

“No one has to change. Survival is optional.”

- W. Edwards Deming -

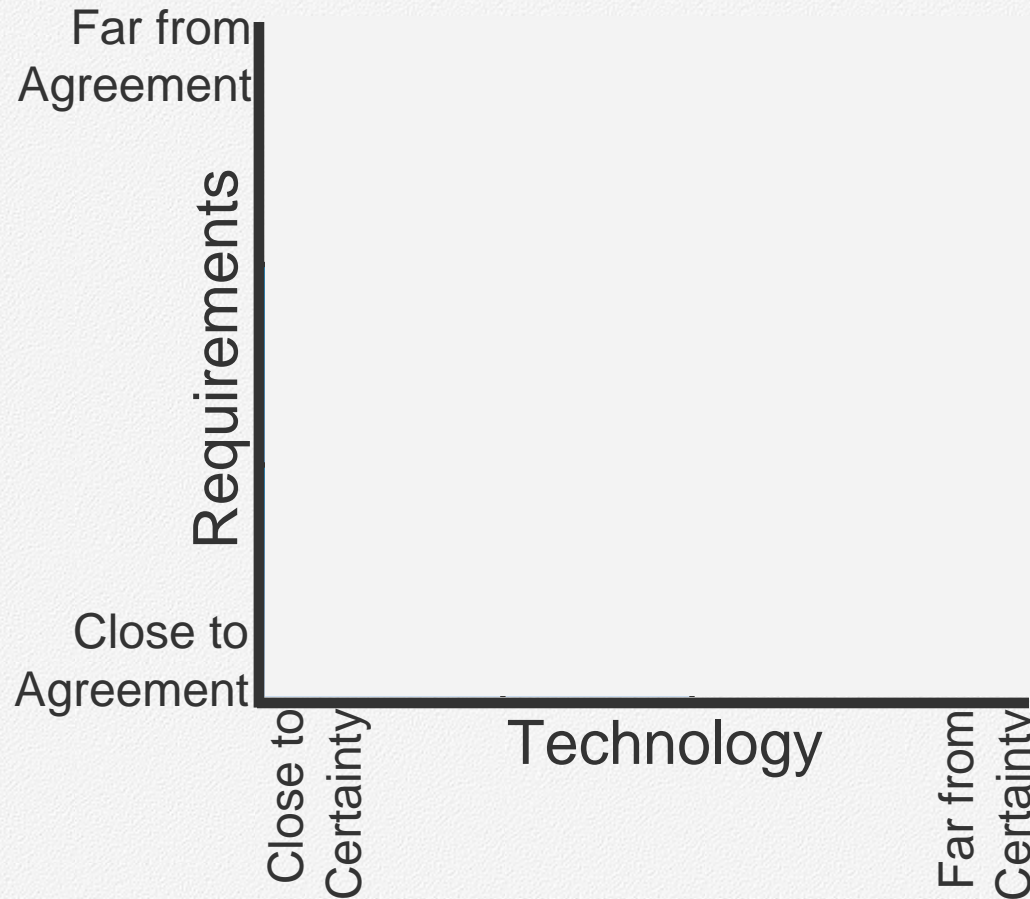


Continue your **Beyond Budgeting** Journey
with help from Agile, Lean and Scrum

Helge Eikeland, Statoil, October 2010

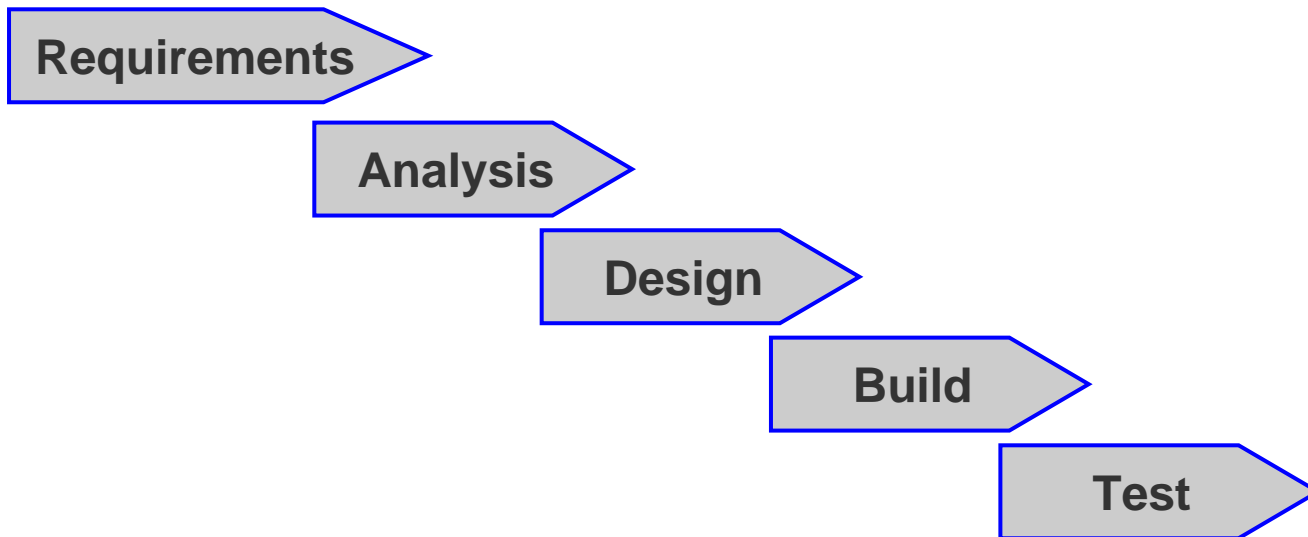
Today's challenge is complexity

Risk, Innovation, Creativity, Teamwork, Not done before, Uncertainty



Handling **complexity** through a defined process

Example from software development



- First time customer sees the solution is at the end
- Client: “that’s what *I said*, not what *I meant*”





Project 1

Empiric Process

Create the recipe for a new outstanding fish soup

Can these two projects
follow the same process?

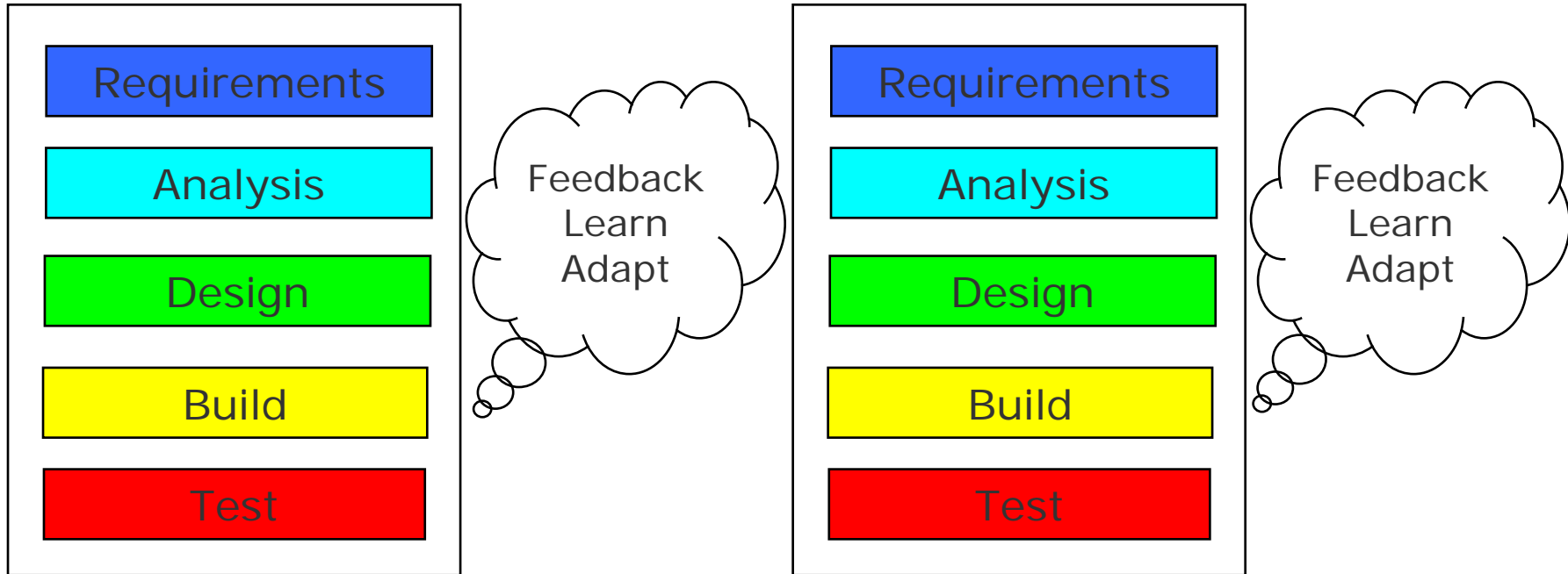


Project 2:

Defined Process

Produce 100 dishes of the new soup

Iterative Development



The assumption here is that software development is **an empiric problem**

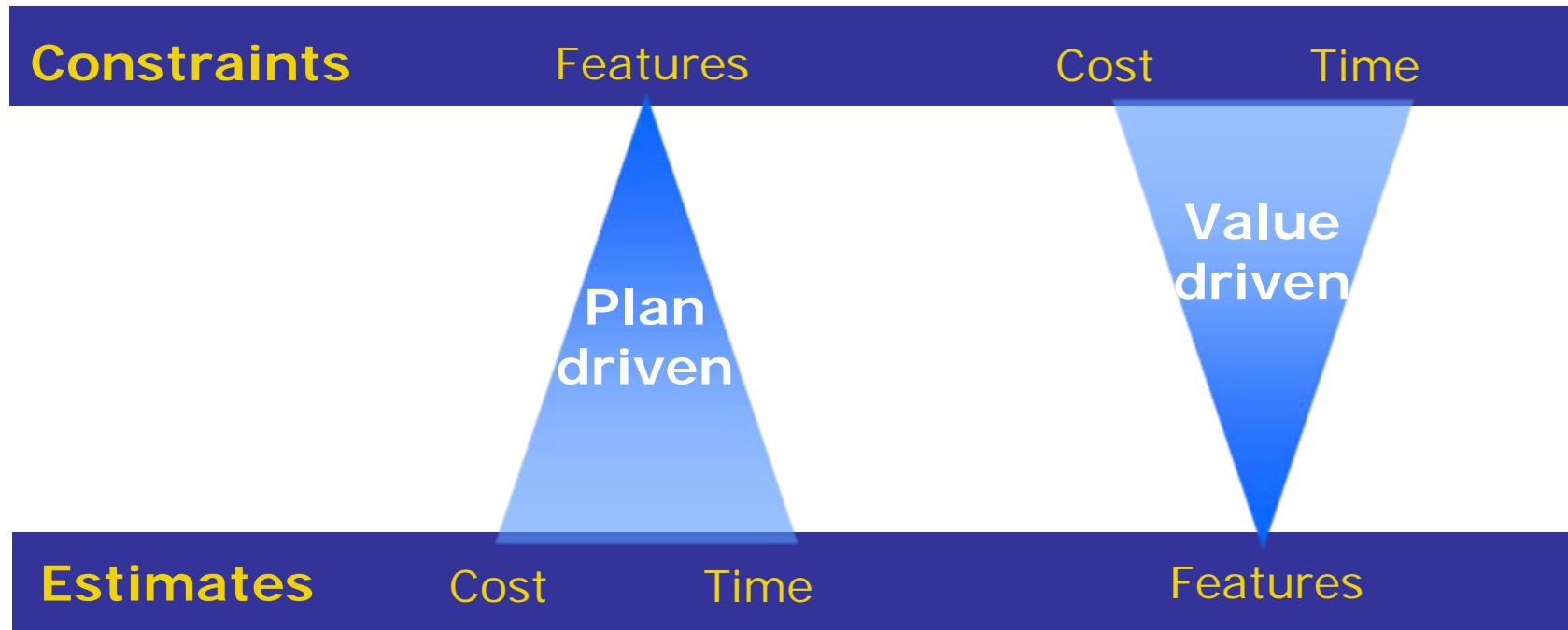
A paradigm shift in steering parameters

Defined Process

The plan creates
cost/time estimates

Empiric Process

The vision creates
feature estimates



Source: Michele Sliger

Scrum

Business Agility through
Empowered Teams



Business needs more agility



The response to this challenge in Statoil is
Beyond Budgeting, Agile, Lean and Scrum

Scrum

*Business Agility through
Empowered Teams*





Agile

The ability to move and change position quickly, effectively and with control *



Lean

Deliver *value* to customers with little or no unnecessary consumption of resources



Beyond Budgeting

has a lot to do with both Agile and Lean

* Source: *The Hackett Group*

Scrum

Business Agility through
Empowered Teams



Agile or Lean?

Let's simplify to two dimensions



We need **both**
Agile and Lean
on our journey towards
the sweet spot

Handling
uncertainty,
complexity and
change

(Agile strength)

Process excellence,
fast value creation with minimal waste

(Lean strength)

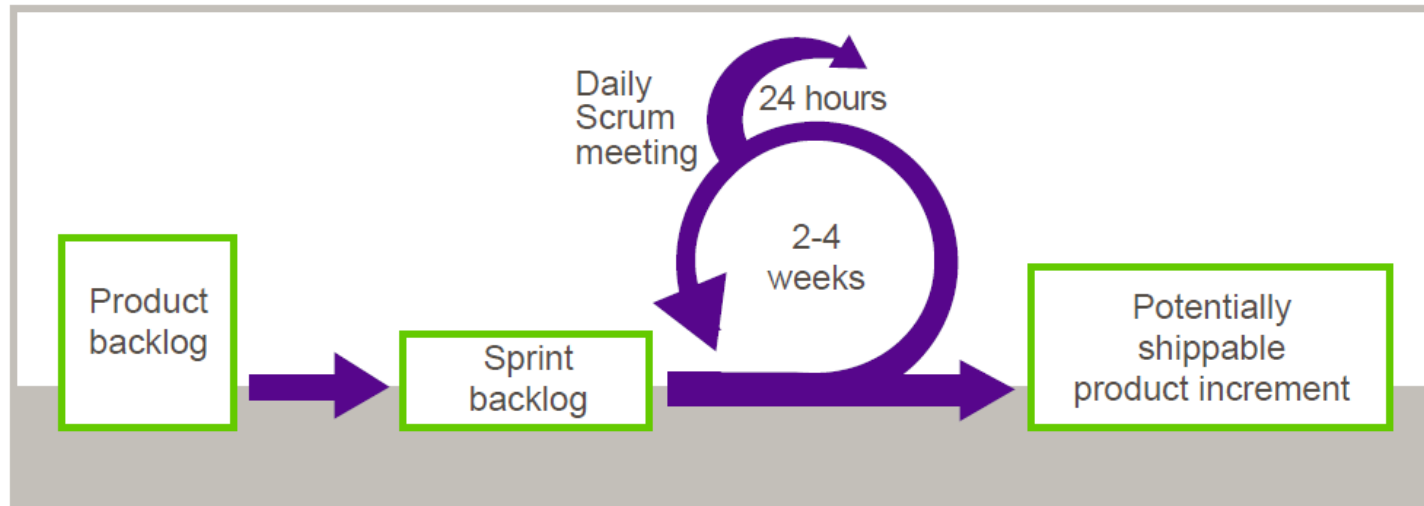


Scrum

Business Agility through
Empowered Teams



Scrum is a simple framework that supports both Agile and Lean principles



Scrum

Business Agility through
Empowered Teams



“Many companies have discovered that it takes more than the accepted basics of high quality, low cost, and differentiation to excel in today’s competitive market. It also takes speed and flexibility.”

1. Built-in instability
2. Self-organizing project teams
3. Overlapping development phases
4. "Multilearning"
5. Subtle control
6. Organizational transfer of learning

HBR
JANUARY-FEBRUARY 1986

The New New Product Development Game

Hiroataka Takeuchi and Ikujiro Nonaka

Scrum framework

Roles

- Product owner
- ScrumMaster
- Team

Ceremonies

- Sprint planning
- Sprint review
- Sprint retrospective
- Daily scrum meeting

Artifacts

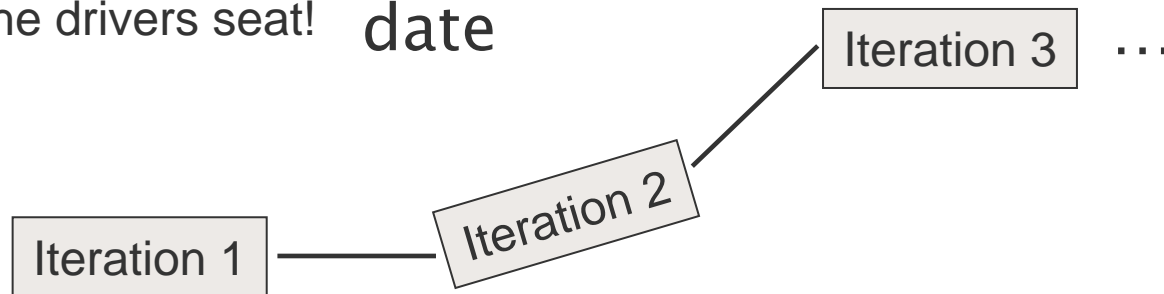
- Product backlog
- Sprint backlog
- Burndown charts

Product Owner – the customer role in Scrum

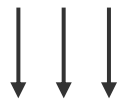


Customer sits in the drivers seat!

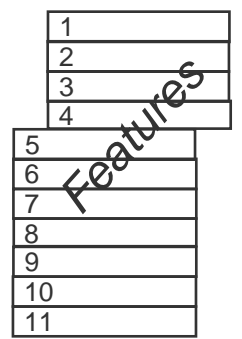
- Defines features of the solution
- Responsible for the profitability (ROI)
- Prioritizes features according to business value
- Decides on release content and date



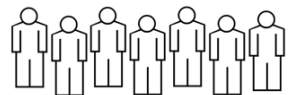
Input from End-Users, Customers, Team and Other Stakeholders



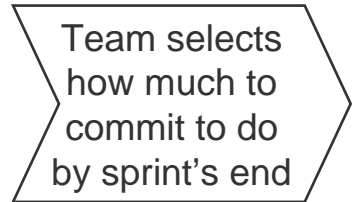
Product Owner



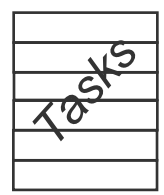
Product Backlog



Team

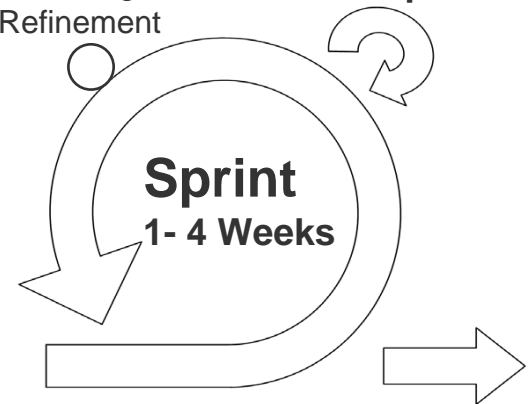


Sprint Planning Meeting



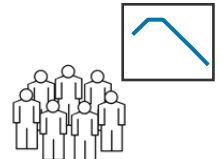
Sprint Backlog

Product Backlog Refinement

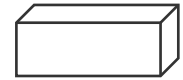


No Changes
(In Duration or Goal)

Daily Scrum Meeting and Artifacts Update



Review



Potentially Shippable Product Increment



Retrospective

Source: *The Scrum Primer v1.1*

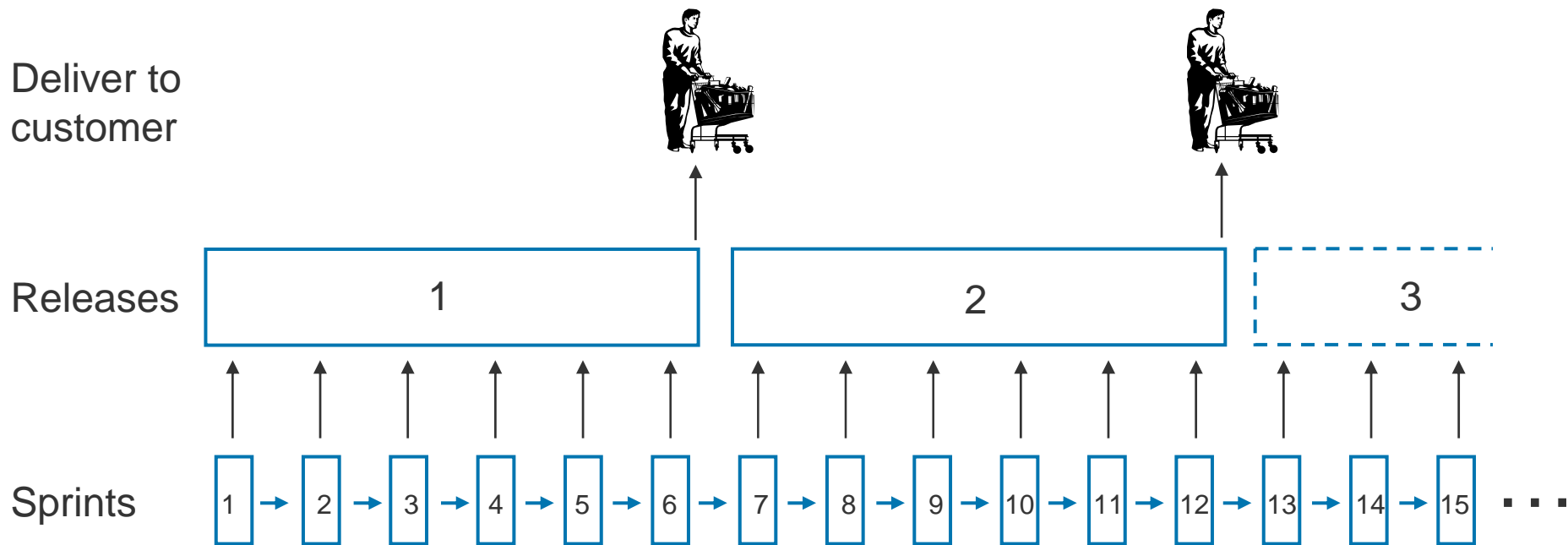
Scrum

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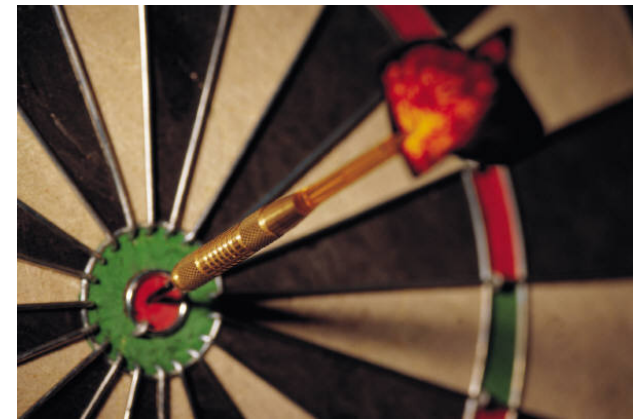


Beyond a single Sprint – Incremental Delivery

- If your team are not yet able to deliver “potentially shippable” stuff each sprint, OR your customer doesn't want a new delivery each sprint – use *releases*



Planning and Target Setting in Scrum



Roadmap - which releases are needed to get us there



Release - what customer value we will provide in this release



Sprint - what we as a team commit to deliver in this iteration



Daily - what I will do today

Scrum

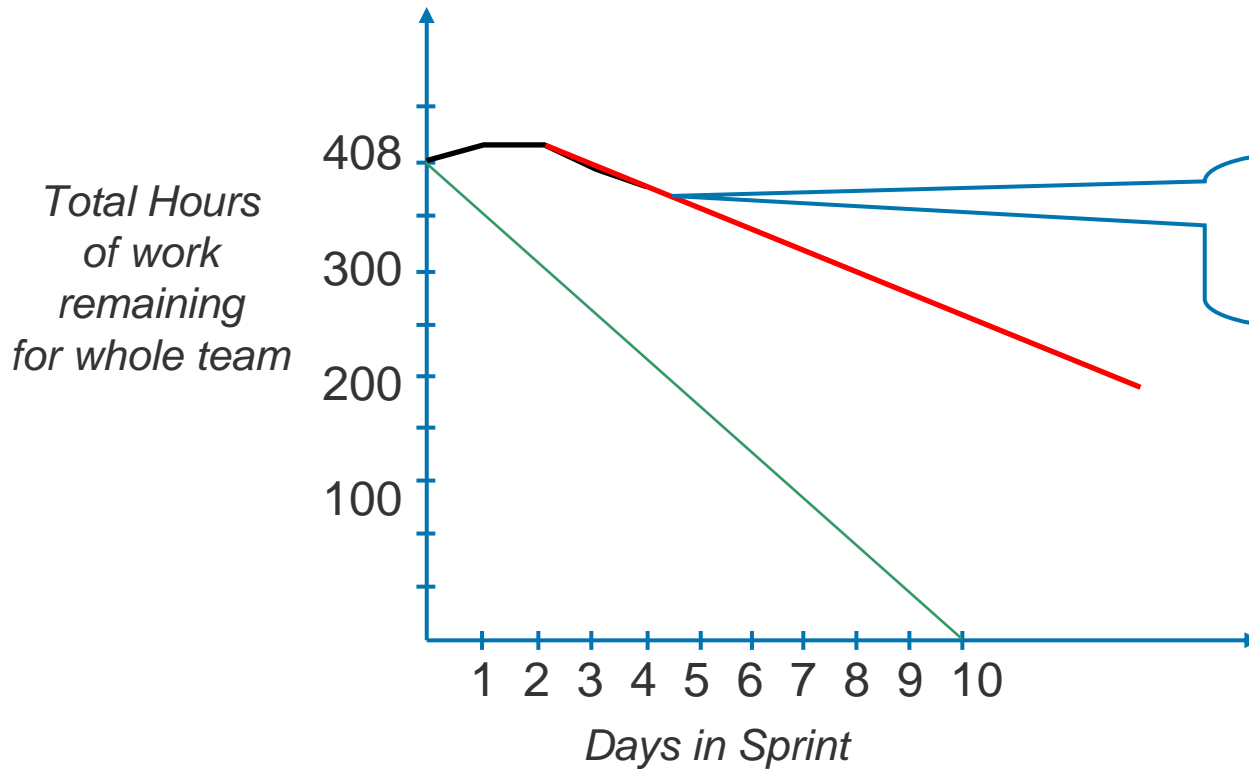
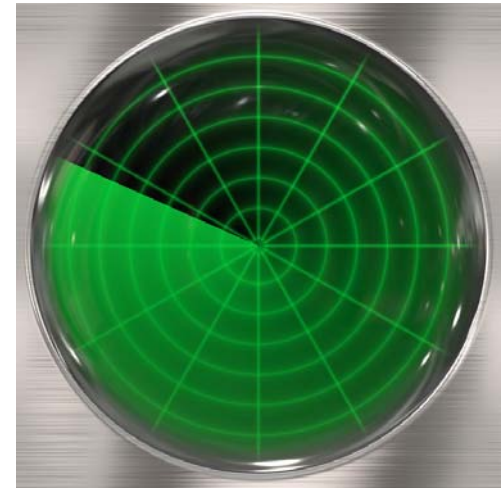
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Forecasting in Scrum

Burndown charts

Every day, all team members update hours (estimate) of work remaining



Problem made visible on the “radar”

A similar chart is used to track **release** burndown



Common Examples of **Waste** in Organisations

Inaccurate information

Excess inventory

Spoilage

Clutter

Long changeover
and setup times

Excess capacity

Planned product obsolescence

Excessive material handling

Overproduction

Long distance travelled

Retraining and relearning
time and expense

Scrap

Rework and repair

Long unproductive meetings

Poor communication

Waiting time

Accidents

Unnecessary movement
of materials, people,
and information

Equipment breakdowns

Knowledge bottlenecks

Non-value-added process steps



Source: Lean Operating Systems, Collier & Evans

Scrum

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With so much
waste going on...



our organisations must be full
of *unmotivated, sloppy and
lazy employees?*

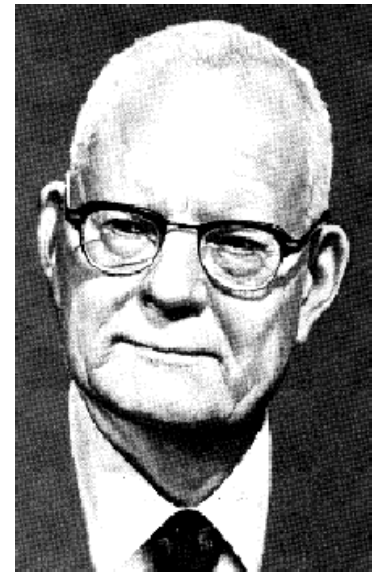
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Deming observed that *systems* govern performance...

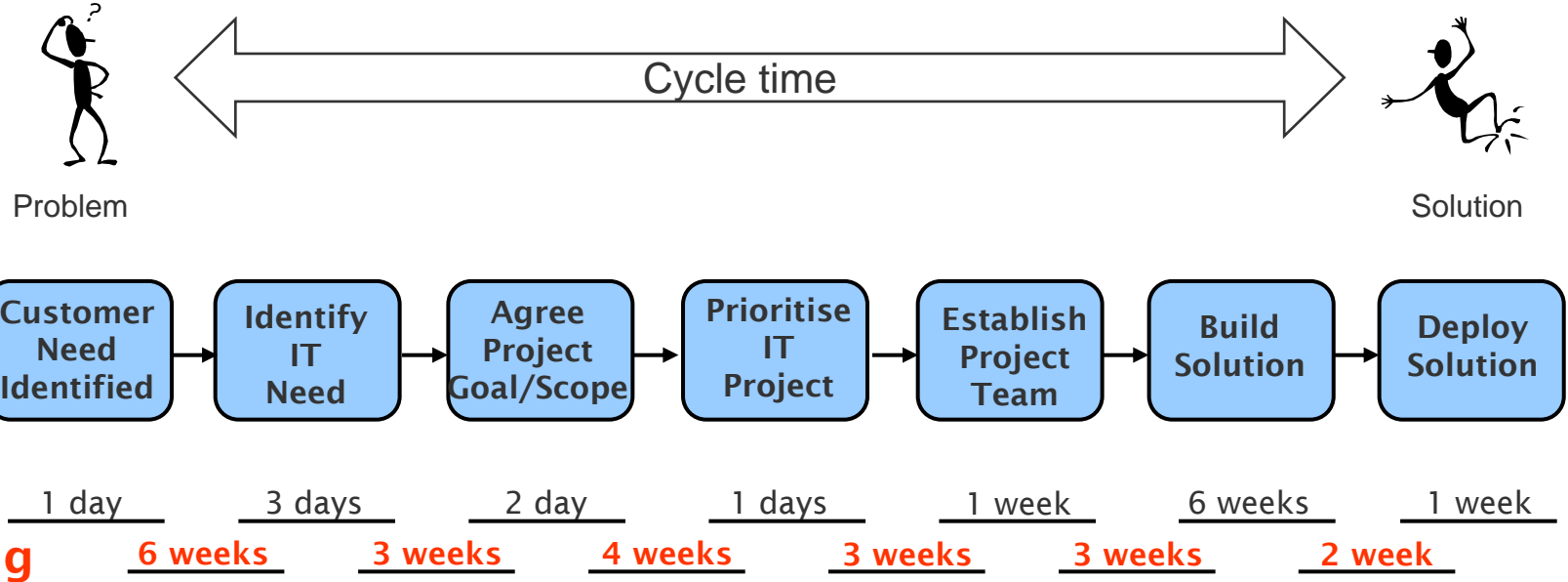
not the people that work in the system.



W. Edwards Deming
Source: wikipedia

But how can we improve the system?

Visualise the Flow



$$\text{Process Efficiency} = \frac{\text{Work}}{\text{Work} + \text{Waiting}} = \frac{9 \text{ weeks}}{9 + 21 \text{ weeks}} = 30 \% \text{ efficiency}$$



Real process efficiency is much lower because *other types of waste exists*

Metaphor from Lean: “Lake and rocks”

- The **depth of the water** may represent the inventory level, batch size, or cycle time; A big batch of *planning* or *budgeting* or delivering a new software system after one big 18 months batch of work...
- Inefficient communication, poor collaboration, waiting and rework etc are not easily visible. **When the water is high many rocks are hidden.**
- Ask a team to “create a small set of ‘stuff’ that is potentially deliverable in two weeks, every two weeks,” then suddenly all the ineffective practices becomes painfully visible.
- People cannot stand re-experiencing all these problems in each short cycle, so this pain becomes a force for improvement.

Defects, Mistakes, Errors

Inaccurate information

Long unproductive meetings

Source: Lean Primer

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Statoil's Scrum journey so far

2006	2007	2008	2009
<ul style="list-style-type: none">•IT needed to improve project deliveries•Evangelised empiric process•Searched the market for available methods•Selected Scrum	<ul style="list-style-type: none">•Certified Scrum Master training•Pilot projects with Scrum•Scrum hits company bureaucracy and old mindset	<ul style="list-style-type: none">•Management visit to NOKIA•Seminars – Scrum, agile and lean•More use of Scrum•Changed governance to allow Scrum	<ul style="list-style-type: none">•Organisational impediments surfaced•Management acknowledges this is a <i>system change</i>•More focus on stable teams

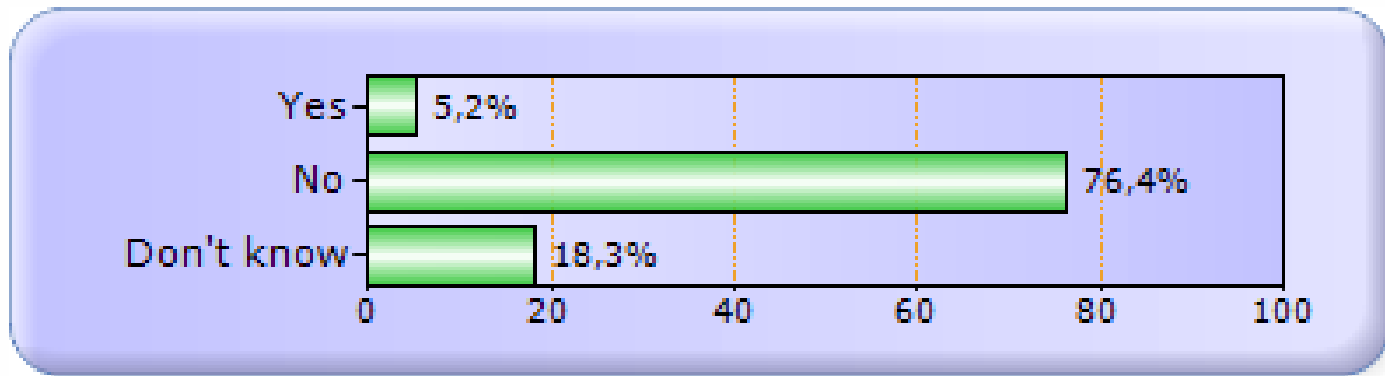
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Extract from internal survey, September 2010

“If you had the choice, would you go back to the way you used to work before Scrum was introduced?”



Yes	10	5,2%
No	146	76,4%
Don't know	35	18,3%
Total	191	100,0%

Scrum in Statoil

- Approx 40 scrum teams currently running
- The largest initiative consist of 15 teams
- Most teams are within IT, but mindset and usage of Scrum is starting to penetrate into non-IT environments
- Most teams work within a *project context*, but we are starting to explore *long lived stable scrum teams* as a more permanent part of the organisation

Some “local” benefits observed

- Reduced the waste of “hand-off” – scrum teams are cross-functional
- Reduced the waste of “multitasking” – strong emphasis on having team members 100% allocated to one team
- Reduced the collaboration and communication barriers - team sit together in the same room
- Increased customer involvement in projects – customer take on the Product Owner role
- Improved engineering practices within software development

Impact on the organisation

- Increased awareness and acceptance of Scrum principles and mindset
- Existing governance has been changed to allow Scrum
- A community of practicing Scrum Masters is operative
- Increased awareness in management that Scrum may improve our effectiveness within business support
- Business units challenged to actively participate in projects by taking on the Product Owner role – slowly changing the customer/supplier model towards partnership

Continue your Beyond Budgeting Journey with

- A *management culture* rooted in **helping others achieve their goals**
- A *philosophy* focused on **empowering the team to satisfy customers**
- *Technical tools* focused on making **fact-based decisions through a learning process**

Source: Mary Poppendieck, foreword in Agile Software Development with Scrum

The statements above are true for both
Beyond Budgeting and Scrum

Thank You

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