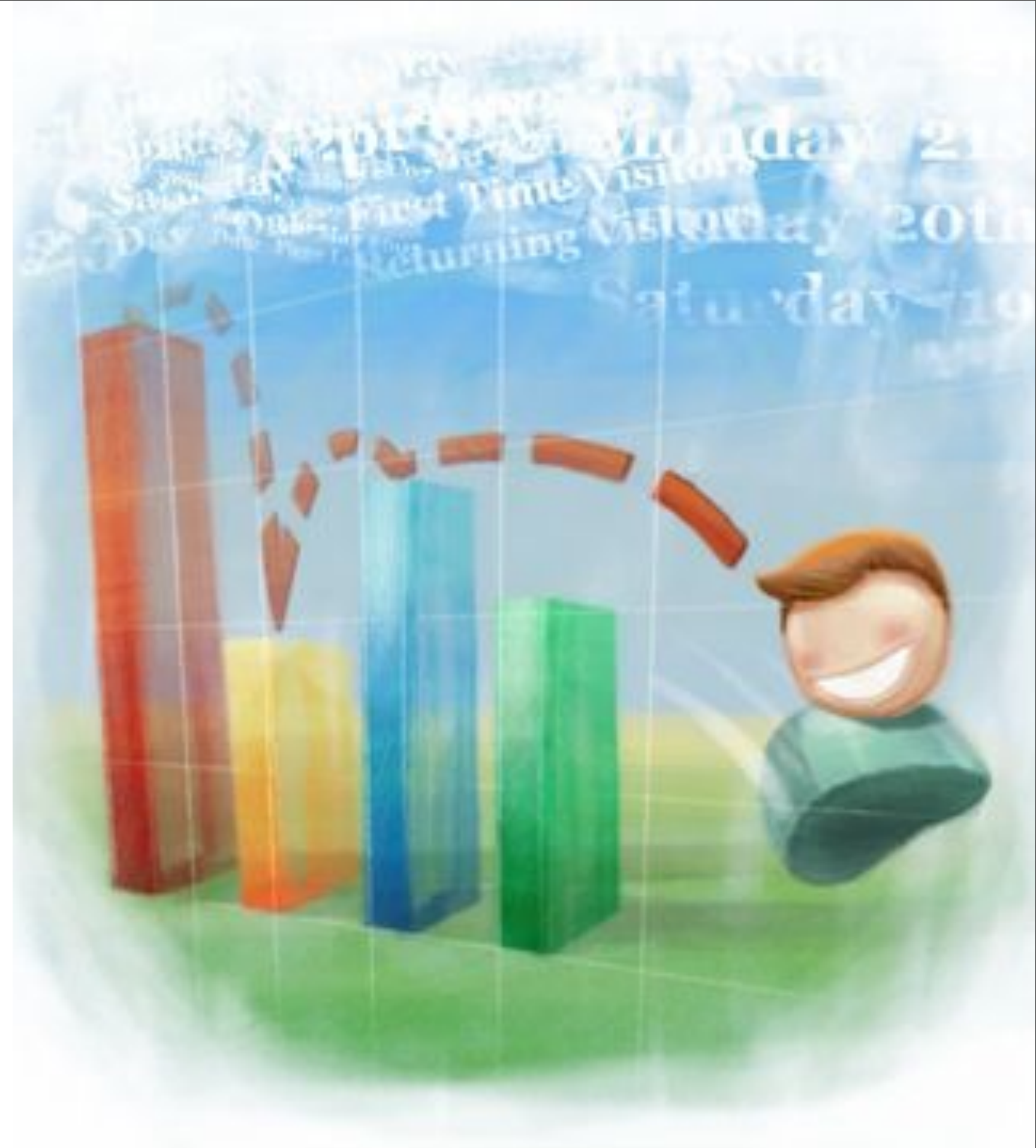


# Measuring for Results: Metrics and Myths

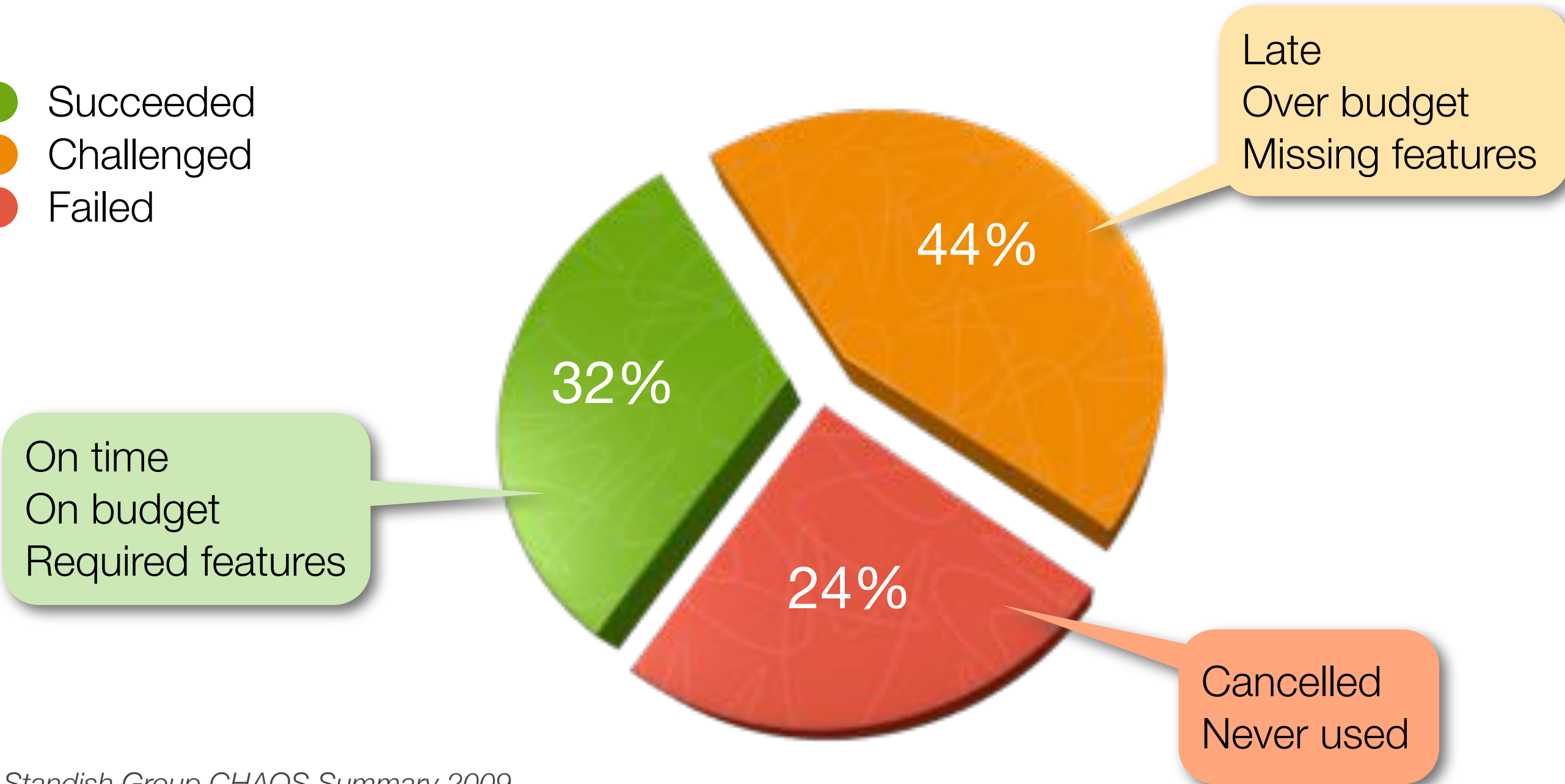
---

Peter Hundermark  
Certified Scrum Coach and Trainer



# Project Success Rates

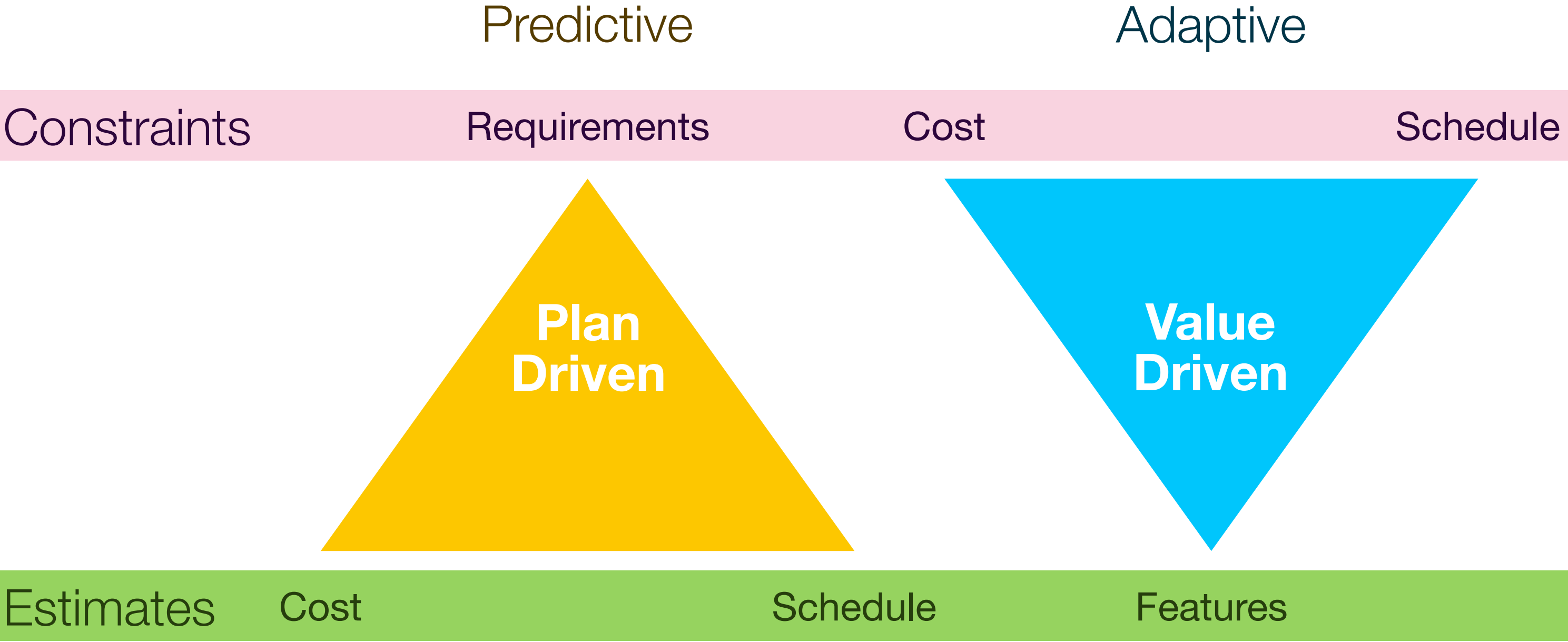
- Succeeded
- Challenged
- Failed



Source: Standish Group CHAOS Summary 2009

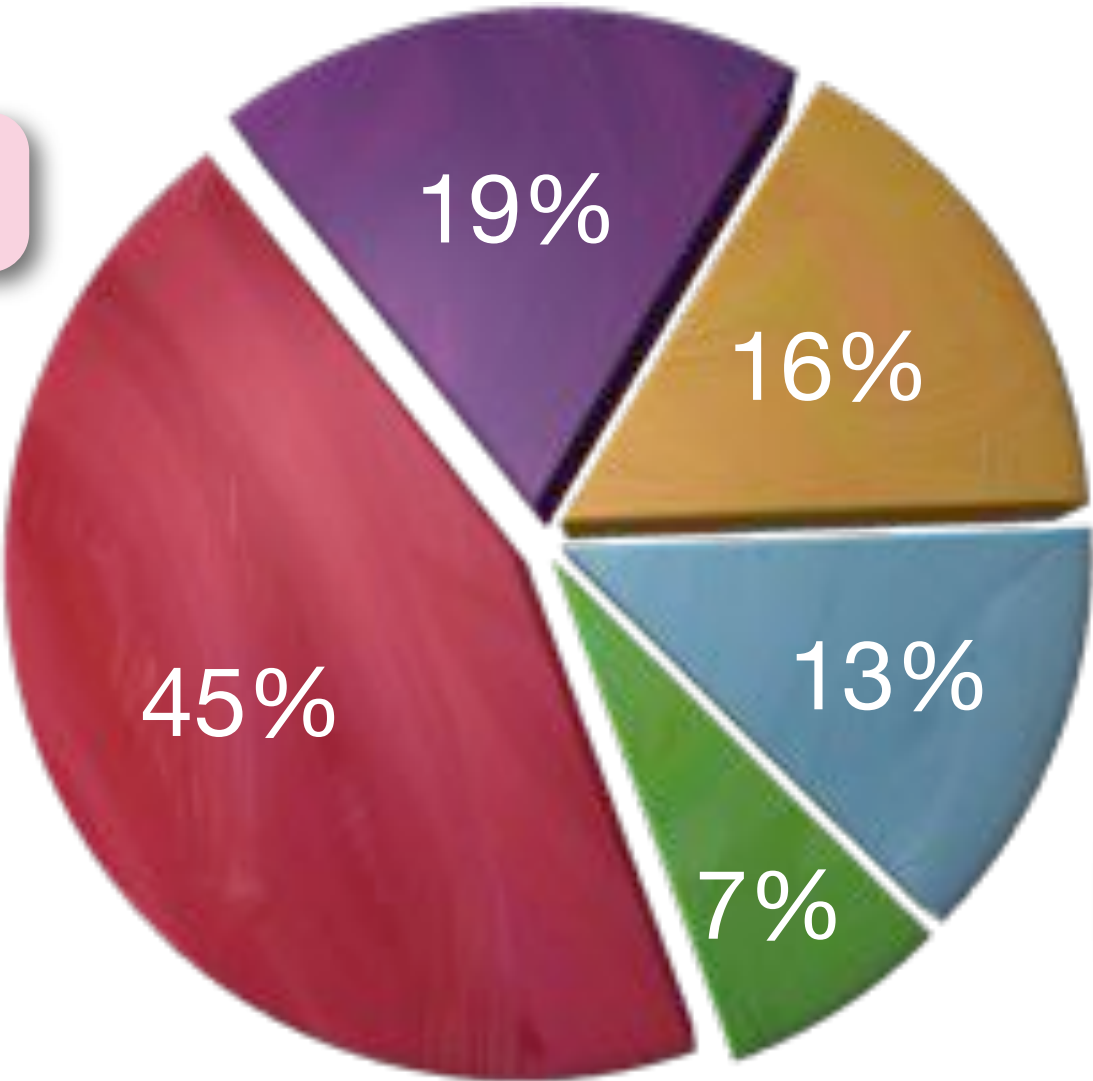
# Agile is Value-Driven

---



# What is Valued?

64% rarely or never used

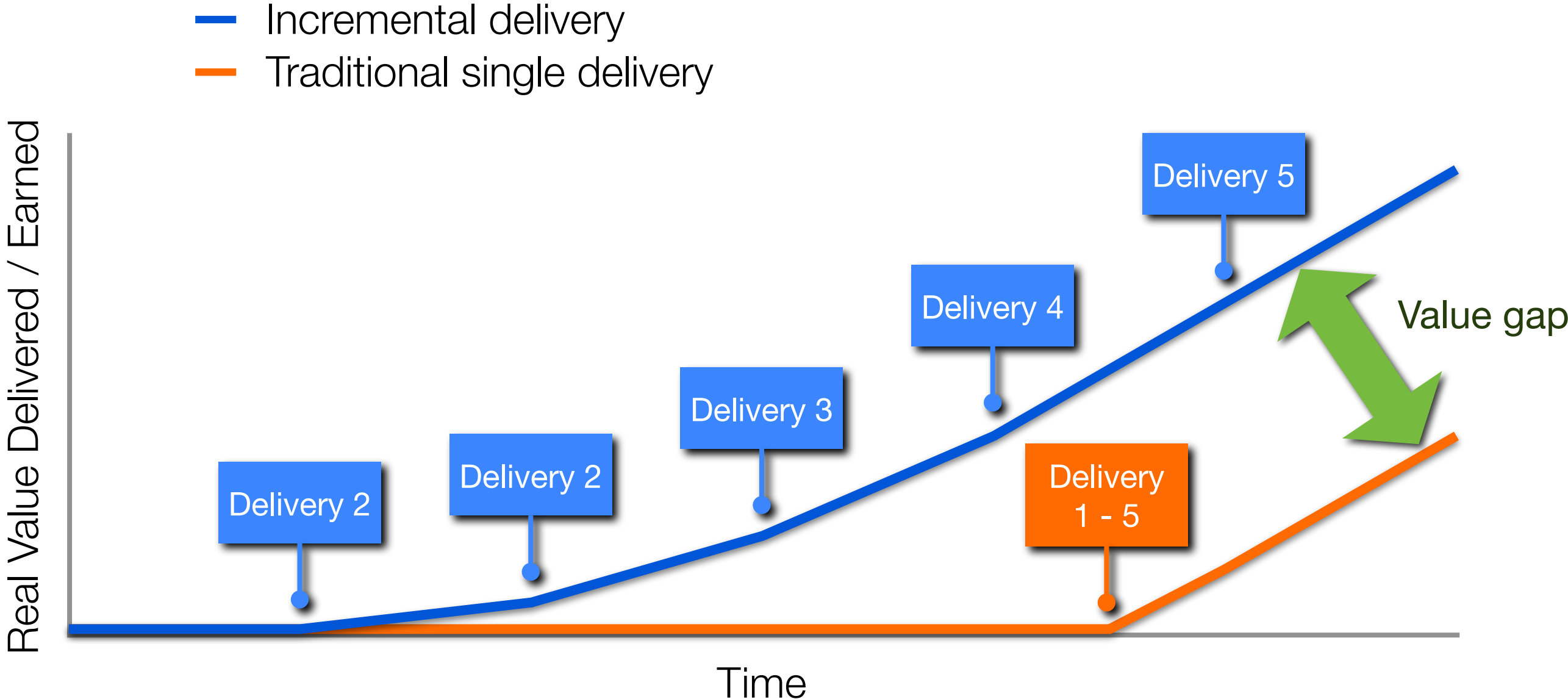


- Never
- Rarely
- Sometimes
- Often
- Always

20% frequently used

Source: Standish Group (2002)

# Value of Time

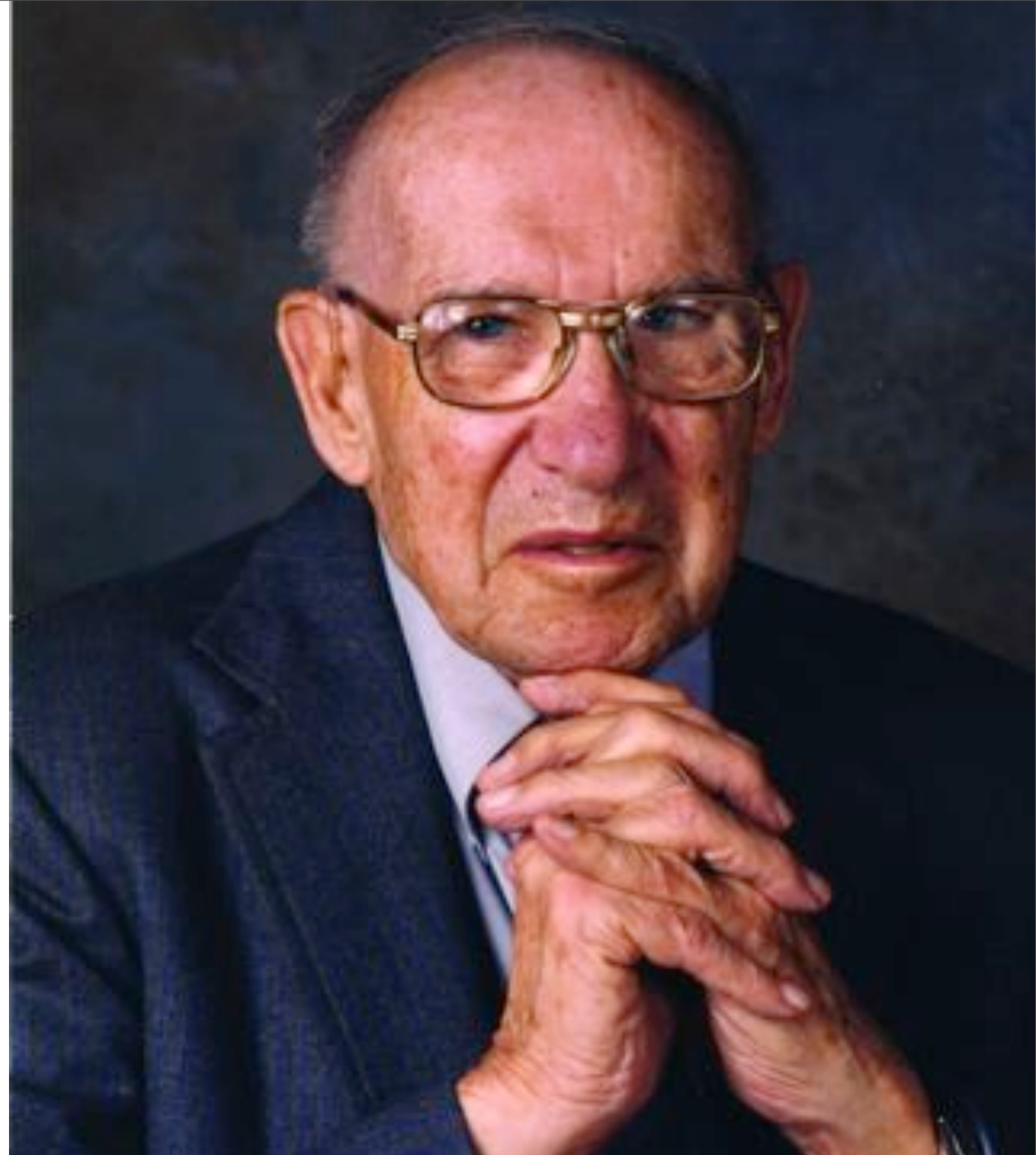




# knowledge workers

---

measure themselves



Tell me how you  
will measure me  
and I'll tell you  
how I will behave.

# On the Folly...

---

## We hope for...

- Long-term growth
- Commitment to quality
- Teamwork and collaboration
- Innovative thinking and risk taking
- Employee involvement and empowerment
- Candour: surfacing bad news early

## But we often reward...

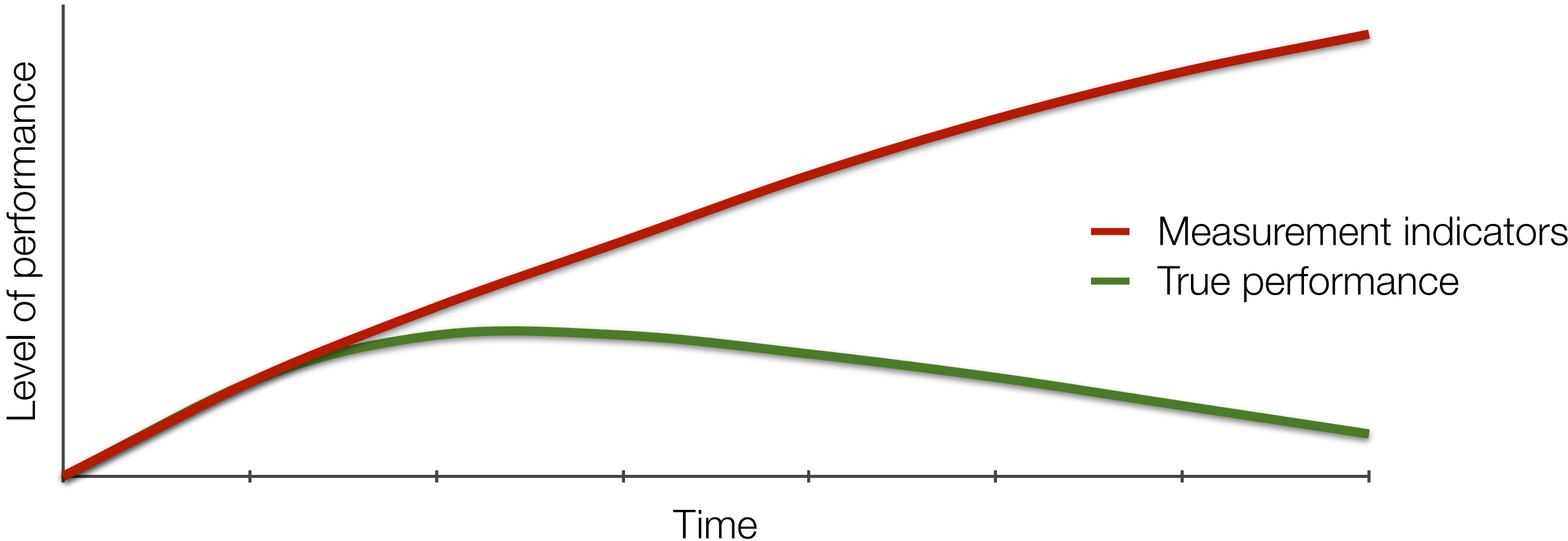
- Quarterly earnings
- Shipping with defects
- Individual effort
- Proven methods and not making mistakes
- Tight control of operations and resources
- Reporting good news, whether it's true or not  
Agreeing with the boss, whether or not (s)he's right!

*Adapted from Steven Kerr "On the folly of rewarding A, while hoping for B", Academy of Management Executive (1995 vol 9 no 1)*



# Metrics and Myths

---



Source: Robert Austin, "Measuring and Managing Performance in Organisations" (1996)

# Good Agile Metrics

---

# Good Agile Metrics

---

Reinforce desired behaviour

# Good Agile Metrics

---

Reinforce desired behaviour

Measure results not output

# Good Agile Metrics

---

Reinforce desired behaviour

Measure results not output

Measure trends

# Good Agile Metrics

---

Reinforce desired behaviour

Measure results not output

Measure trends

Vital few



# Good Agile Metrics

---

Reinforce desired behaviour

Measure results not output

Measure trends

Vital few

Easy to collect

# Good Agile Metrics

---

Reinforce desired behaviour

Reveal their context

Measure results not output

Measure trends

Vital few

Easy to collect

# Good Agile Metrics

---

Reinforce desired behaviour

Reveal their context

Measure results not output

Fuel meaningful conversation

Measure trends

Vital few

Easy to collect

# Good Agile Metrics

---

Reinforce desired behaviour

Reveal their context

Measure results not output

Fuel meaningful conversation

Measure trends

Amplify learning

Vital few

Easy to collect

# Good Agile Metrics

---

Reinforce desired behaviour

Reveal their context

Measure results not output

Fuel meaningful conversation

Measure trends

Amplify learning

Vital few

May measure value or process

Easy to collect

# Good Agile Metrics

---

Reinforce desired behaviour

Reveal their context

Measure results not output

Fuel meaningful conversation

Measure trends

Amplify learning

Vital few

May measure value or process

Easy to collect

Good enough quality



# Leading and Lagging

---



# Leading and Lagging

---

## Leading indicator

- Signals future events
- Changes before the event
- E.g. amber traffic light





# Leading and Lagging

---

## Leading indicator

- Signals future events
- Changes before the event
- E.g. amber traffic light

## Lagging indicator

- Reports past events
- Changes as an outcome
- E.g. unemployment



# Measurement Dimensions

---

Value  
*(to Customer)*

Predictability  
*(Schedule)*

Collaboration  
*(Process)*

Quality  
*(Product)*

Source: Pete Behrens, "Measuring Agility - Top 5 Metrics and Myths" (2009)

# Customer Surveys

---

Many opportunities over time

- Baseline and measure quarterly

Qualitative and quantitative

- Responsiveness
- On-time delivery
- Value
- Quality
- Support

*Source: Pete Behrens, "Measuring Agility - Top 5 Metrics and Myths" (2009)*

Lagging

Value

Metric



# Customer Surveys

Ask: “How likely are you to recommend this product or service to a friend?”

Scale 0 - 10

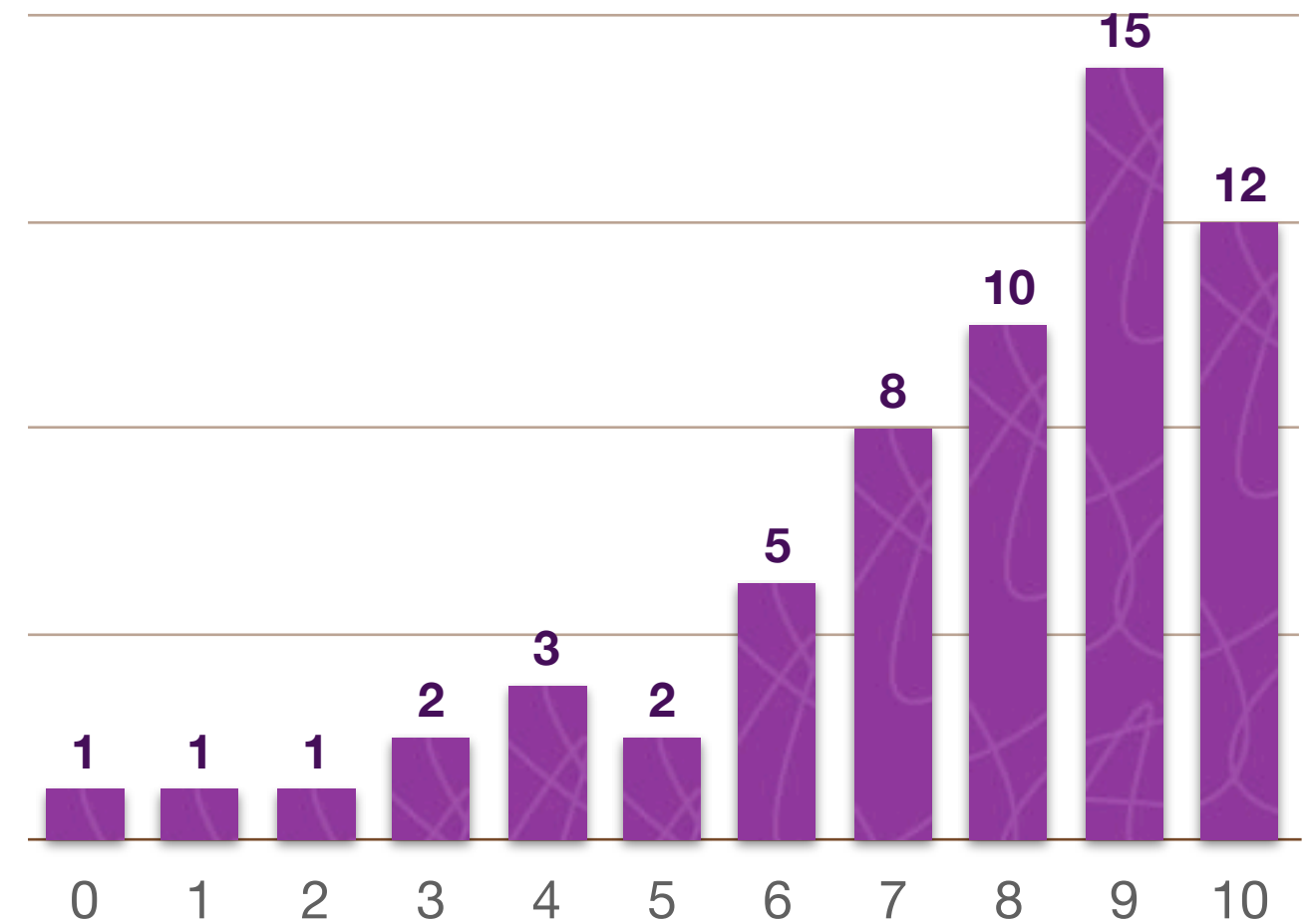
▶ 9 - 10 Promoters

▶ 7 - 8 Passive

▶ 0 - 6 Detractors

Net promoters score

▶  $(\text{promoters} - \text{detractors}) \div \text{sample size}$



*Adapted from Sanjiv Augustine and Roland Cuellar, “Agile Metrics for Senior Managers & Executives” (2009)*



# Customer Surveys

Ask: "How likely are you to recommend this product or service to a friend?"

Scale 0 - 10

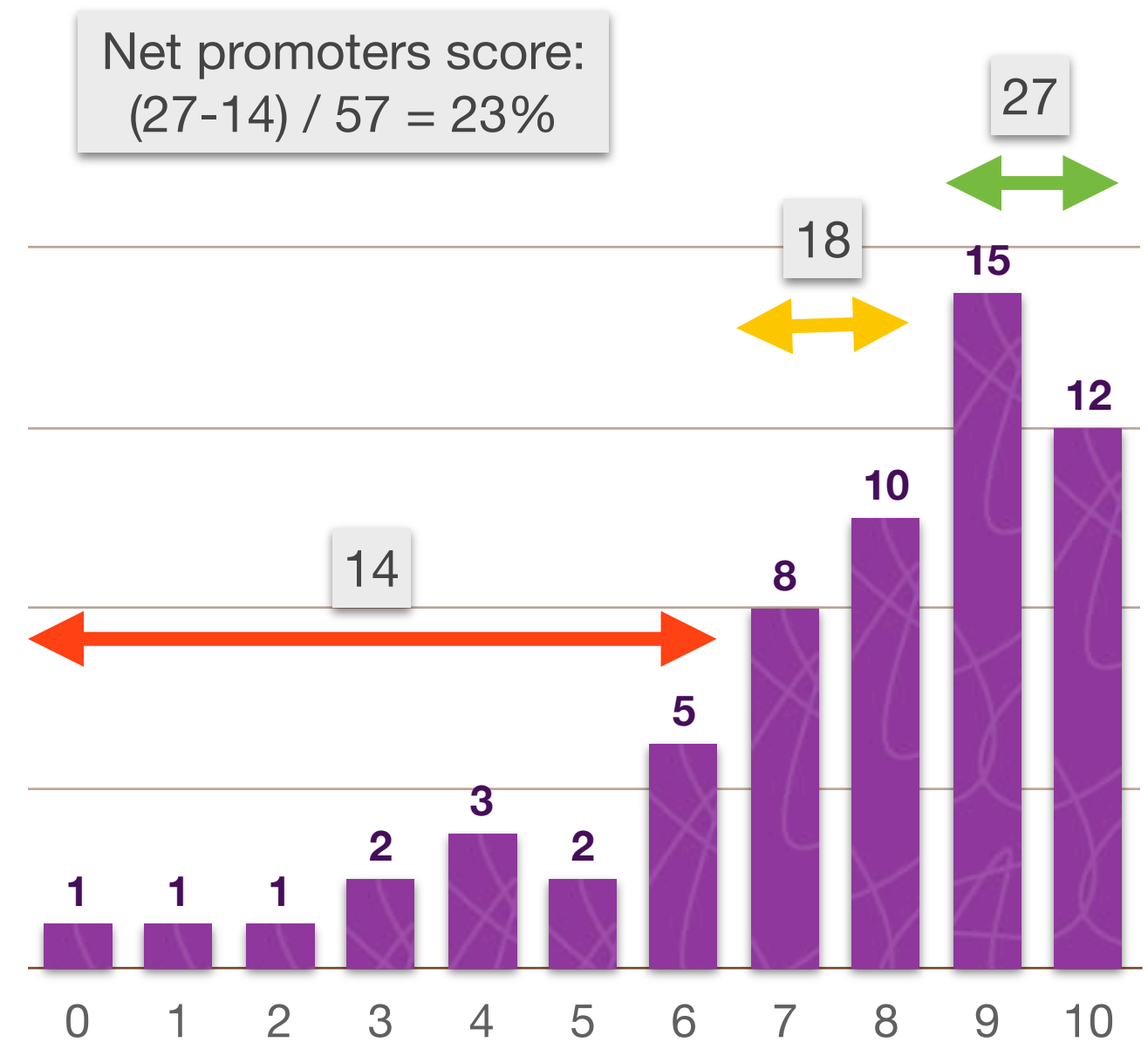
▶ 9 - 10 Promoters

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Net promoters score

▶  $(\text{promoters} - \text{detractors}) \div \text{sample size}$

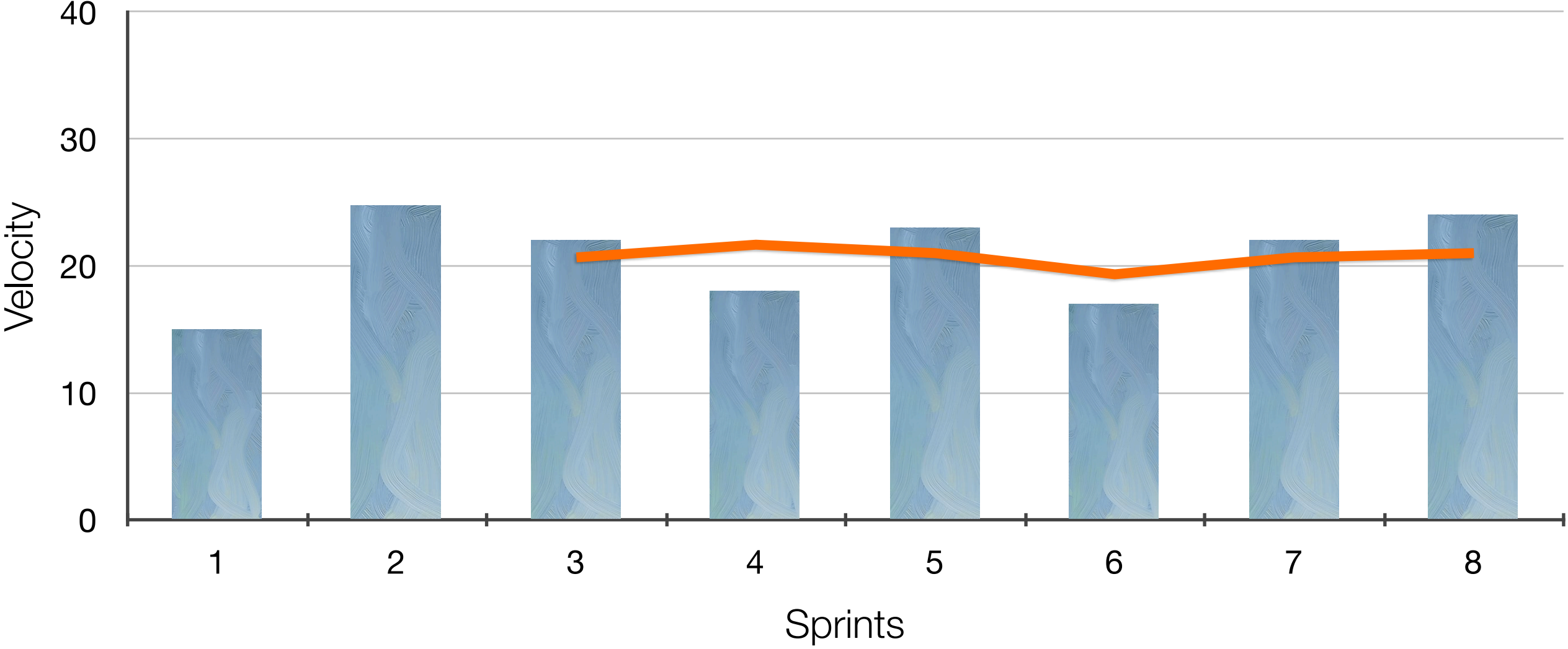


*Adapted from Sanjiv Augustine and Roland Cuellar, "Agile Metrics for Senior Managers & Executives" (2009)*

# Velocity

Predict

Leading



Myth

## Myth

Higher velocity is always a good thing

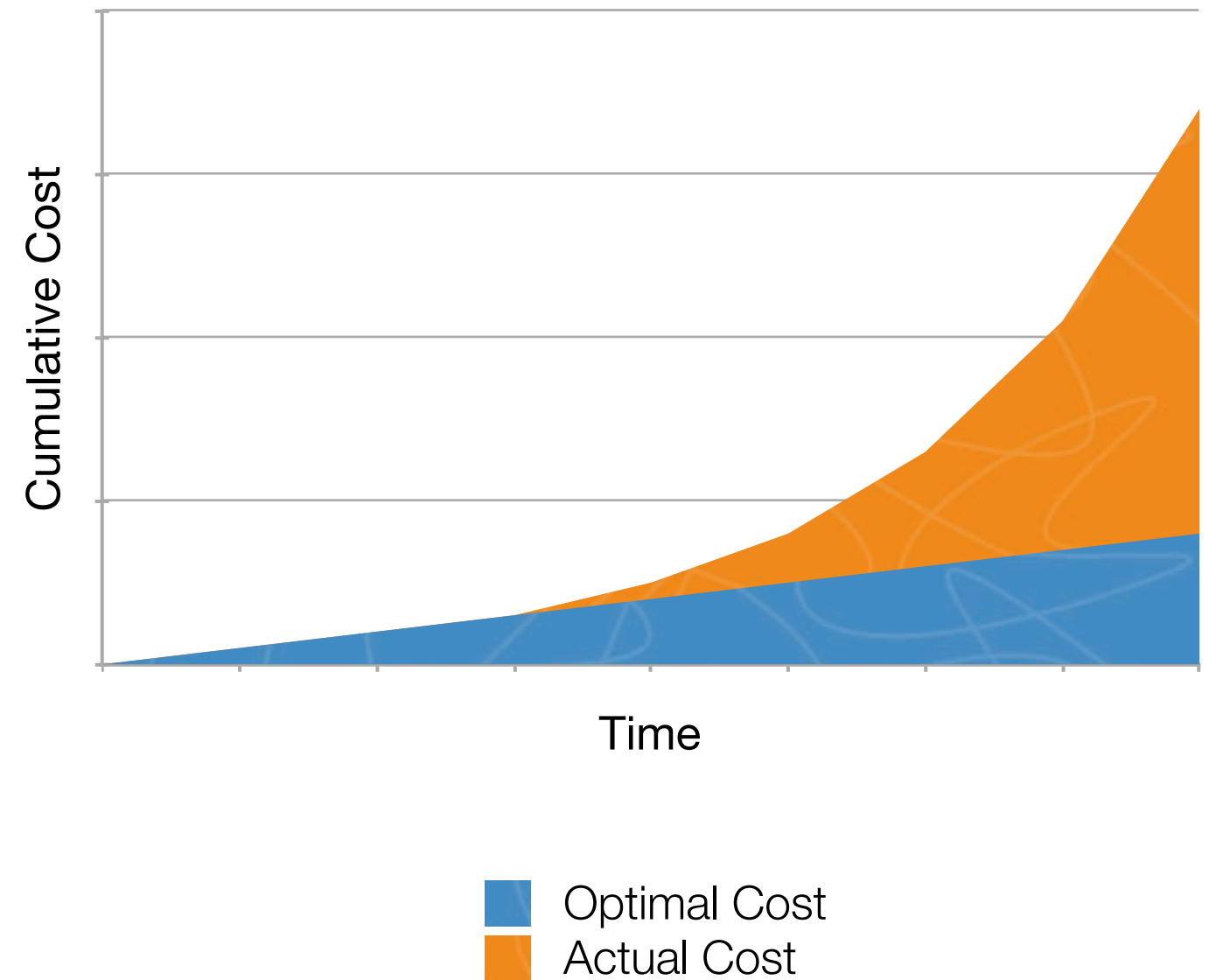
## Truth

Risk of incurring technical debt

## Do

Add technical debt to product backlog

Monitor and reduce over time



# Velocity measures productivity or value

## Truth

Story points are relative

Cannot compare velocity

Teams are different

Size measures complexity

## Do

Use the metric as designed



**Myth**

Source: Pete Behrens, "Measuring Agility - Top 5 Metrics and Myths" (2009)

# 100% Committed vs. actual drives estimation accuracy

Myth

## Truth

Teams learn to be safe

Leads to lower productivity

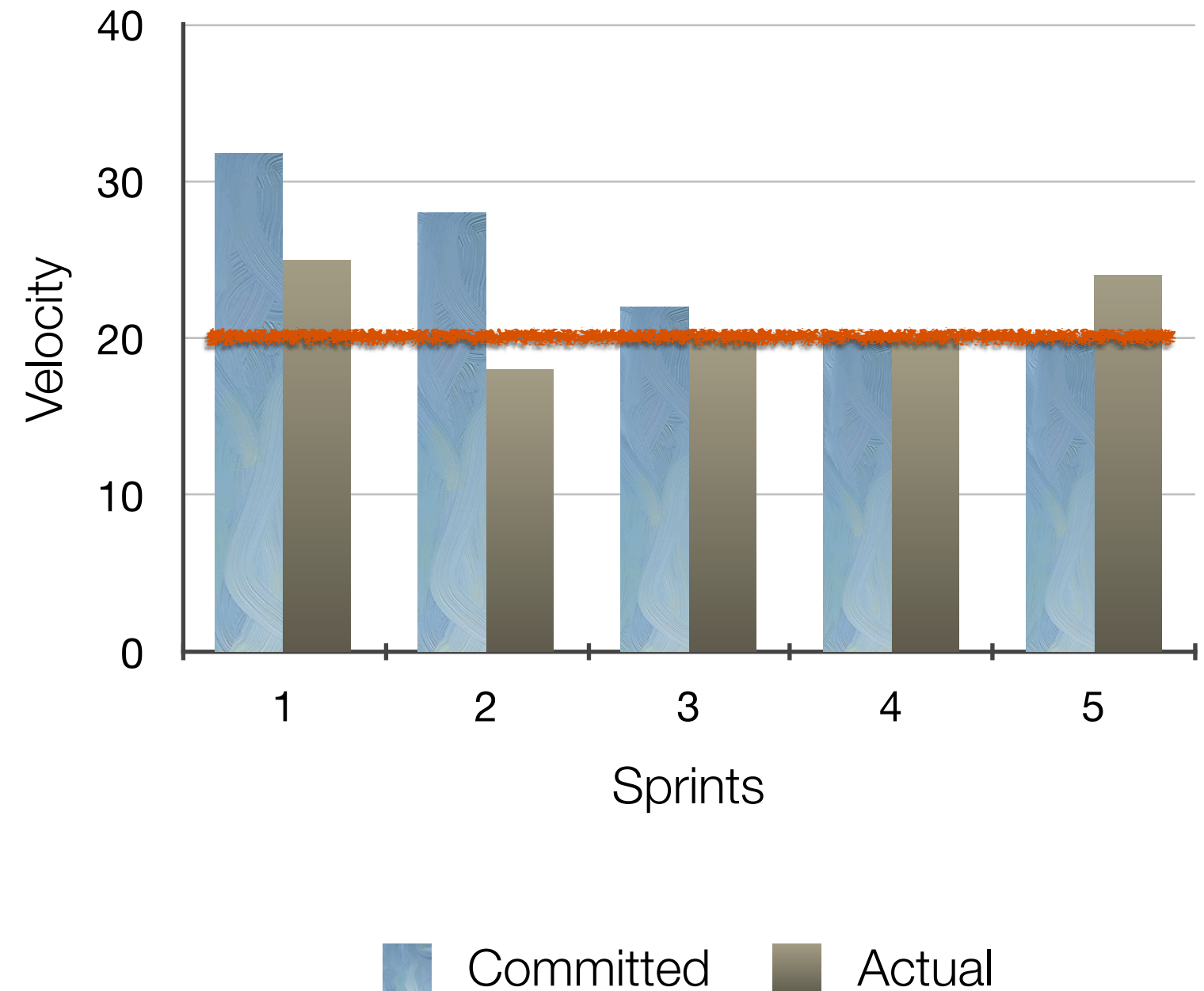
## Better

What features did we deliver?

Why did we miss one?

What is the impact?

➔ Learning





# Sprints fail

Myth

## Truth

Less probable events → more information

Maximum information at 50% probability

Knowledge from low-probability events

*Source: Donald Reinertsen "Managing the Design Factory: A Product Developer's Toolkit (1997)*

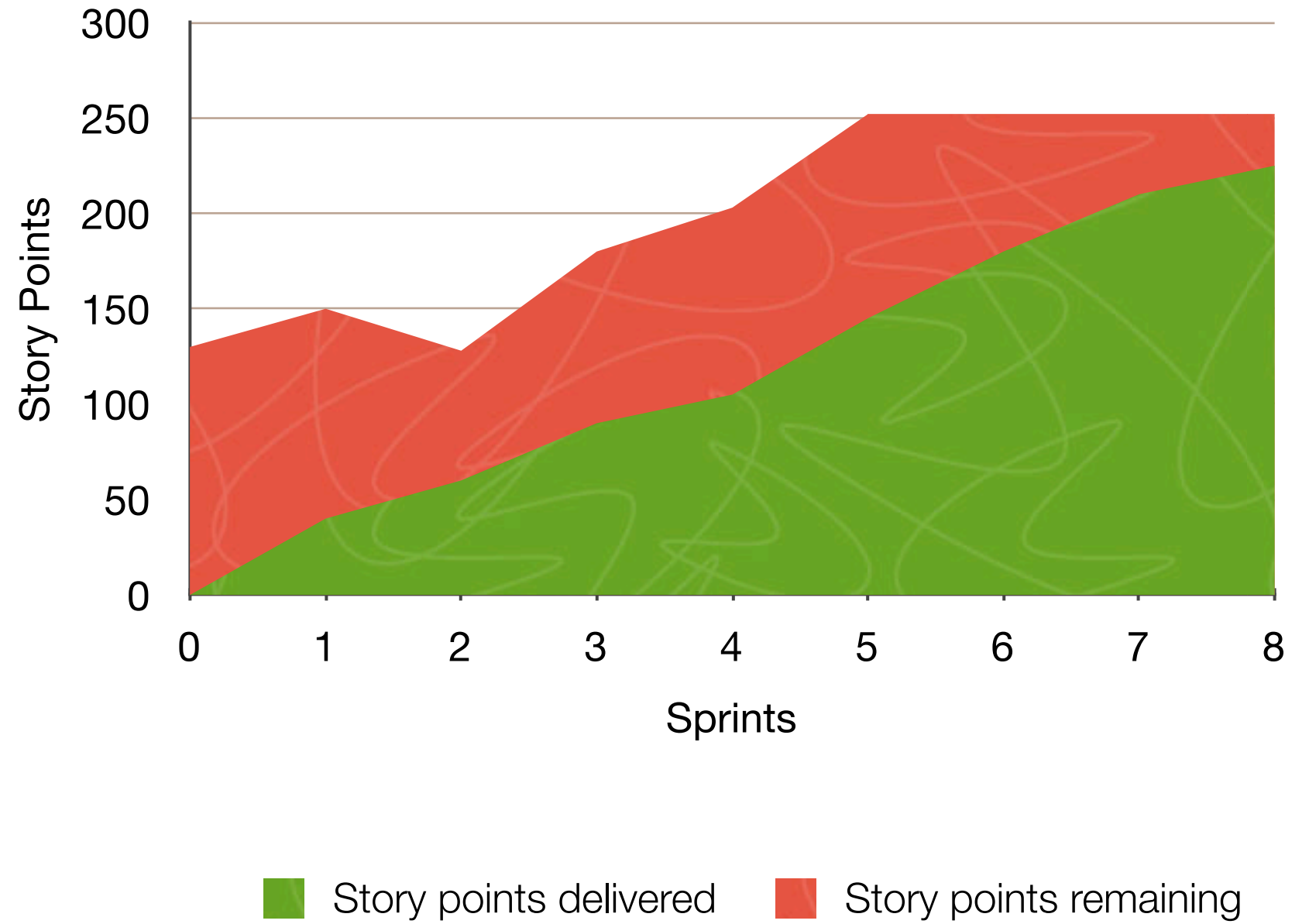




# Rate of Features Delivered

Product or Release  
Burnup / Burndown Chart

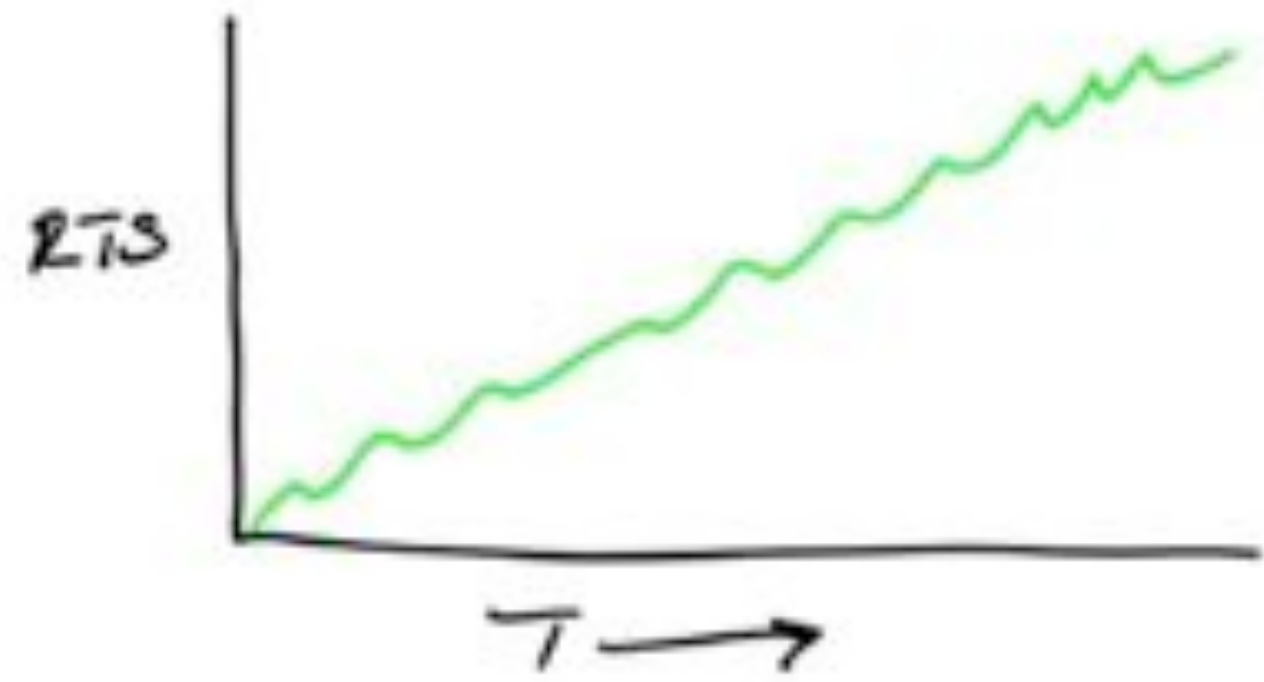
- Leading
- Predict
- Metric



### WATERFALL-STYLE PROJECT



### AGILE PROJECT



Source: Ron Jeffries, <http://xprogramming.com/xpmag/jatRtsMetric> (2004)

## Running Tested Features / Running Automated Tests

# Technical Debt

---

What is technical debt?



Why does it occur?



Add stories to backlog



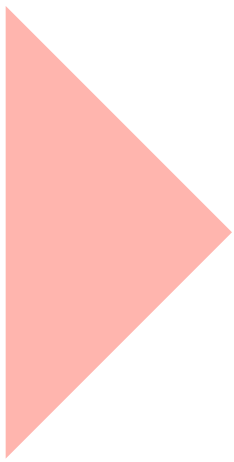
Team is responsible!

- Leading
- Quality
- Metric

# Work-in-process

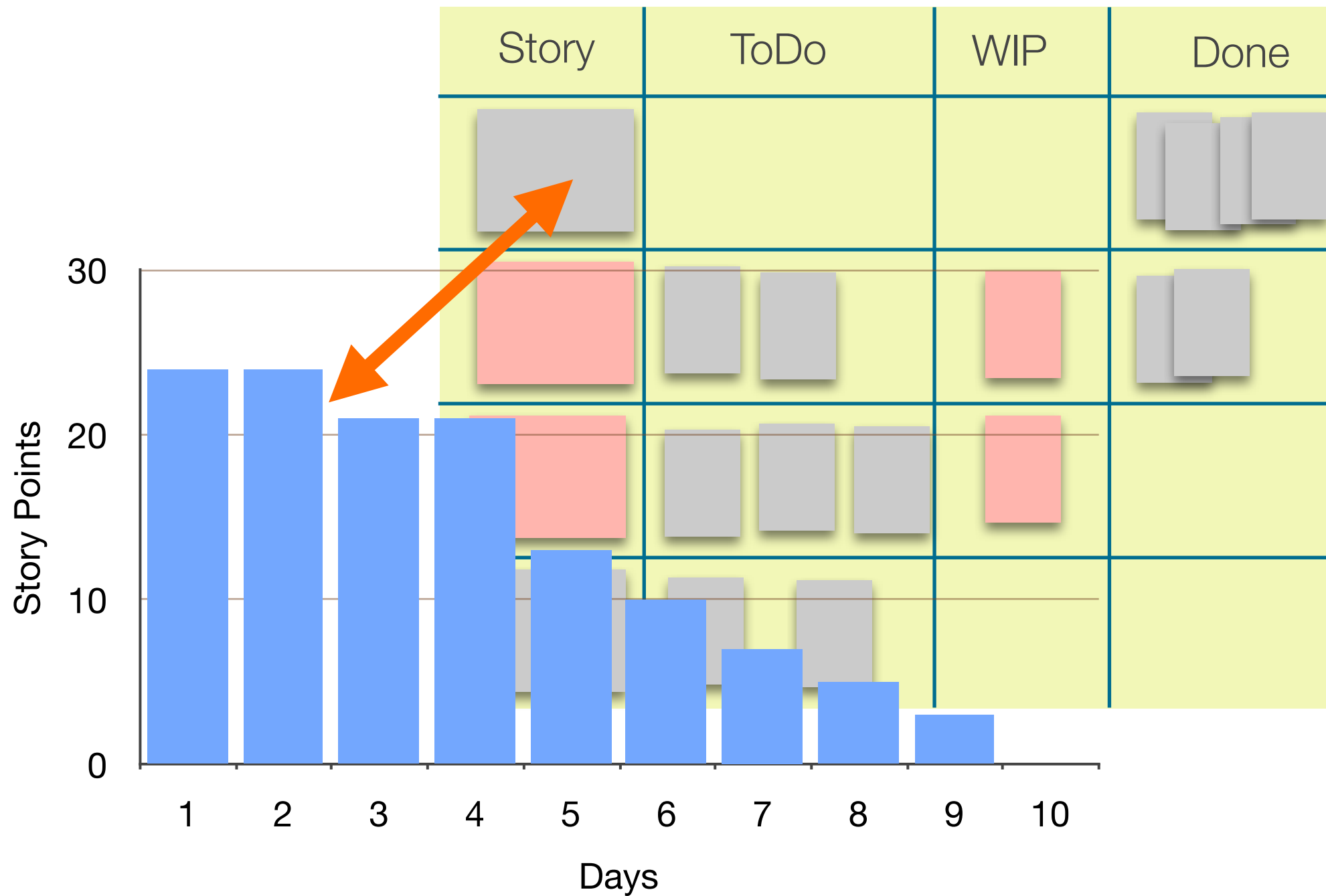
Story	ToDo	WIP	Done
			
			
			
			

- Leading
- Collab.
- Metric



Stories in-process  
Aim for  $\leq 2$   
No silos or blockages!

# Story Cycle Time

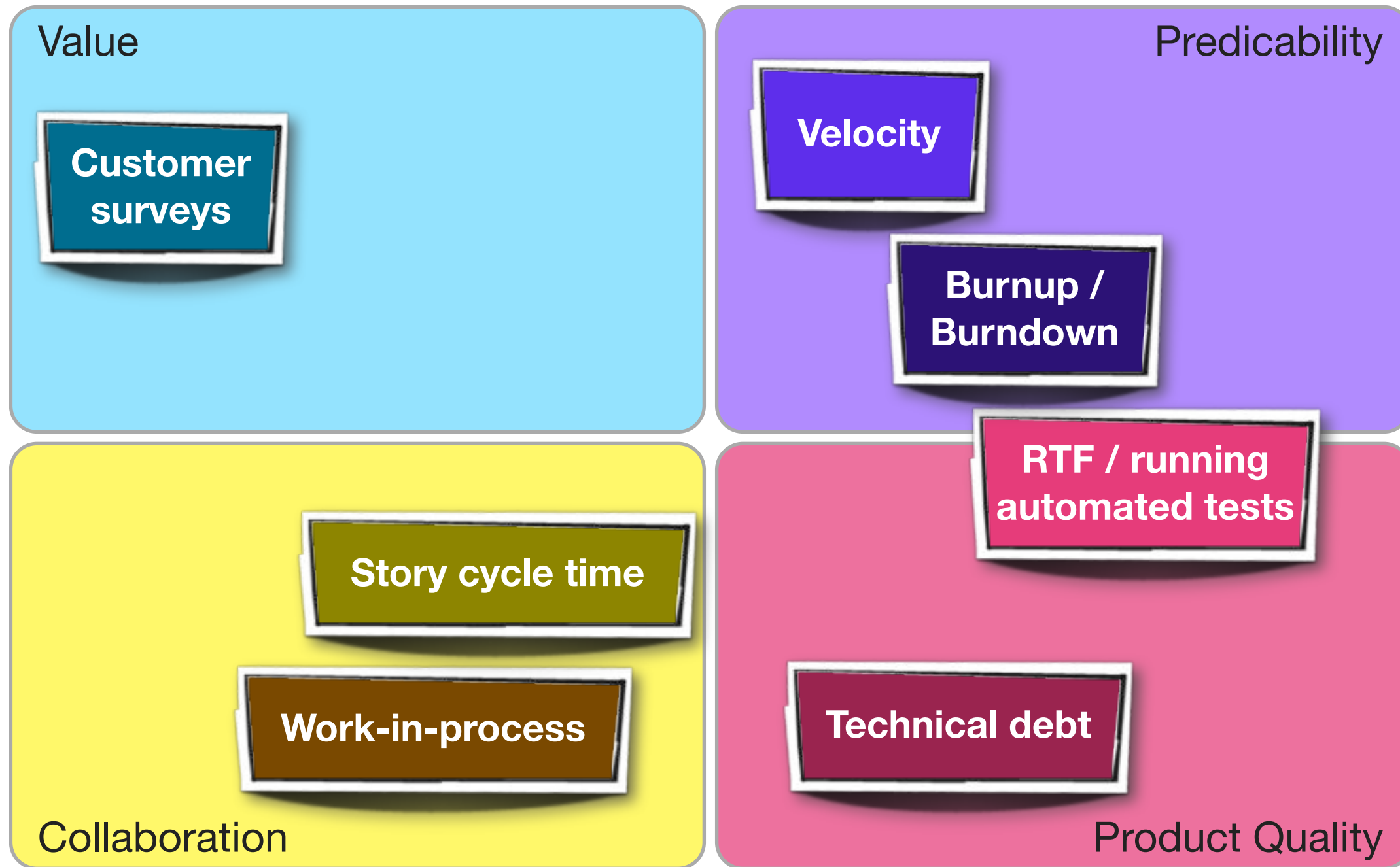


- Leading
- Collab.
- Metric

Average time to complete  
Aim for around 3 days  
No lagging tests!

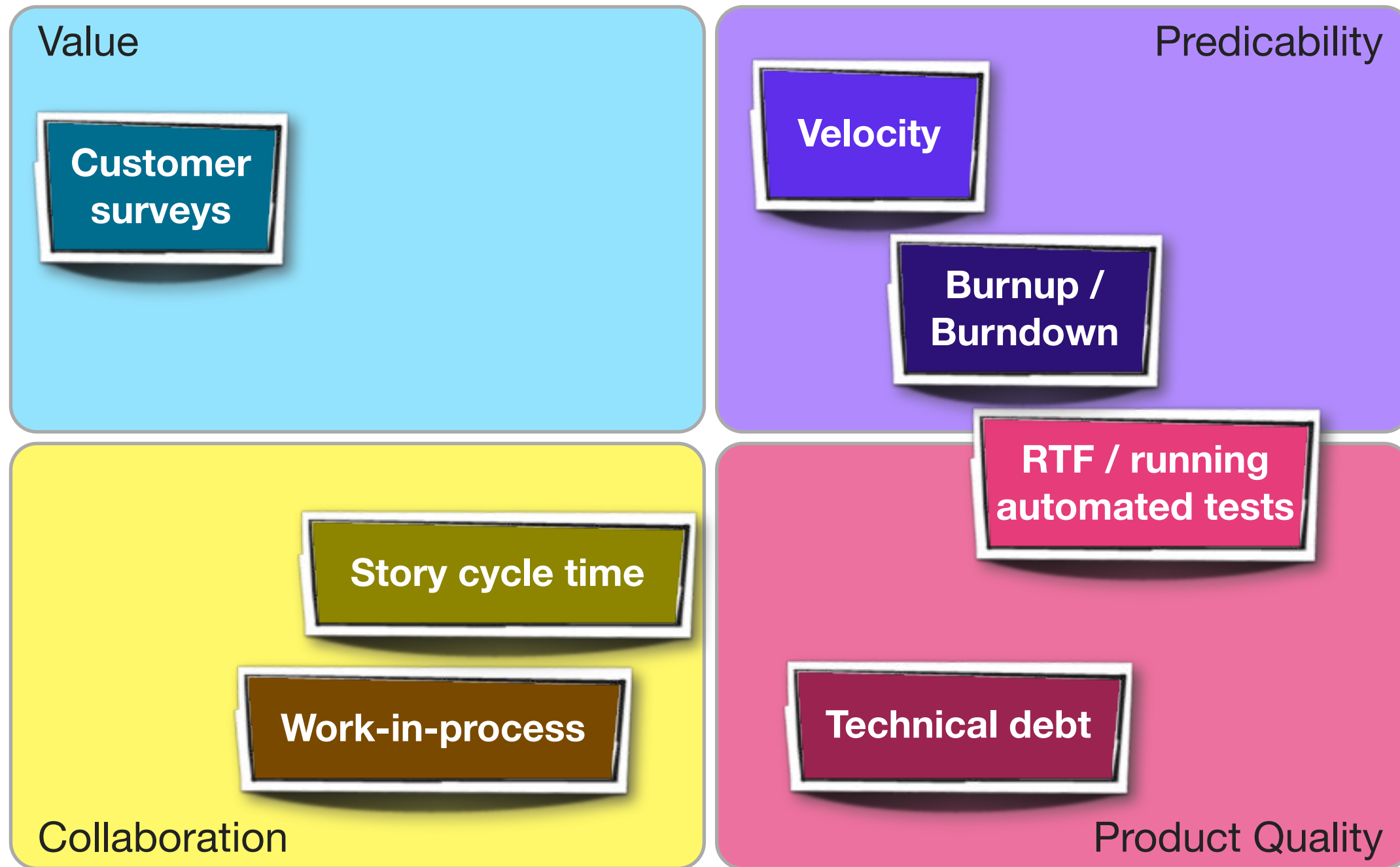
# Basic Agile Metrics

---



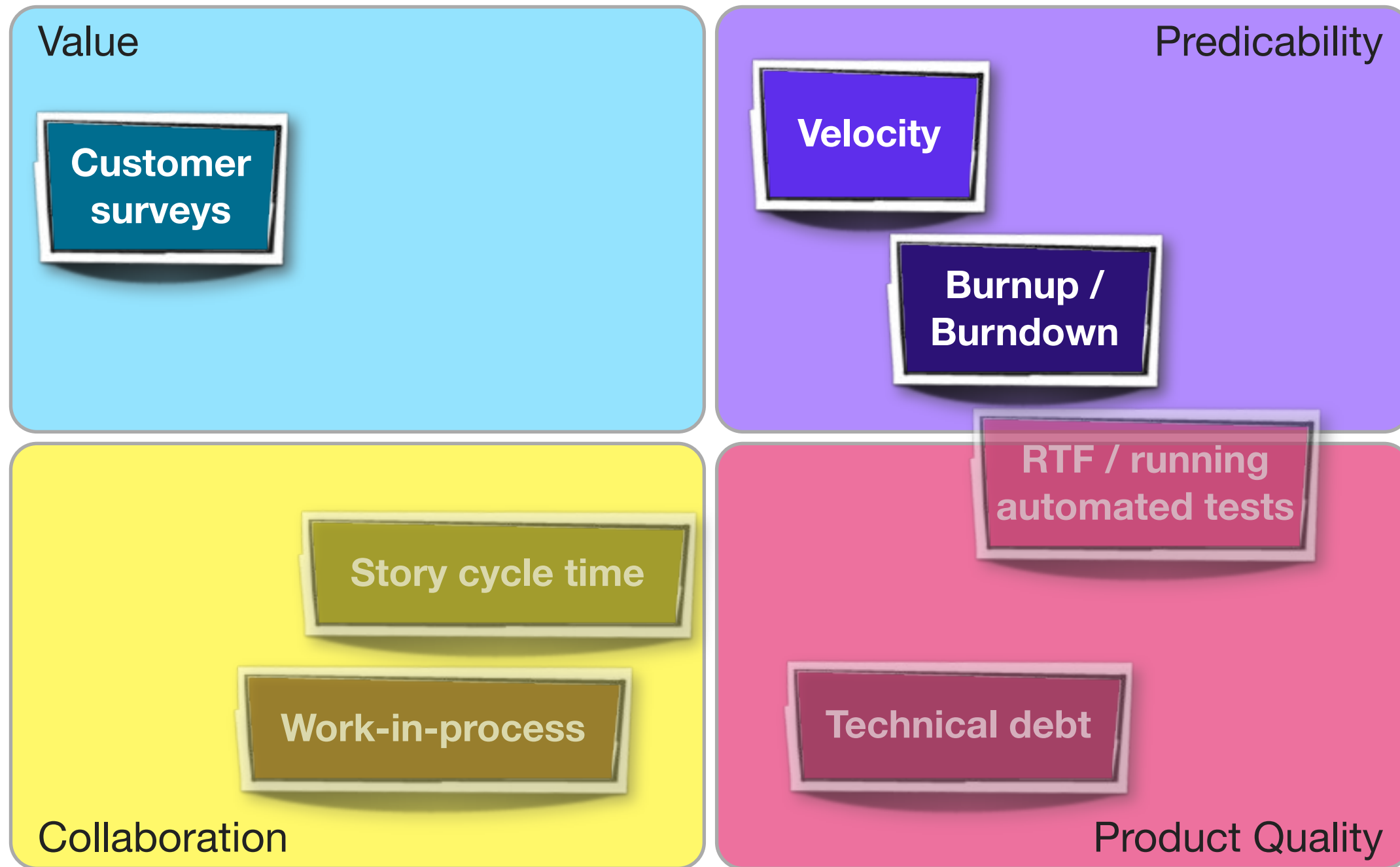
# Extending the Metrics

---



# Extending the Metrics

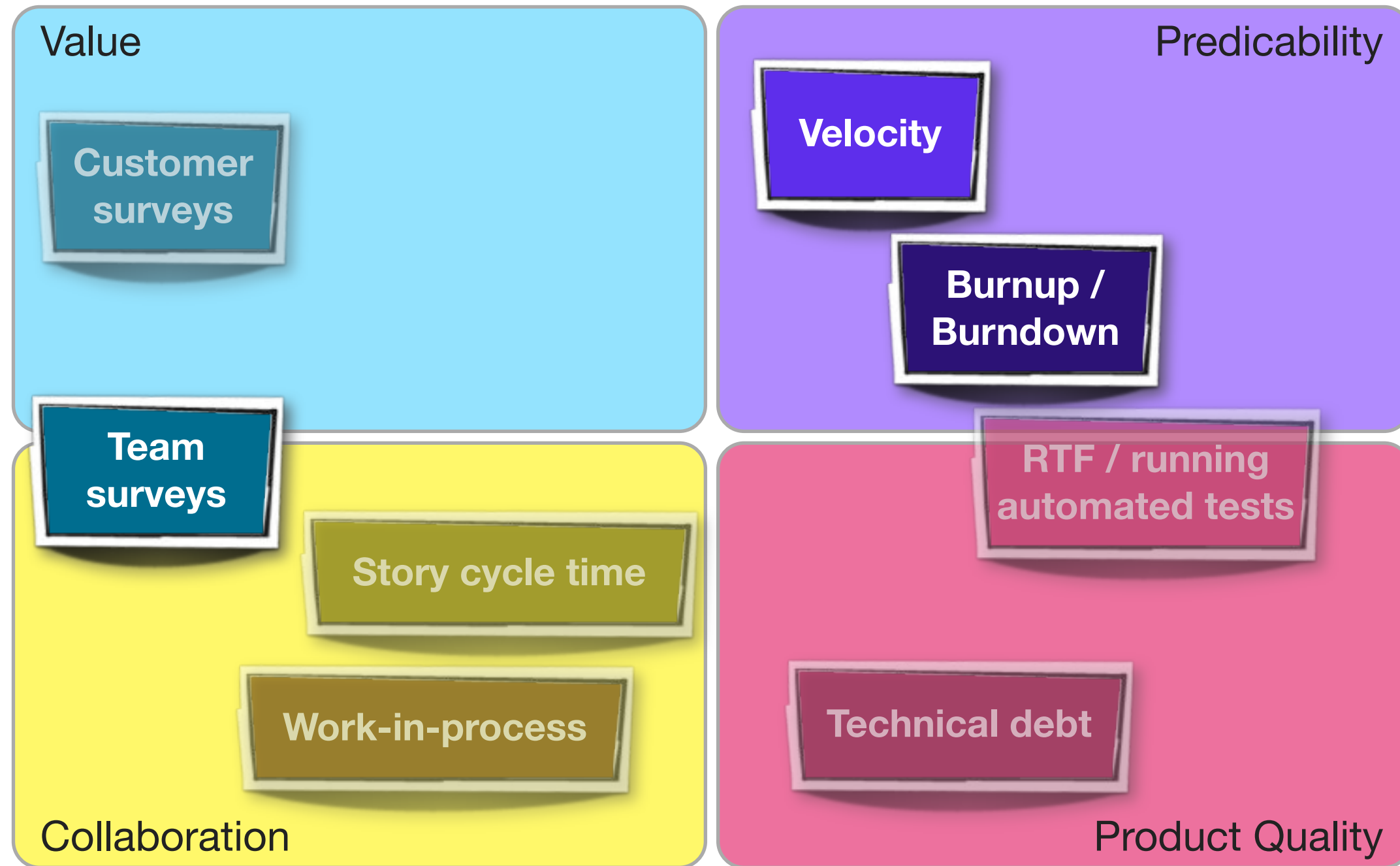
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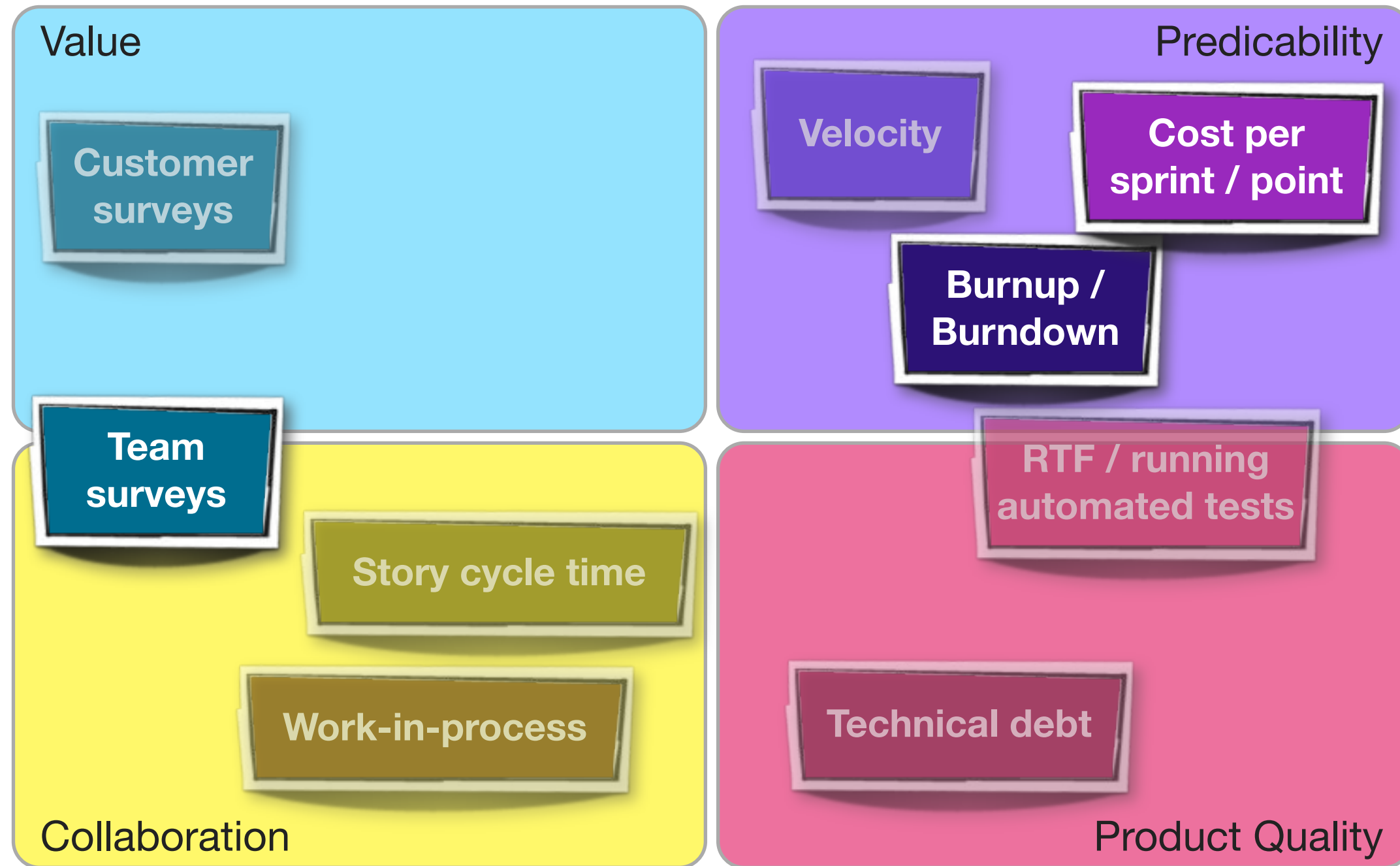


# Extending the Metrics

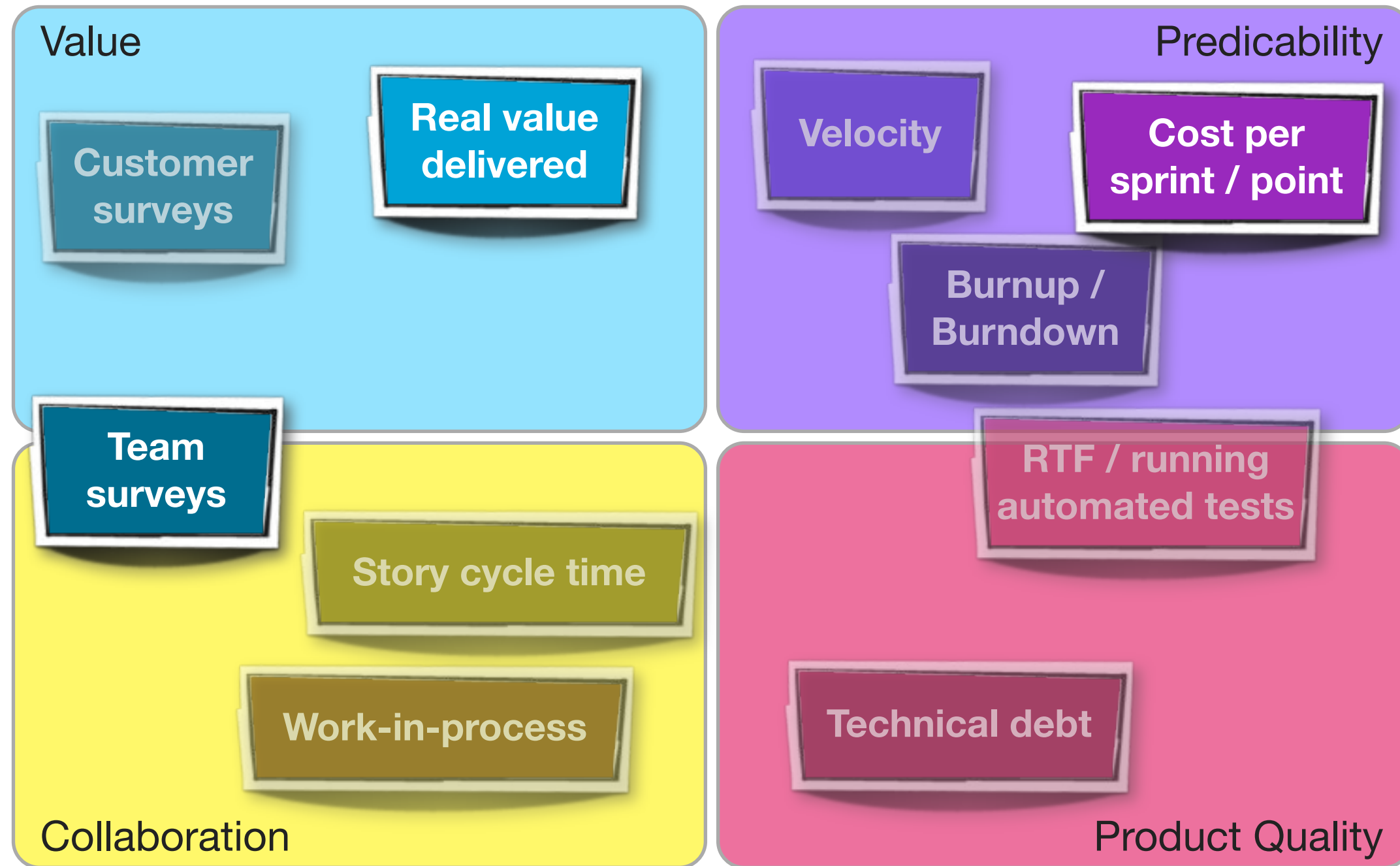
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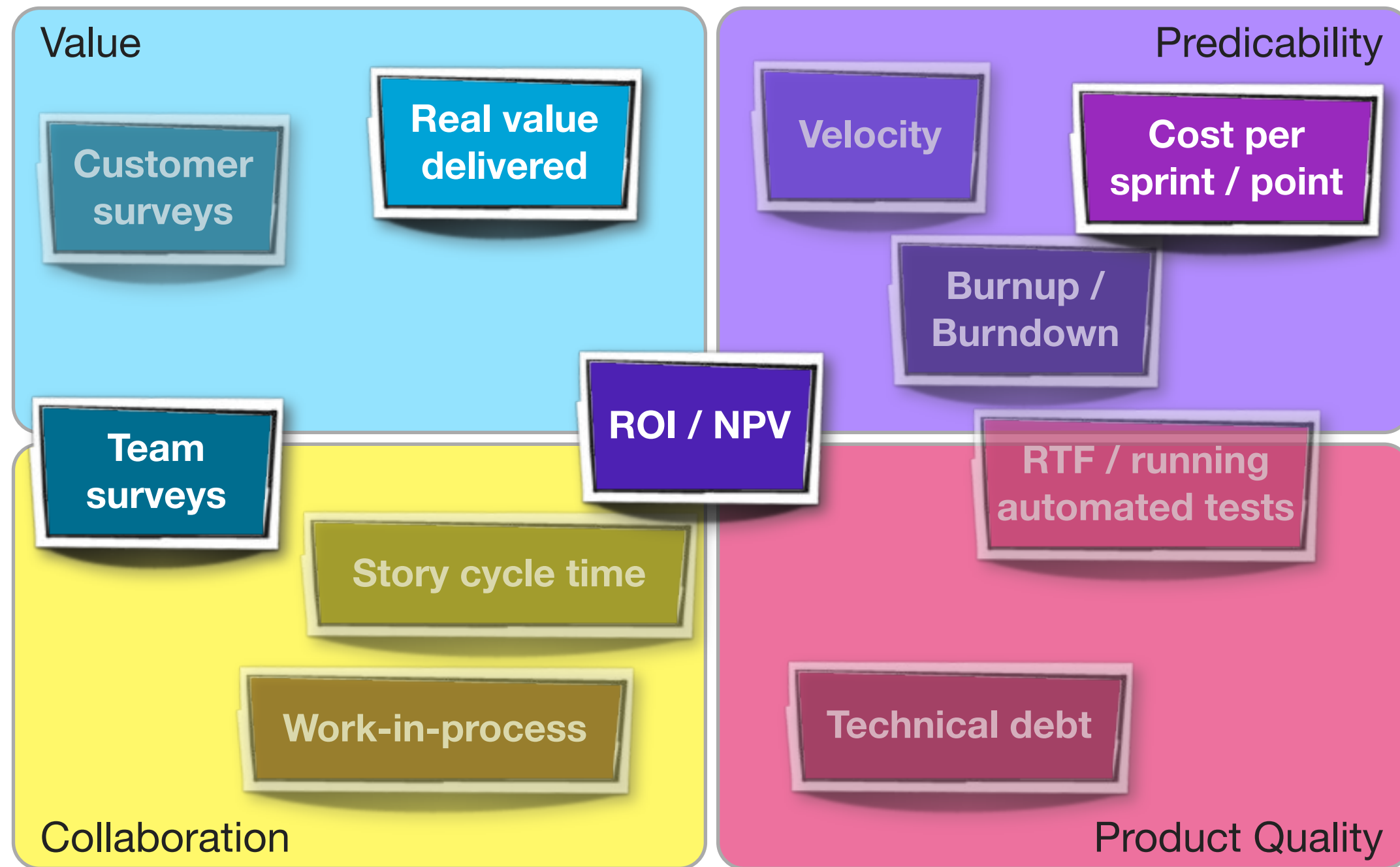
# Extending the Metrics



# Extending the Metrics



# Extending the Metrics





Puzzles?

Metrics and Myths

# Peter Hundermark

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Further information on Scrum training and coaching is available from:

[peter@scrumsense.com](mailto:peter@scrumsense.com)

[www.scrumsense.com](http://www.scrumsense.com)

