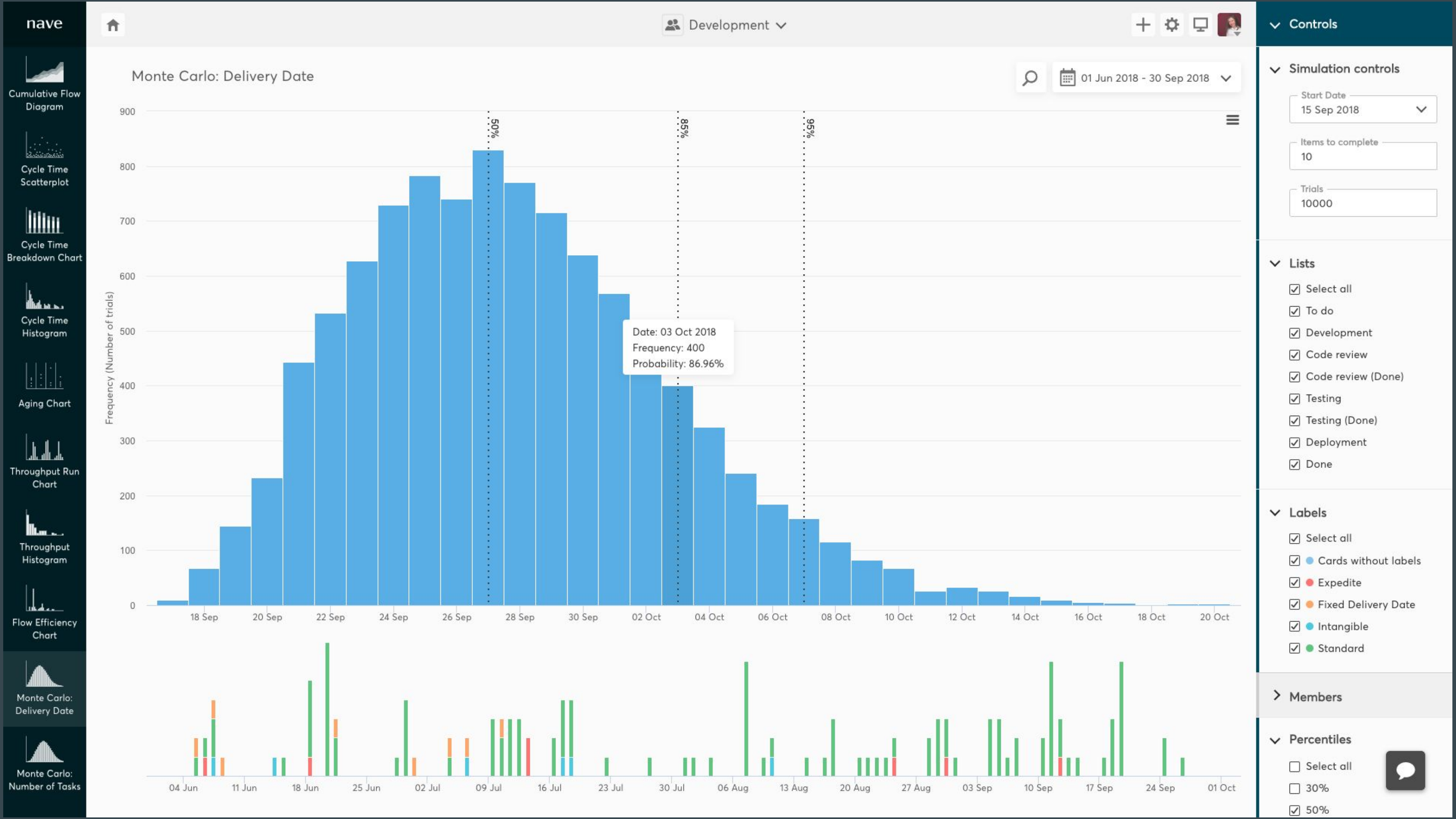
Number of Tasks: 22
Frequency: 359
Probability: 82.89%

Start Date: 15 Sep 2018
End Date: 15 Oct 2018
Trials: 10000

Lists:
- ☐ Select all
- ☐ To do
- ☑ Development
- ☑ Code review
- ☑ Code review (Done)
- ☑ Testing
- ☑ Testing (Done)
- ☑ Deployment
- ☑ Done

Labels:
- ☑ Select all
- ☑ ● Cards without labels
- ☑ ● Expedite
- ☑ ● Fixed Delivery Date
- ☑ ● Intangible
- ☑ ● Standard

Percentiles:
- ☐ Select all
- ☐ 30%
- ☑ 50%



Monte Carlo: Delivery Date

Date: 03 Oct 2018
Frequency: 400
Probability: 86.96%

Simulation controls

Start Date: 15 Sep 2018

Items to complete: 10

Trials: 10000

Lists

- ☑ Select all
- ☑ To do
- ☑ Development
- ☑ Code review
- ☑ Code review (Done)
- ☑ Testing
- ☑ Testing (Done)
- ☑ Deployment
- ☑ Done

Labels

- ☑ Select all
- ☑ ● Cards without labels
- ☑ ● Expedite
- ☑ ● Fixed Delivery Date
- ☑ ● Intangible
- ☑ ● Standard

Percentiles

- ☐ Select all
- ☐ 30%
- ☑ 50%

Pitfalls

The future is dependent on the past

Pitfalls

The future is dependent on the past

100% certainty assholes

Pitfalls

The future is dependent on the past

100% certainty assholes

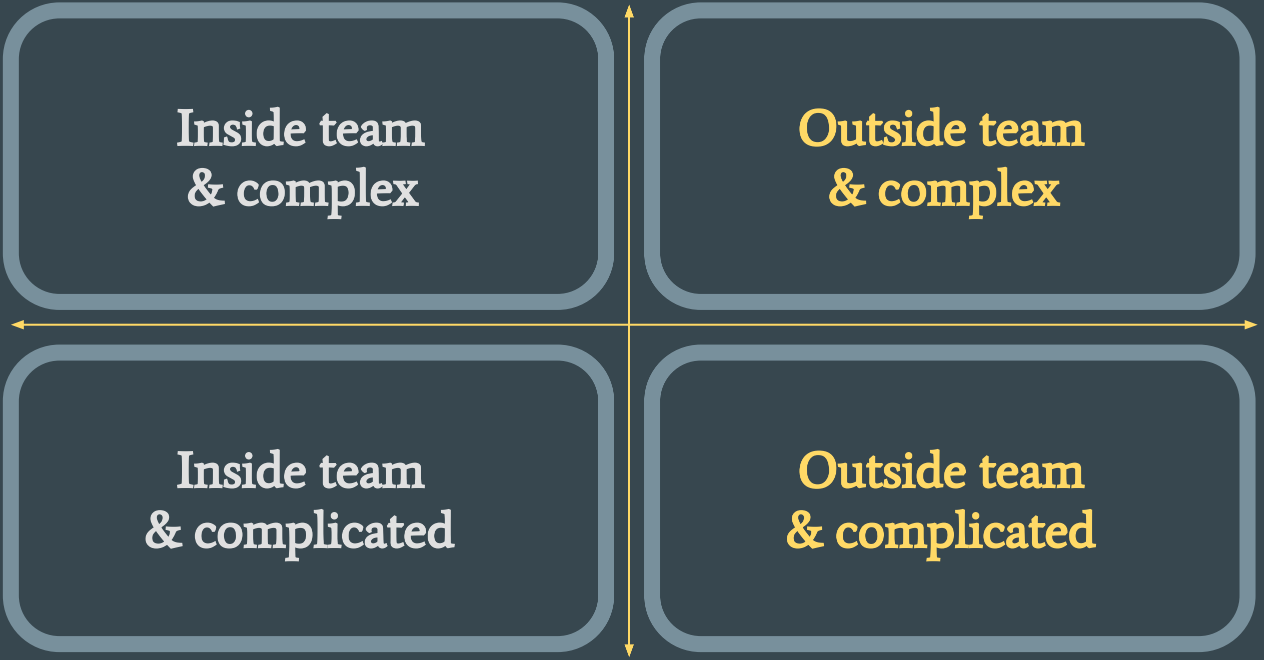
Weighted monte carlo

3. Data-driven estimation

4. Effective retrospectives

THIS IS FINE.

Hard problems to address



Make retrospectives effective

- Inspect & adapt
  - 1-2 high priority improvements, implemented next sprint

Make retrospectives effective

Inspect & adapt

- 1-2 high priority improvements, implemented next sprint

Escalate what you cannot solve

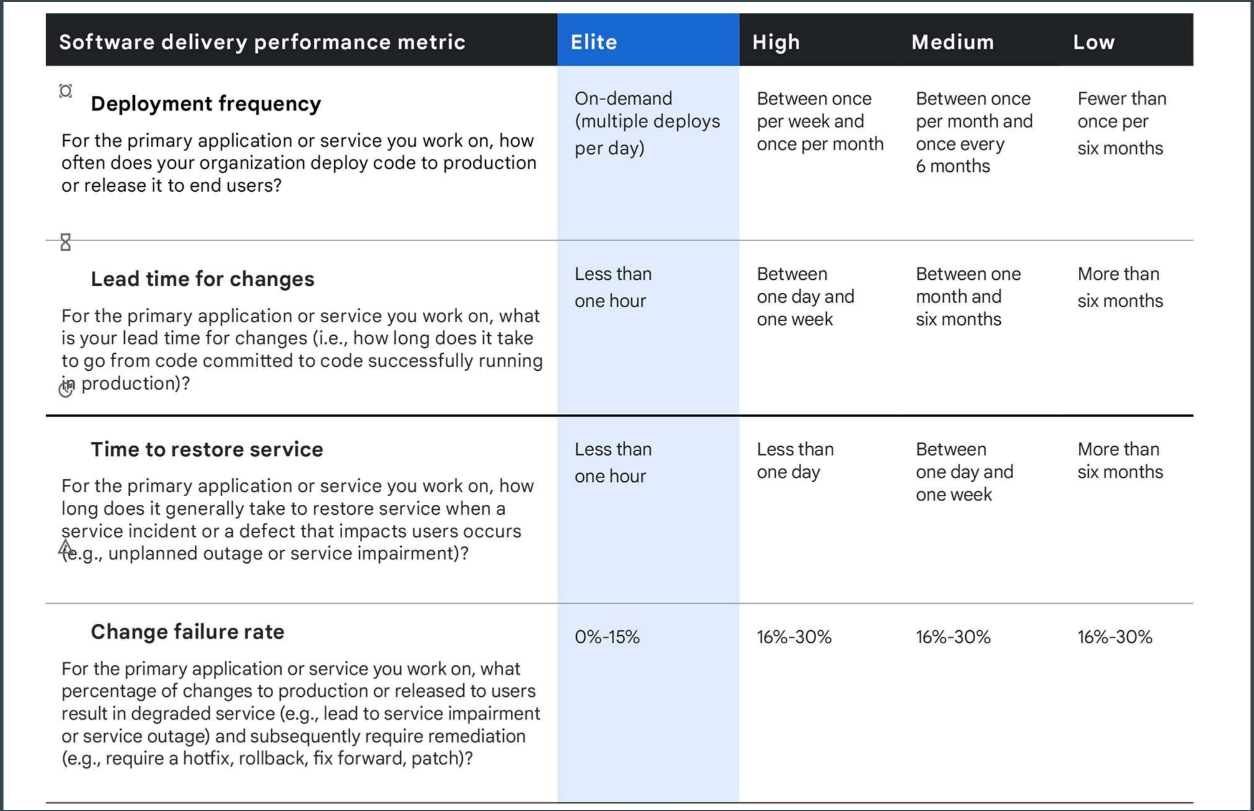
Make retrospectives effective

Inspect & adapt

    1-2 high priority improvements, implemented next sprint

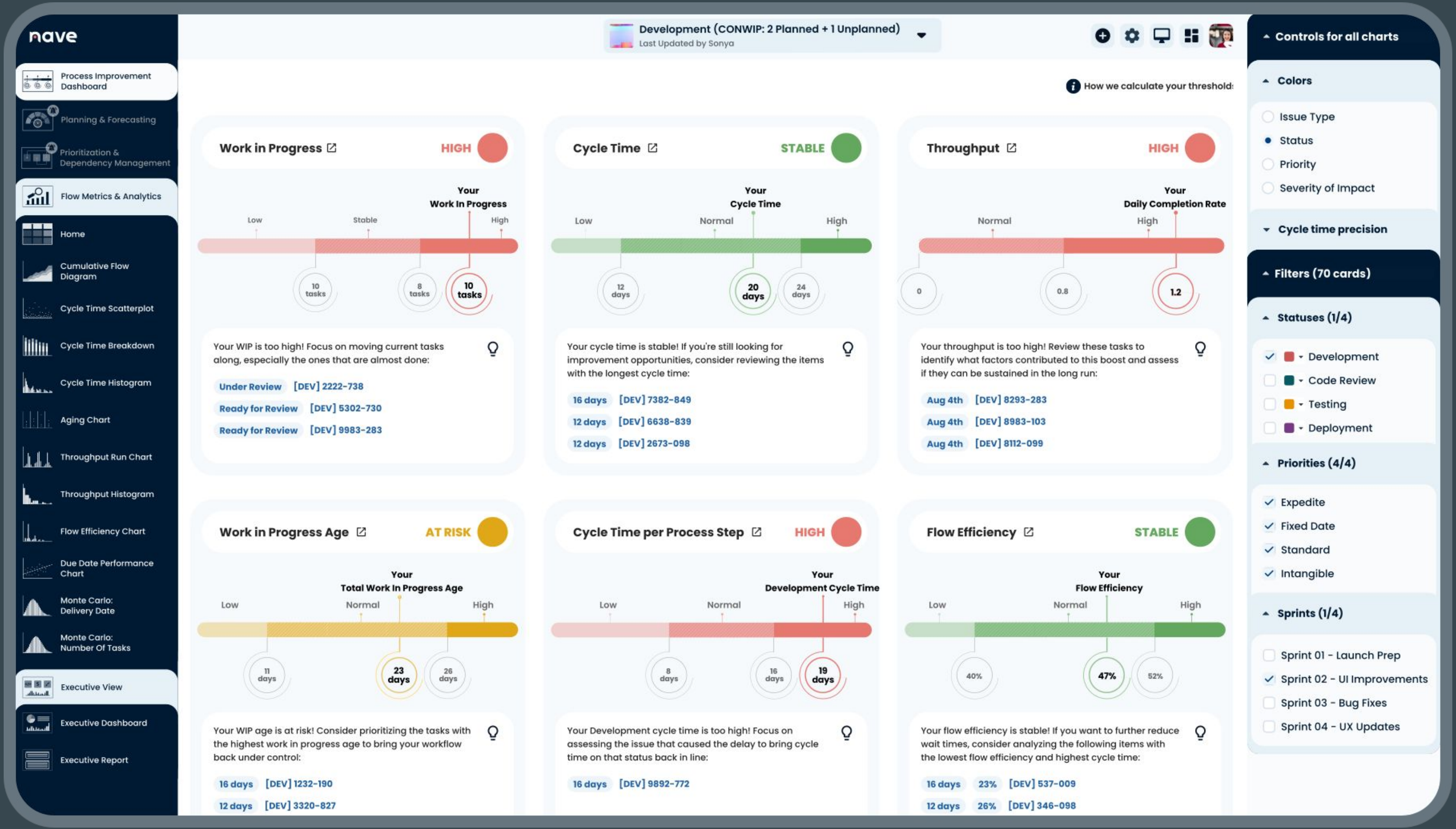
Escalate what you cannot solve

Data-driven decision making



Software delivery performance metric	Elite	High	Medium	Low
Deployment frequency For the primary application or service you work on, how often does your organization deploy code to production or release it to end users?	On-demand (multiple deploys per day)	Between once per week and once per month	Between once per month and once every 6 months	Fewer than once per six months
Lead time for changes For the primary application or service you work on, what is your lead time for changes (i.e., how long does it take to go from code committed to code successfully running in production)?	Less than one hour	Between one day and one week	Between one month and six months	More than six months
Time to restore service For the primary application or service you work on, how long does it generally take to restore service when a service incident or a defect that impacts users occurs (e.g., unplanned outage or service impairment)?	Less than one hour	Less than one day	Between one day and one week	More than six months
Change failure rate For the primary application or service you work on, what percentage of changes to production or released to users result in degraded service (e.g., lead to service impairment or service outage) and subsequently require remediation (e.g., require a hotfix, rollback, fix forward, patch)?	0%-15%	16%-30%	16%-30%	16%-30%

https://cloud.google.com/blog/products/devops-sre/using-the-four-keys-to-measure-your-devops-performance



nave

Process Improvement Dashboard
Planning & Forecasting
Prioritization & Dependency Management
Flow Metrics & Analytics
Home
Cumulative Flow Diagram
Cycle Time Scatterplot
Cycle Time Breakdown
Cycle Time Histogram
Aging Chart
Throughput Run Chart
Throughput Histogram
Flow Efficiency Chart
Due Date Performance Chart
Monte Carlo: Delivery Date
Monte Carlo: Number Of Tasks
Executive View
Executive Dashboard
Executive Report

Development (CONWIP: 2 Planned + 1 Unplanned)
Last Updated by Sonya

How we calculate your thresholds

Work in Progress HIGH
Your Work In Progress
Low · Stable · High
10 tasks · 8 tasks · 10 tasks

Your WIP is too high! Focus on moving current tasks along, especially the ones that are almost done:

Under Review	[DEV] 2222-738
Ready for Review	[DEV] 5302-730
Ready for Review	[DEV] 9983-283

Cycle Time STABLE
Your Cycle Time
Low · Normal · High
12 days · 20 days · 24 days

Your cycle time is stable! If you're still looking for improvement opportunities, consider reviewing the items with the longest cycle time:

16 days	[DEV] 7382-849
12 days	[DEV] 6638-839
12 days	[DEV] 2673-098

Throughput HIGH
Your Daily Completion Rate
Normal · High
0 · 0.8 · 1.2

Your throughput is too high! Review these tasks to identify what factors contributed to this boost and assess if they can be sustained in the long run:

Aug 4th	[DEV] 8293-283
Aug 4th	[DEV] 8983-103
Aug 4th	[DEV] 8112-099

Work in Progress Age AT RISK
Your Total Work In Progress Age
Low · Normal · High
11 days · 23 days · 26 days

Your WIP age is at risk! Consider prioritizing the tasks with the highest work in progress age to bring your workflow back under control:

16 days	[DEV] 1232-190
12 days	[DEV] 3320-827

Cycle Time per Process Step HIGH
Your Development Cycle Time
Low · Normal · High
8 days · 16 days · 19 days

Your Development cycle time is too high! Focus on assessing the issue that caused the delay to bring cycle time on that status back in line:

16 days	[DEV] 9892-772

Flow Efficiency STABLE
Your Flow Efficiency
Low · Normal · High
40% · 47% · 52%

Your flow efficiency is stable! If you want to further reduce wait times, consider analyzing the following items with the lowest flow efficiency and highest cycle time:

16 days	23%	[DEV] 537-009
12 days	26%	[DEV] 346-098

Controls for all charts

Colors
○ Issue Type
● Status
○ Priority
○ Severity of Impact

Cycle time precision

Filters (70 cards)

Statuses (1/4)
✓ Development
☐ Code Review
☐ Testing
☐ Deployment

Priorities (4/4)
✓ Expedite
✓ Fixed Date
✓ Standard
✓ Intangible

Sprints (1/4)
☐ Sprint 01 - Launch Prep
✓ Sprint 02 - UI Improvements
☐ Sprint 03 - Bug Fixes
☐ Sprint 04 - UX Updates

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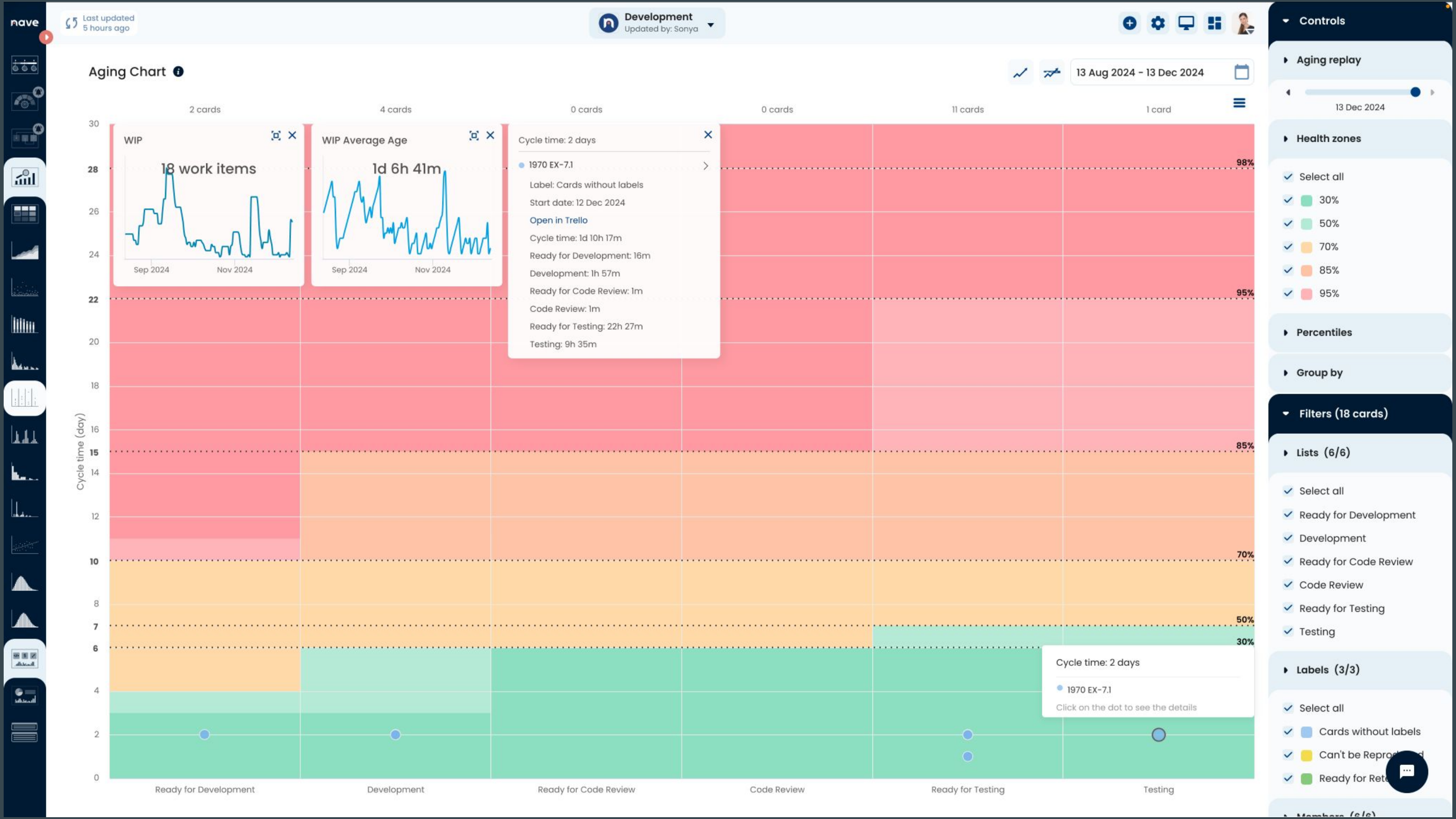

Cycle time: 2 days

1970 EX-7.1

Label: Cards without labels
Start date: 12 Dec 2024
Open in Trello
Cycle time: 1d 10h 17m
Ready for Development: 16m
Development: 1h 57m
Ready for Code Review: 1m
Code Review: 1m
Ready for Testing: 22h 27m
Testing: 9h 35m

Cycle time: 2 days
1970 EX-7.1
Click on the dot to see the details

Health zones
- ✓ Select all
- ✓ 🟩 30%
- ✓ 🟩 50%
- ✓ 🟨 70%
- ✓ 🟧 85%
- ✓ 🟥 95%

Lists (6/6)
- ✓ Select all
- ✓ Ready for Development
- ✓ Development
- ✓ Ready for Code Review
- ✓ Code Review
- ✓ Ready for Testing
- ✓ Testing

Labels (3/3)
- ✓ Select all
- ✓ 🟦 Cards without labels
- ✓ 🟨 Can't be Reprod
- ✓ 🟩 Ready for Ret

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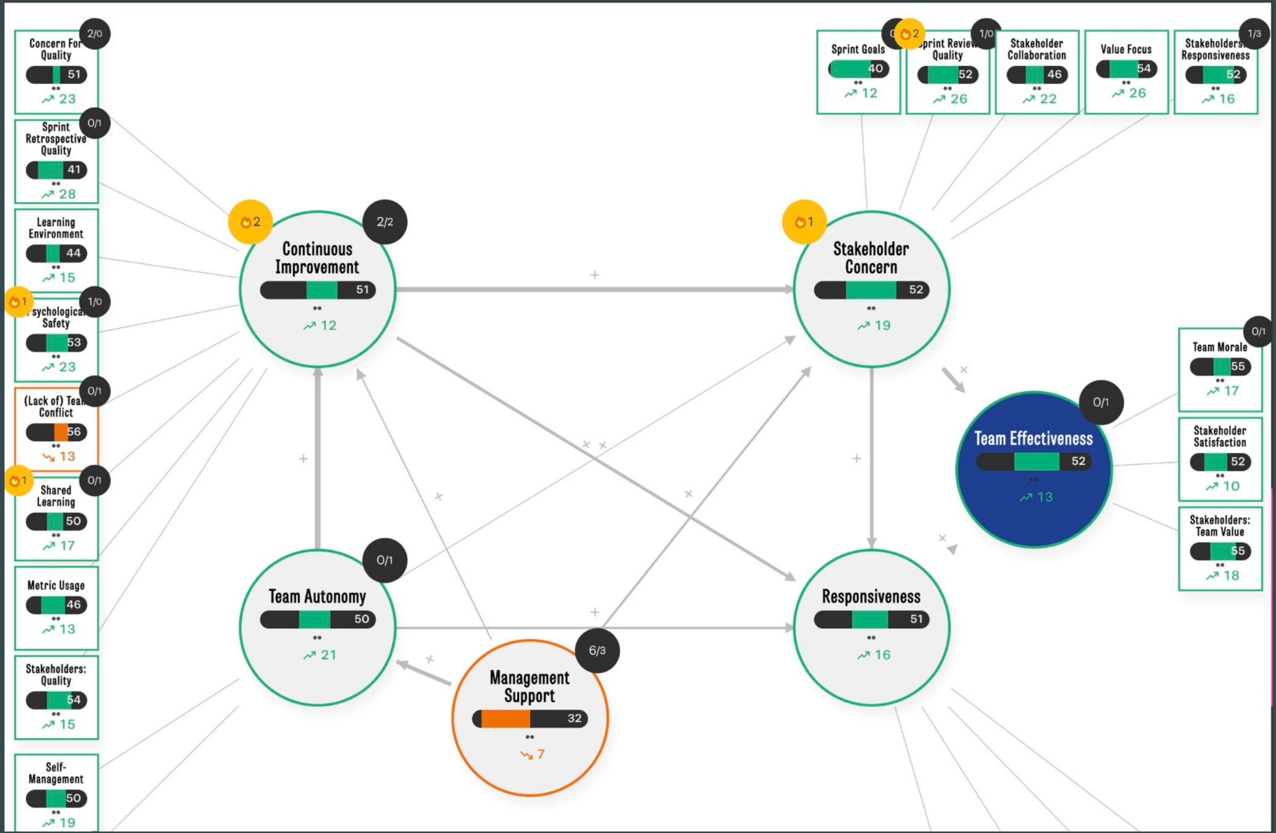

Concern For Quality 51 23
Sprint Retrospective Quality 41 28
Learning Environment 44 15
Psychological Safety 53 23
(Lack of) Team Conflict 56 13
Shared Learning 50 17
Metric Usage 46 13
Stakeholders: Quality 54 15
Self-Management 50 19
Continuous Improvement 51 12
Stakeholder Concern 52 19
Team Autonomy 50 21
Responsiveness 51 16
Management Support 32 7
Team Effectiveness 52 13
Sprint Goals 40 12
Sprint Review Quality 52 26
Stakeholder Collaboration 46 22
Value Focus 54 26
Stakeholders: Responsiveness 52 16
Team Morale 55 17
Stakeholder Satisfaction 52 10
Stakeholders: Team Value 55 18

columinity.com

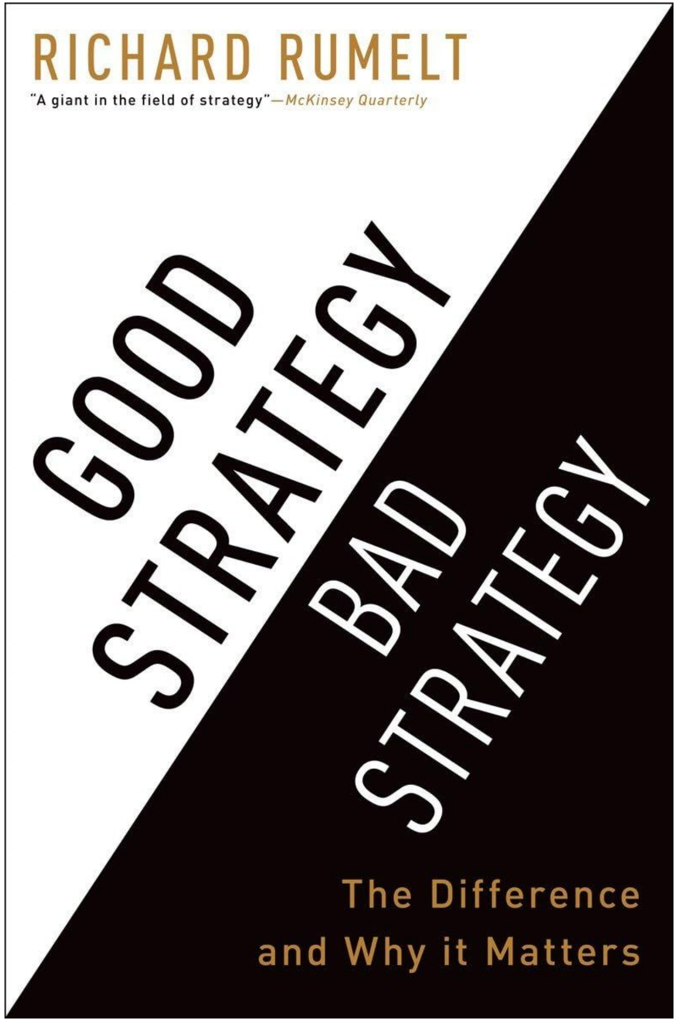
4. Effective retrospectives

To do

To do:

1. Working tested software, every sprint
2. Data-driven estimation
3. Measure actual usage
4. Effective retrospectives

How to get started


RICHARD RUMELT

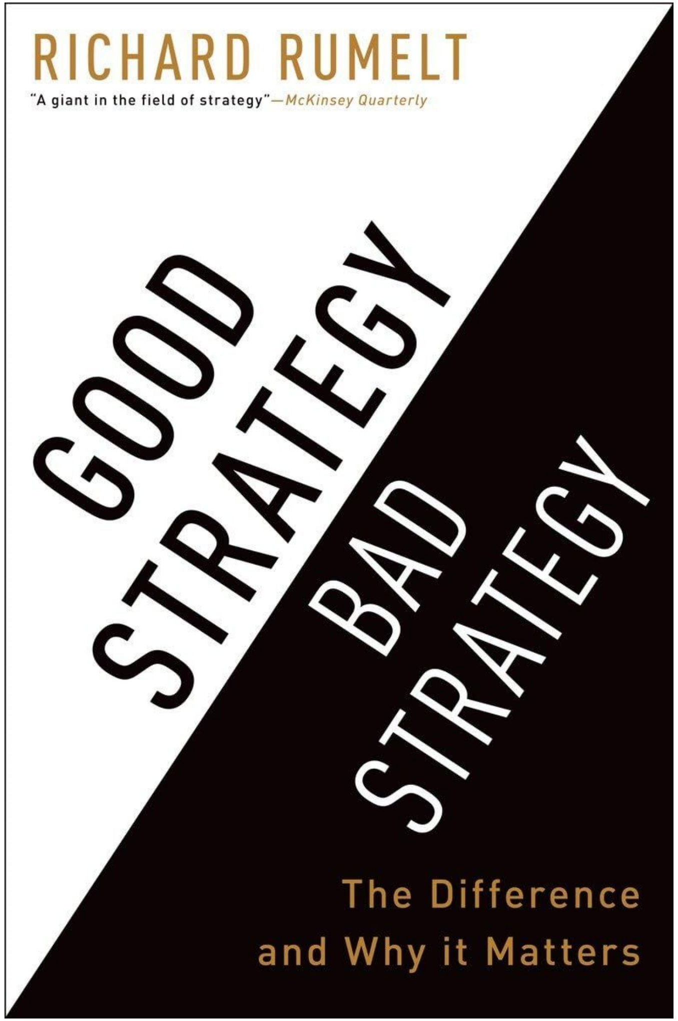
"A giant in the field of strategy"—*McKinsey Quarterly*

GOOD STRATEGY BAD STRATEGY

The Difference and Why it Matters

The kernel of a strategy contains three elements:

a diagnosis,
a guiding policy,
and coherent action.


RICHARD RUMELT

"A giant in the field of strategy"—McKinsey Quarterly

GOOD STRATEGY BAD STRATEGY

The Difference and Why it Matters

That's all!

Contact, blog & slides @
www.jakobbuis.nl

[Bonus content]

Have a strong Definition of Done

Have a strong Definition of Done

Absolute

Automated

Agreed with PO

Have a strong Definition of Done

Absolute

Automated

Agreed with PO

Never lie about Done