ValueGlide
creating better outcomes

Does size matter?

why do we estimate?

Nader Talai
9th April 2014
Kanban Coaching Exchange
ntalai@valueglide.com

Agenda

- What is an estimate?
- Real life example of blood test scenario
- Organisation's background
- Hypothesis, experiment, Learning
- Your thoughts

About the Presenter

Nader Talai

Experienced agile practitioner specialised in leading organisational transformations, working with delivery teams as well as with leadership teams and key stakeholders to implement focused and aligned improvements in the process, people and technology aspects that reduce time to go-live and deliver business value faster with high quality in a range of customer focused businesses.

Nader Talai
Agile Practitioner

http://valueglide.com
ntalai@valueglide.com

Estimate

Roughly calculate or judge the value, number, quantity, or extent of something

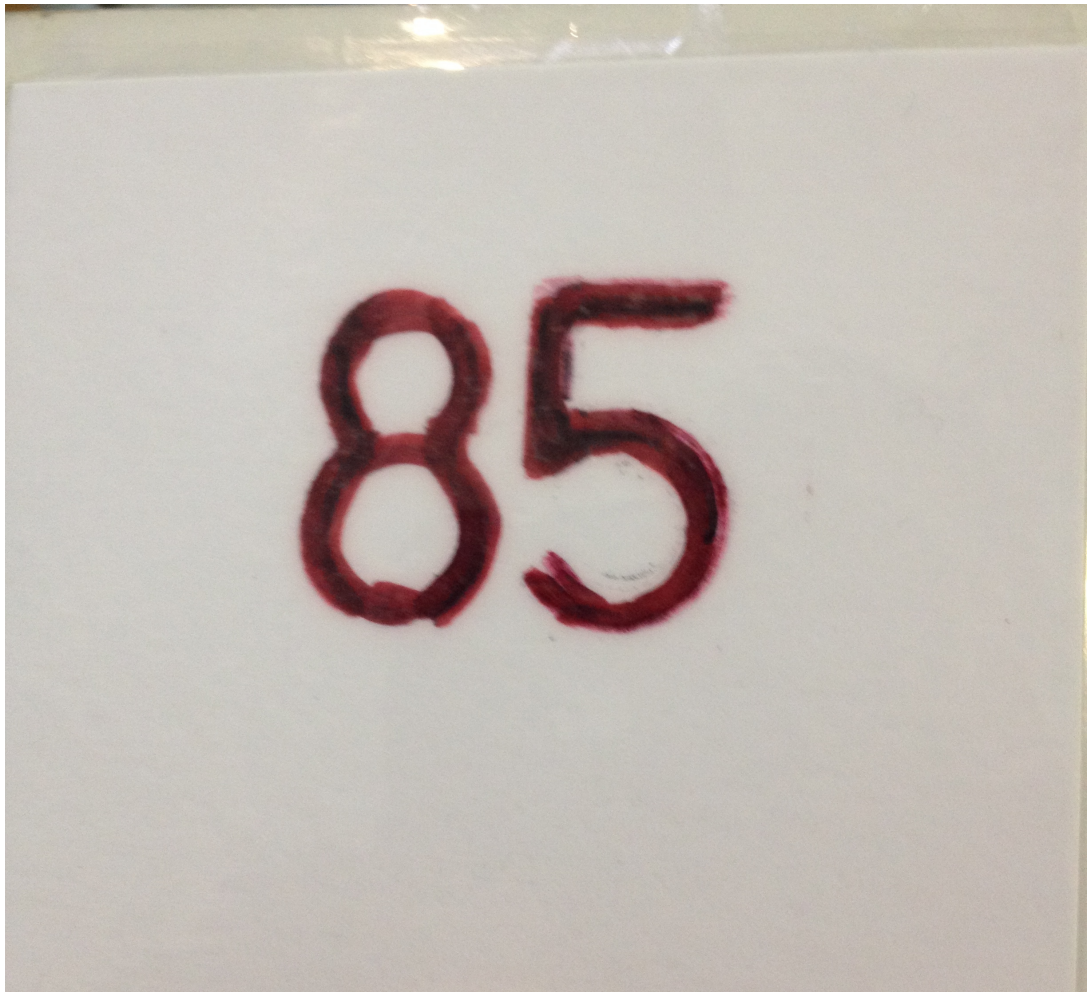
An approximate calculation or judgement of the value, number, quantity, or extent of something

http://www.oxforddictionaries.com/definition/english/estimate?q=estimate

Barnet General Hospital

Friday 4th April 2014

My number



Just called

How long do I have to wait?

Estimated wait

- Fastest 3:17 = 3.28
- Slowest 5:09 = 5.15
- Expected wait between
- 20 * 3.28 = 65.6 / 3 = 21.86
- And
- 20 * 5.15 = 103 / 3 = 34.33

Actuals

- Arrived at the receptionist 10:10
- Left at 10:39
- Wait time = 29 minutes
- How receptionist allocates numbers on arrival
  - You don't necessarily get the next number
  - If you are early, she estimates how many numbers higher she needs to give you to be about your appointment timeslot

Estimation

Estimation is the process of finding an estimate, or approximation, which is a value that is **usable** for some **purpose** even if input data may be incomplete, uncertain, or unstable. The value is nonetheless usable because it is derived from the best information available.[1] Typically, estimation involves "using the value of a **statistic** derived from a **sample** to estimate the value of **a corresponding population** parameter".[2] The sample provides **information** that can be projected, through various formal or informal processes, to determine **a range** most likely to describe the missing information.

http://en.wikipedia.org/wiki/Estimation
Emphasis added by me

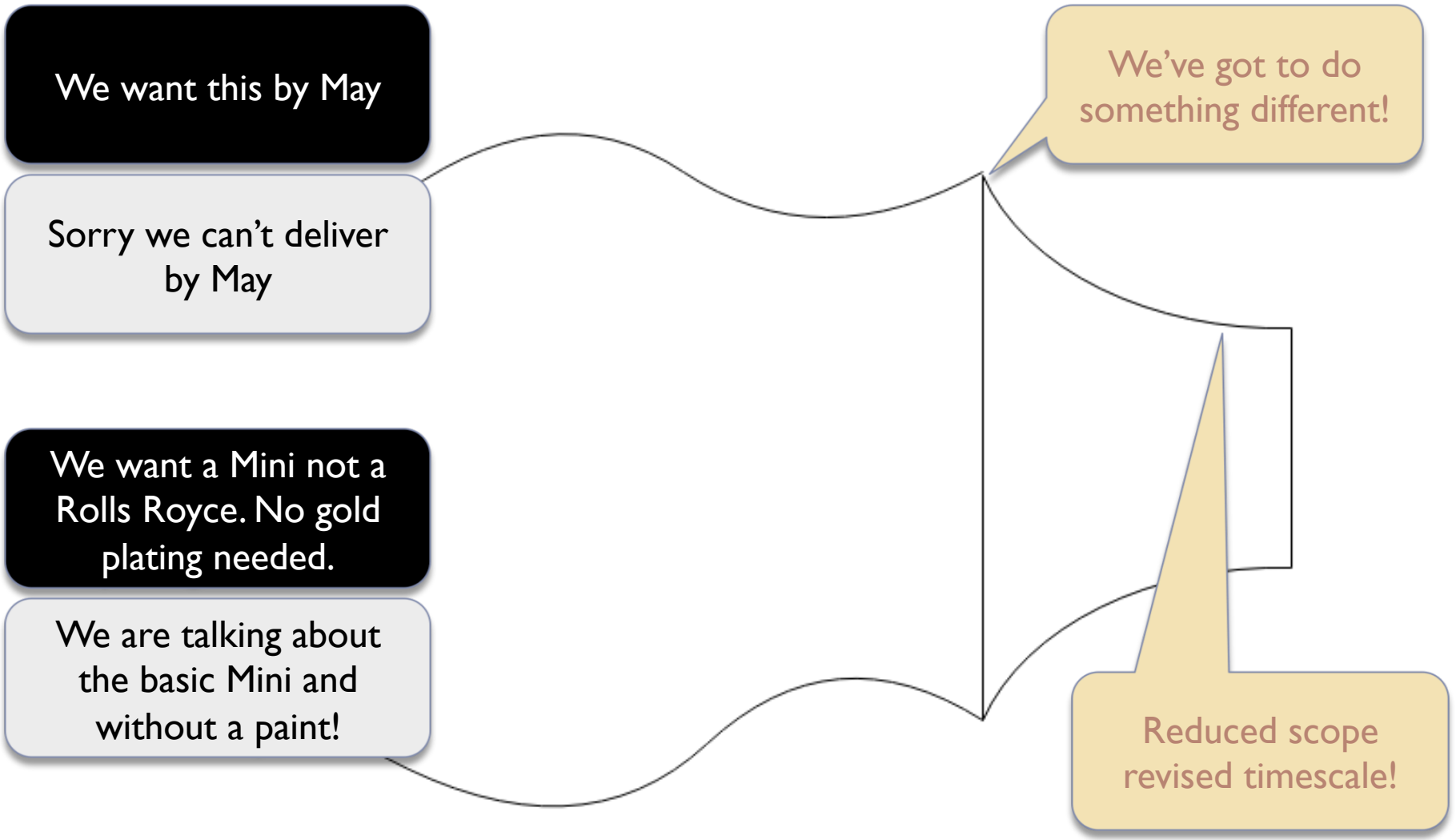
Background

- Started their agile journey Q3 – 2010
- Distributed, multi vendor teams
- Moved to stable teams
- Moved to Minimum Viable Products
- Minimum viable releases
- From 1 or 2 releases per year to a release every two months
- Experiment from 21/11/2012 to 21/02/2013

Estimation journey - 1

- Low trust relationship between change and development
  - “We tell you what we want by when and you go figure and deliver it”

Low trust



4-Levels of estimation

- As part of funding approval – should we invest?
  - Business case, High level estimate
  - Investment board
  - Done by a separate team with limited input from development
- T-shirt sizing – does it fit the release?
  - Release planning
- Point estimate – does it fit the release?
  - Double check T-shirt size
  - Does it fit the velocity
  - Done at team level
- Sprint level – does it fit the sprint?
  - Ongoing monitoring & Forecasting
  - Story break down and task level estimation

T-Shirt sizing spreadsheet

t-shirt-sizing

Point estimation

- Using the modified Fibonacci series
- Teams using
  - Planning poker
  - Affinity estimation
  - Other

Estimation journey - 2

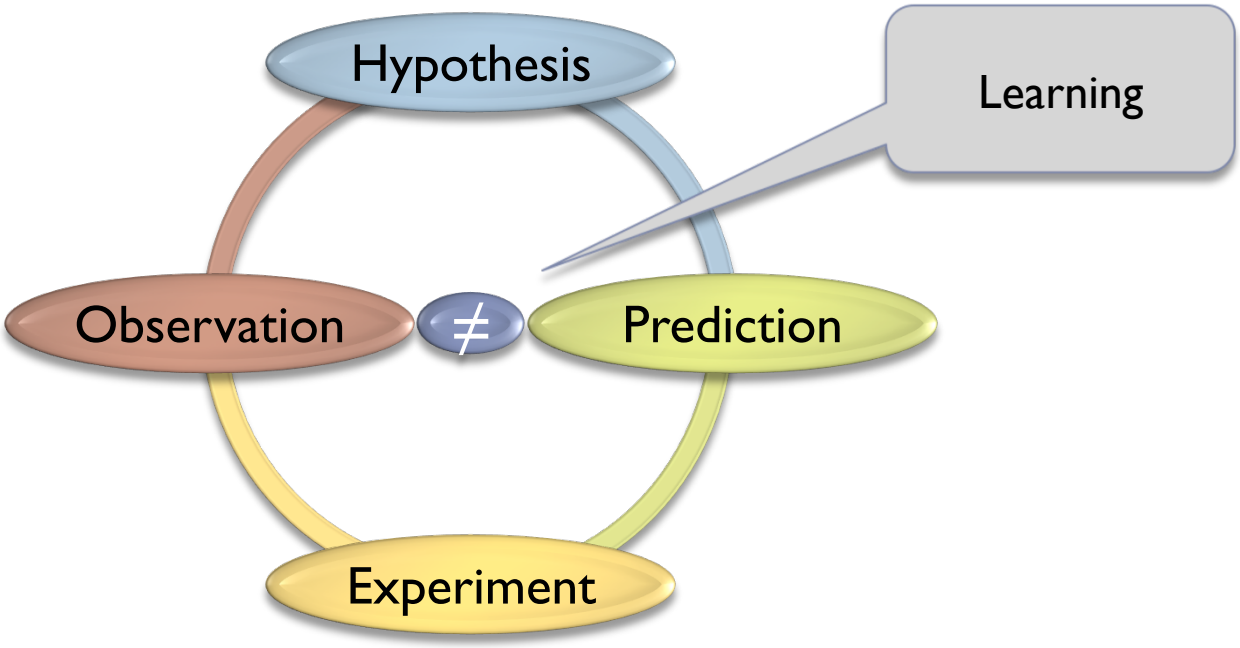
- With every release we gained a little more trust
- We delivered when we said we would
- Changed the focus from what is your estimate show me how you are meeting it every sprint
  - Why is burn down chart looks too slow
  - I need a burn down chart to be at x by y
- To how likely is it that we finish
  - What can we do to help
  - Moving to smaller sized Minimal Viable Products
  - Releases had a mixture of big and small projects
  - Project delivery order based on priority but with flexibility to adjust

Do we need all these estimates?

Shall we find out?

Hypothesis

- Hypothesis: Point size estimates add insight and Prediction: completion time should correlate
- Let us do an experiment and find out



Experiment

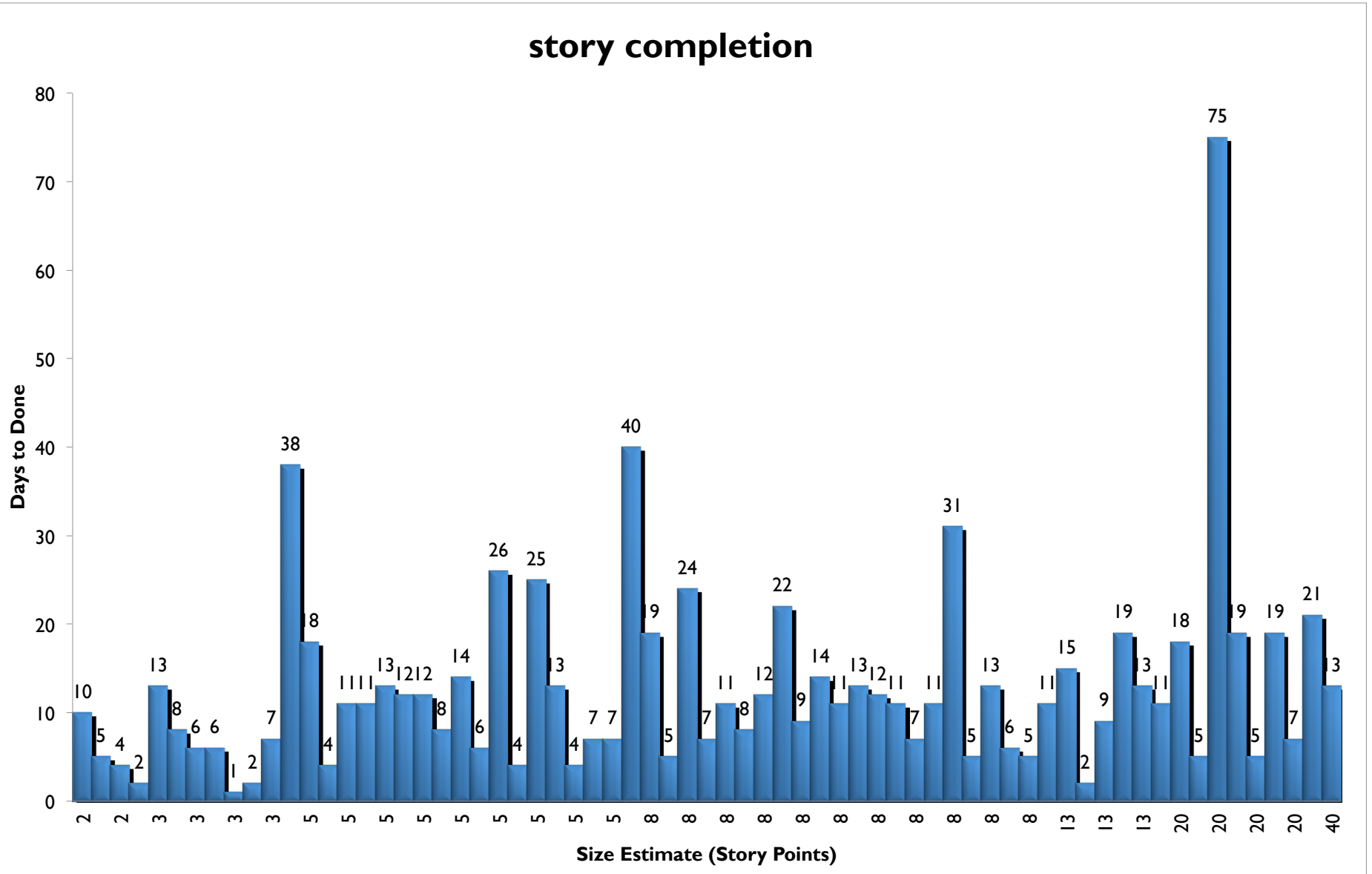
- Measure the correlation as opposed to our opinion

Experiment says

- Correlation = 0.24605439
- 0 = no correlation, 1 is perfect correlation (-1 is perfect inverse correlation) see wikipedia
- Correlation Data

Learning

- Our hypothesis was wrong there is no (very little) correlation
- We studied the detail to see if these were team specific
- So we asked ourselves
  - why do we do point estimation?
    - What can we realistically do in a release
    - What can we realistically do in a sprint


story completion
Days to Done
Size Estimate (Story Points)
0
10
20
30
40
50
60
70
80
2 2 3 3 3 3 5 5 5 5 5 5 5 5 5 5 8 8 8 8 8 8 8 8 8 8 8 8 13 13 13 20 20 20 20 40
10 5 4 2 13 8 6 6 1 2 7 38 18 4 11 11 13 12 12 8 14 6 26 4 25 13 4 7 7 40 9 5 24 7 11 8 12 22 9 14 11 13 12 11 7 11 31 5 13 6 5 11 15 2 9 19 13 11 18 5 75 19 5 19 7 21 13

T-shirt size estimates

- We asked ourselves - Why do we do T-shirt sizing?
  - What can we realistically do in a release
  - Gain insight in the release business goals, priorities and effort
- What additional insight do we get from this exercise?
- What is the benefit of point size estimation as well?
- Could we use one of these?

- T-shirt size estimation stopped
  - And moved gain insight in the release business goals, priorities and effort with the point estimation

Hypothesis & Experiment

- Can we use throughput to achieve
  - What can we realistically do in a release
  - What can we realistically do in a sprint
- Experiment parallel run the two

How long is it going to take?

Using average velocity

- Average velocity = 88
- Release backlog = 615
- Sprints required = 7 (6.98)

Using average throughput

- Average throughput* = 10
- Release backlog size = 70
- Sprints required = 7

- * Throughput number of stories completed in a sprint

Sprint by sprint

Velocity
44
110
0
63
98
133
167

Throughput
6
13
0
9
17
13
12

Observation

- Story completion time and our point estimation did not correlate
  - Two schools of thought
    - We need to get better estimate
    - Estimates must reflect how long the work really takes
  - Or
    - We estimate for predictability
    - Consistency in the outcomes is what we are after
    - If we know the number and the range we can get predictability
    - Build in continual improvement to continually increase our throughput
- We opted for moving to just using throughput & continual improvement
- Also this approach scales so we can use it
  - At sprint level
  - Project level
  - Release level

Achieved

- Reliability
  - Better quality deliveries
    - Stable teams
    - Better engineering practices
    - Less stress
  - On time delivery
- Predictability
  - Delivered what we said is possible
- Flexibility
  - Ability to react
- Less estimations
  - T-shirt sizing no longer in use
  - Delivery rate capability measure is a very good indicator
  - Phasing out point estimation

WARNING

APPLY WITH CAUTION
YOUR CONTEXT **WILL**
BE DIFFERENT

Thank you

Does size matter?

why do we estimate?

Nader Talai
9th April 2014
Kanban Coaching Exchange
ntalai@valueglide.com