

Viktoria Stray

Associate Professor, PSE Group

- Computer Science, NTNU, 2007
- 3 years as an IT-consultant, Accenture
- PhD, Software Engineering, UiO, 2014

knowit® SpareBank 1



storebrand

NR Norsk
Regnesentral
NORWEGIAN COMPUTING CENTER

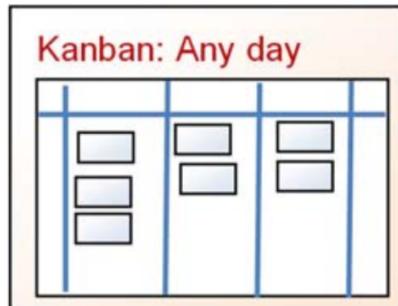
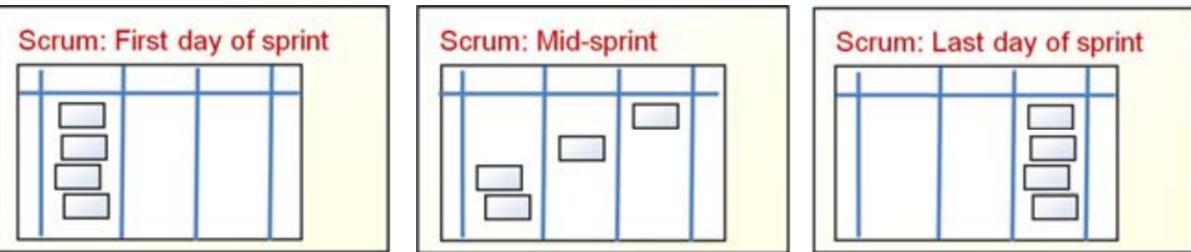
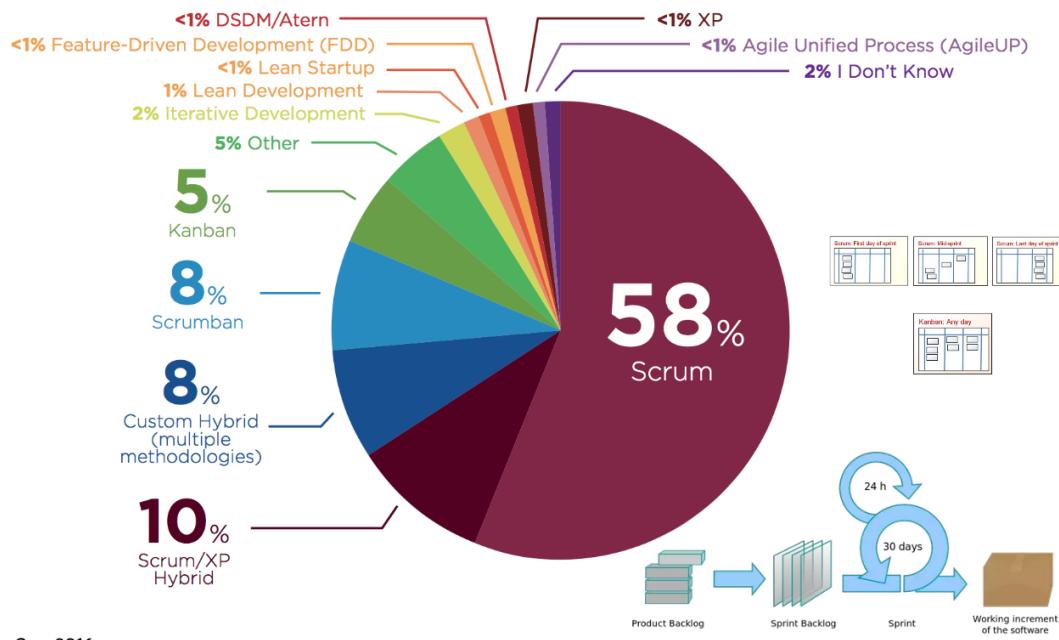
SINTEF

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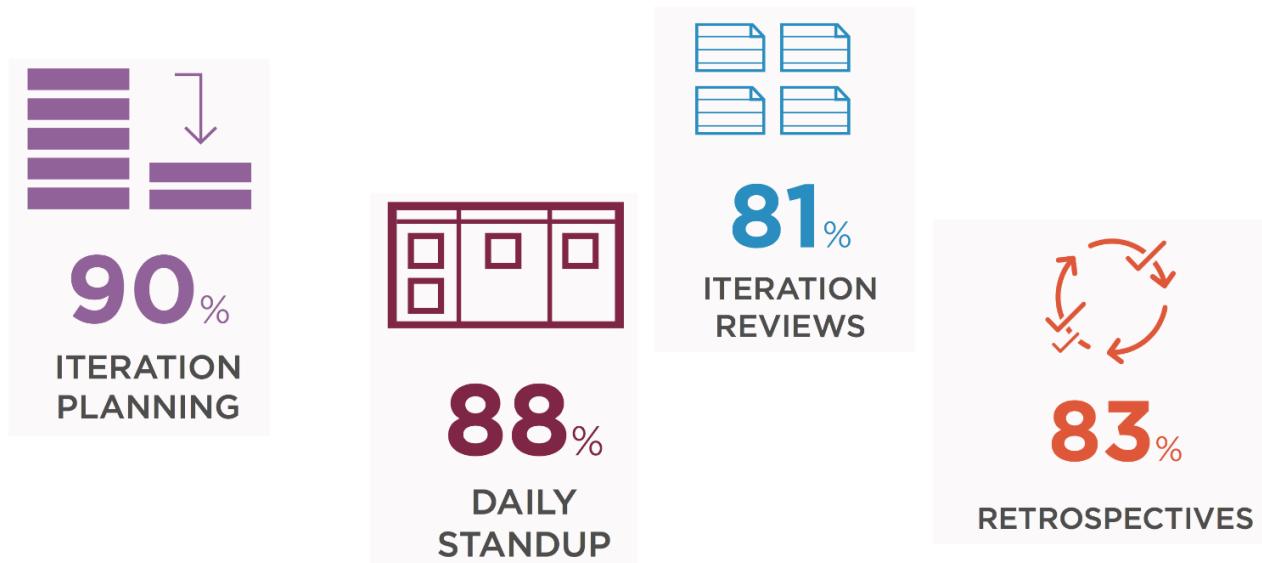
Kantega

Sbanken

AGILE METHODS AND PRACTICES



Top 4 agile techniques



VersionOne.com, 2016,

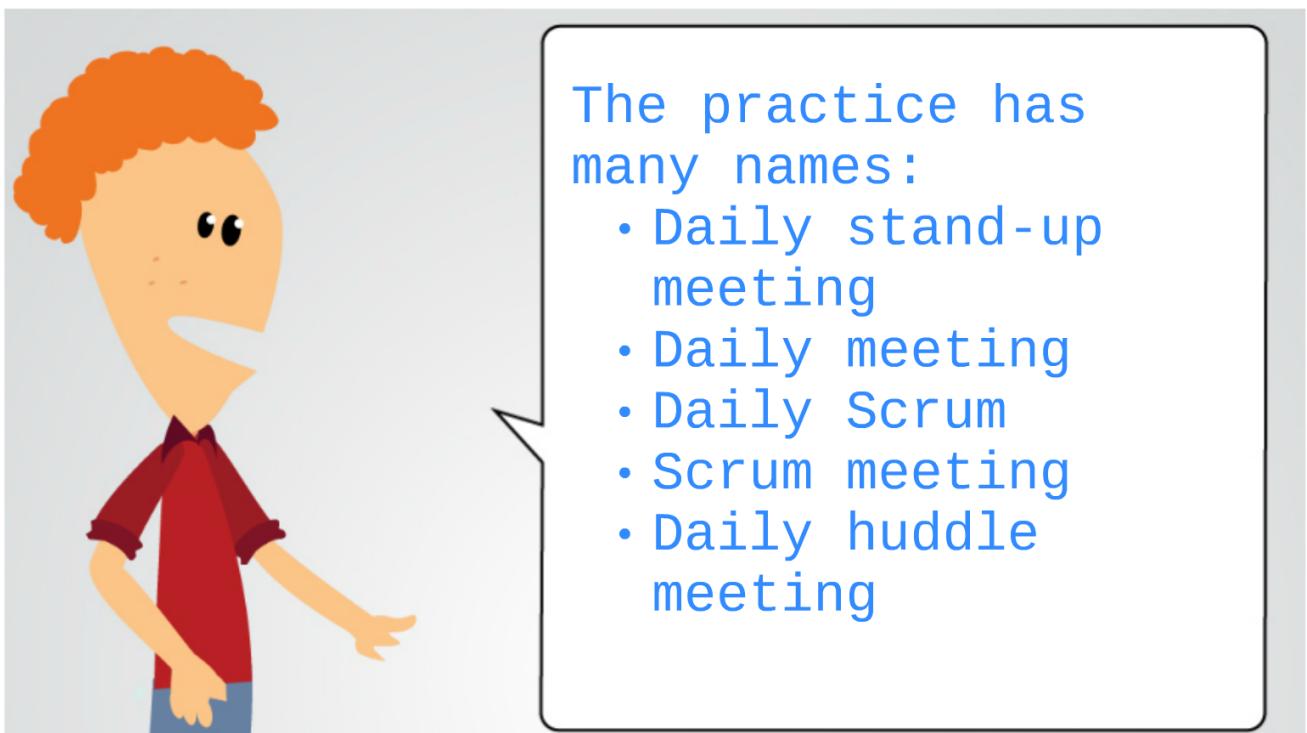
Sprint Planning Meeting



DAILY STAND-UP



Max 15 min





<http://scrumtrainingseries.com/>

A cartoon illustration of a Scrum Master character with brown hair tied back, wearing a red cap and a red t-shirt with "Scrum Master" printed on it. A silver whistle hangs around their neck. A speech bubble above them contains the text: "What did I do yesterday?
What will I do today?
What impedes me?"

Daily Scrum Three Questions

1. What did I do yesterday?
2. What will I do today?
3. What impedes me?

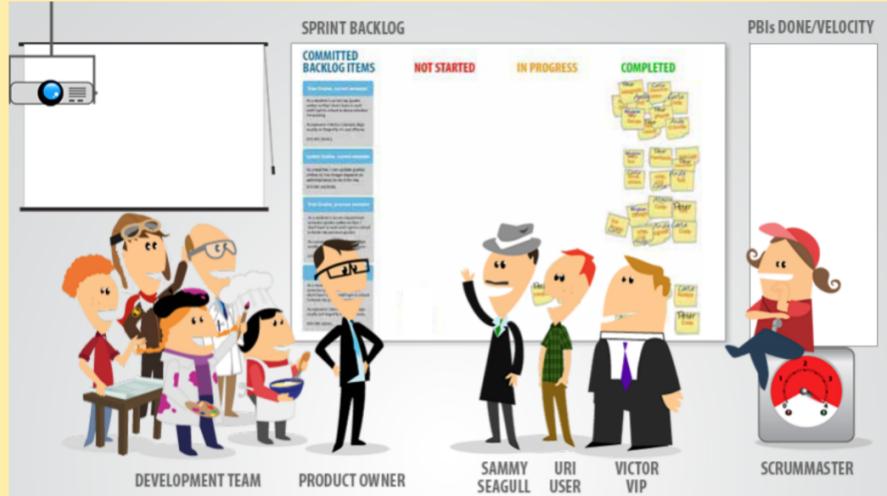
<http://scrumtrainingseries.com/>

SPRINT REVIEW

(Demo)



Max 4 hours

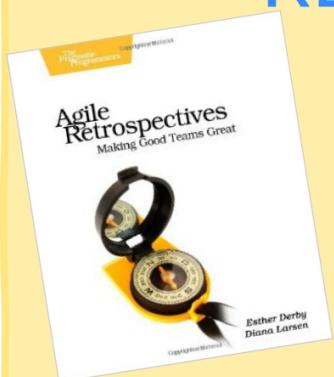


<http://scrumtrainingseries.com/>

RETROSPECTIVE



Max 3 hours



Qualitative research on daily stand-ups

Data collected in four companies

81 interviews (13 teams)

83 observations of daily stand-up meetings

More than 100 observations of other meetings

Analysis

The average number of participants was 9.6

Company	Average Participants
Alpha	10.0
Beta	9.0
Gamma	8.0
Delta	7.0

The duration of the meetings in Alpha and Beta varied

Meeting sequence number	Alpha (min)	Alpha (max)	Beta (min)	Beta (max)
1	10	10	10	10
2	15	15	15	15
3	20	20	20	20
4	25	25	25	25
5	30	30	30	30
6	35	35	35	35
7	40	40	40	40
8	45	45	45	45
9	50	50	50	50
10	55	55	55	55
11	60	60	60	60
12	65	65	65	65
13	70	70	70	70
14	75	75	75	75
15	80	80	80	80
16	85	85	85	85
17	90	90	90	90
18	95	95	95	95
19	100	100	95	95
20	105	105	95	95
21	110	110	95	95
22	115	115	95	95
23	120	120	95	95
24	125	125	95	95

Degree of self-management affected the interactions

Negative and positive opinions from the interviewees

I don't think people listen to what is said in the daily meeting. Everyone wants to be finished with the stand-up as quickly as possible to get back to work.

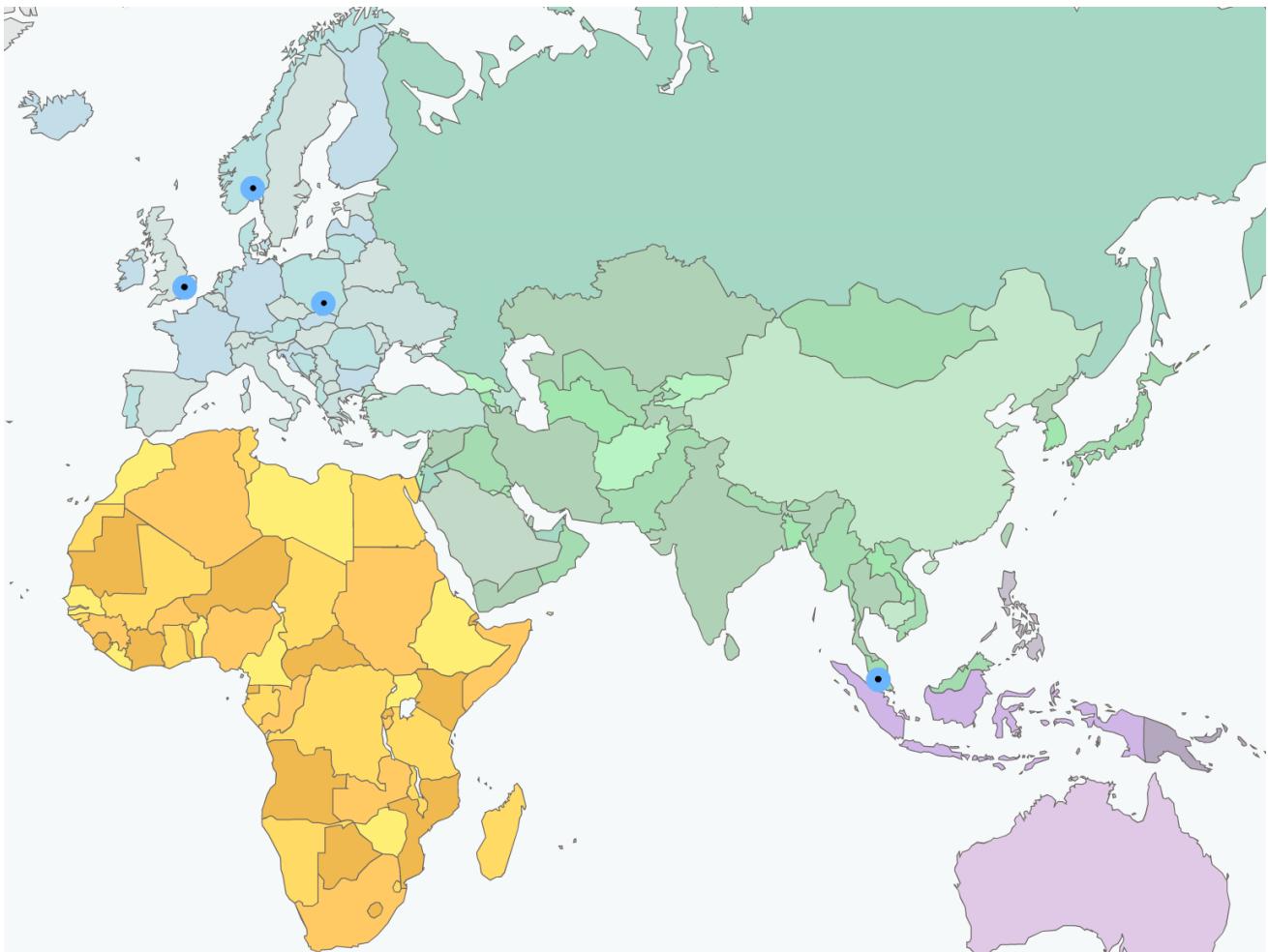
If there are problems I will stop it and others can help me.

Data collected in four companies

**81 interviews
(13 teams)**

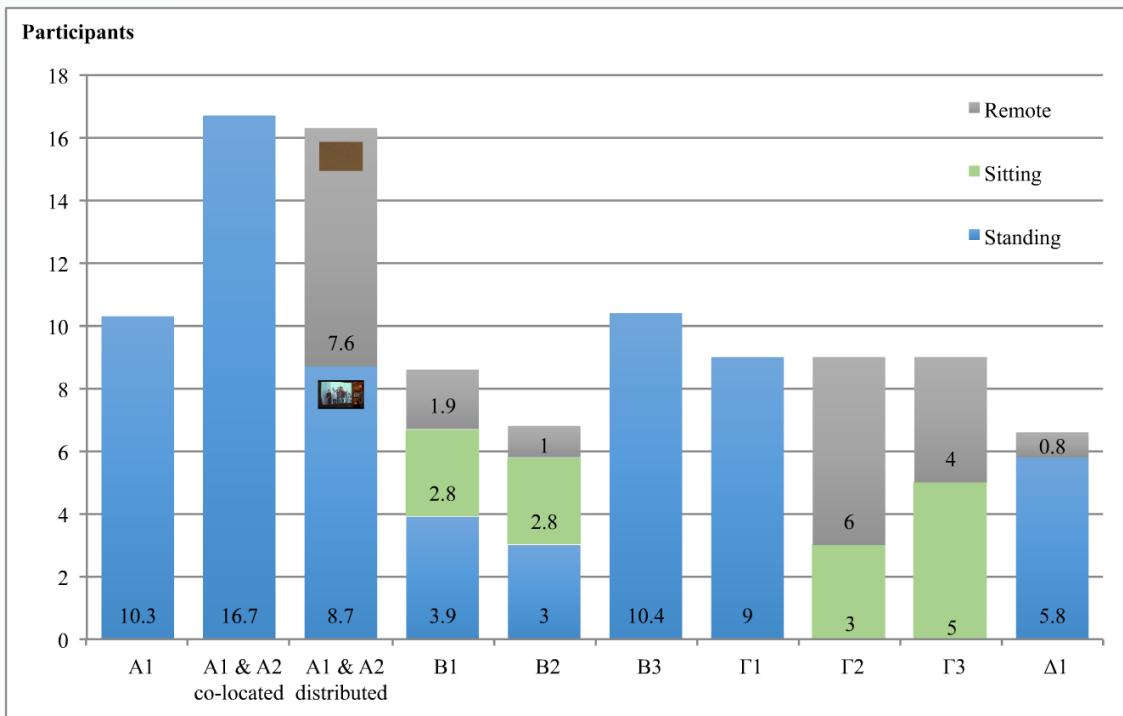
**83 observations
of daily stand-up meetings**

More than 100 observations of other meetings

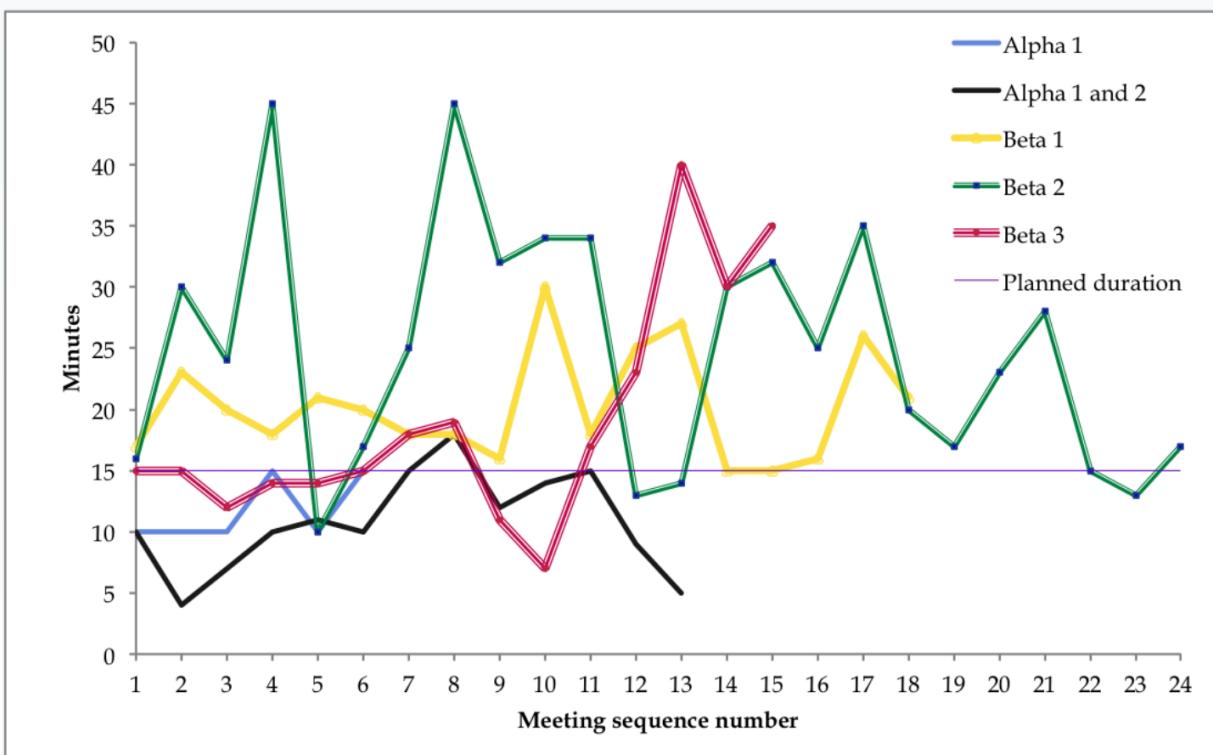


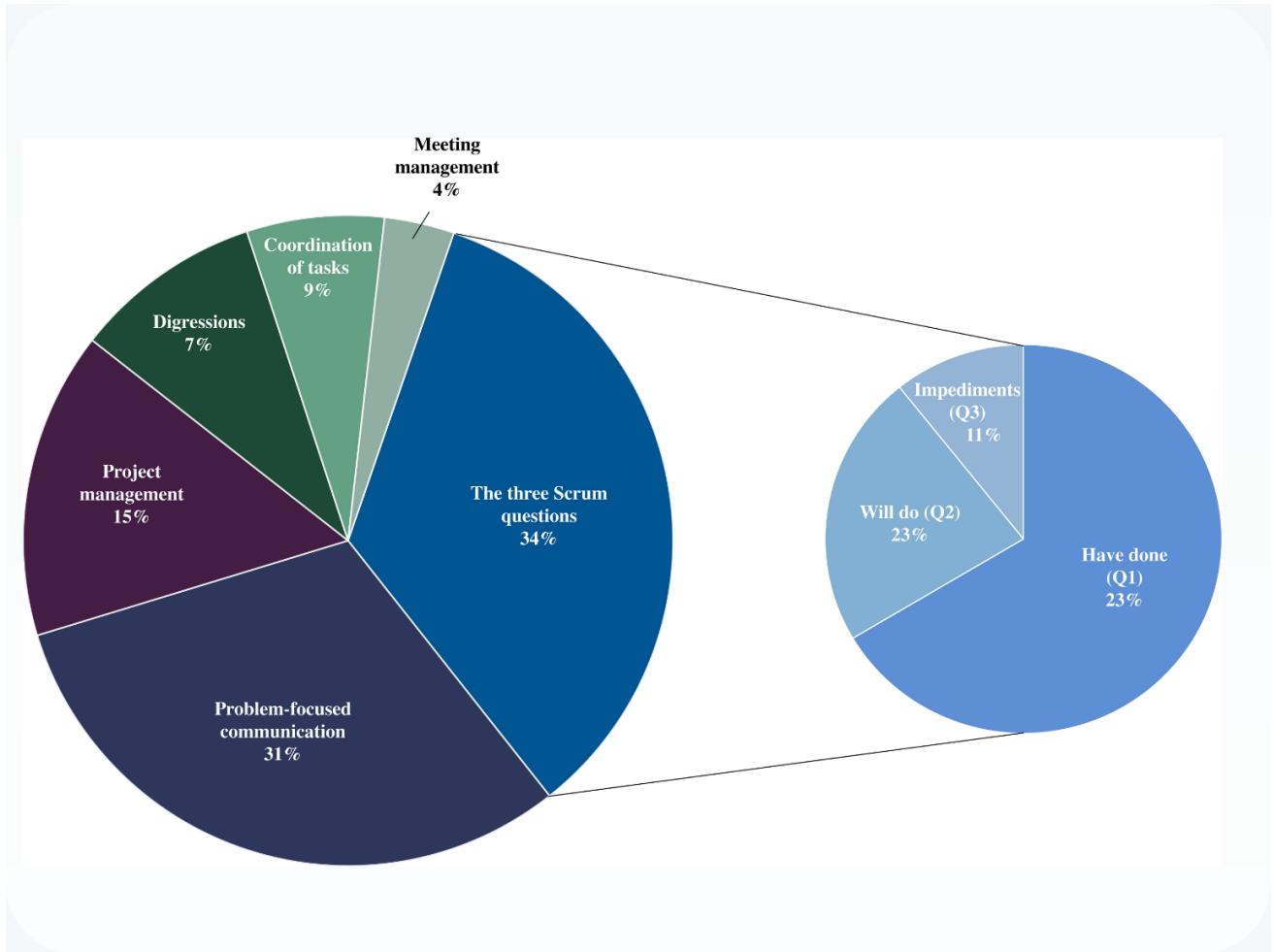
FINDINGS

The average number of participants was 9.6

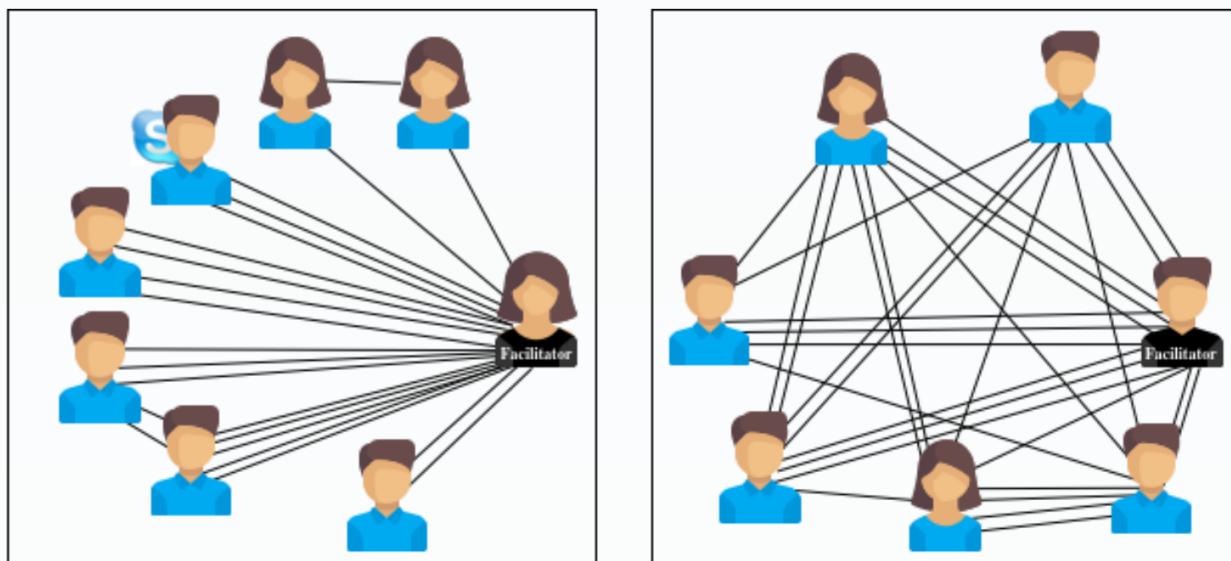


The duration of the meetings in Alpha and Beta vari





Degree of self-management affected the interactions



Negative and positive opinions from the interviews

No one in the team really wants to be at the status meeting. We are mostly programmers and testers, so our job is not administration.



I experienced the daily meeting like an oral exam.

If I have problems I will share it and others can help me.

I don't think people listen to what is said in the stand-up meeting. Everyone wants to be finished with the round as quickly as possible to get back to work.

The daily meeting gives me an overview of what other team members are doing.

Quantitative research on daily stand-ups

Data collection: survey

This screenshot shows the Qualtrics survey interface. It features a world map on the left and a list of survey questions on the right. The questions are related to daily stand-ups, such as "How often do you attend stand-ups?" and "What is the purpose of stand-ups?".

Analysis: R

This screenshot shows the RStudio interface. It displays R code in the top pane and various plots and data visualizations in the bottom pane, likely used for analyzing survey data.

Results from survey

This section presents survey results. It includes icons for 'Students', 'Professional developers', and 'Not working in a team'. A bar chart shows that 70% of students use agile methods, while 67% of professional developers attend daily stand-up meetings.

Group	Result	Percentage
Students	Use agile methods	70%
Professional developers	Attend daily stand-up meetings	67%
Not working in a team	Not applicable	Not applicable

Data collection: survey



Where do you live? (click the location on the image map)

Q1.3

Map data ©2011 Geocentric Consulting, Tele Atlas, TerraMetrics

Q1.4

What is your age?

Carry Forward Choices... Carry Forward Labels... Add Skip Logic... Add JavaScript... Add Default Choices... Add Note... Randomization... Working (self-employed)

your current employment status?

Working (self-employed) Working (self-employed)

Page Break

Change Question Type

Choices: 1 Automatic Choices

Labels: 0 Automatic Labels

Type: Bars Sliders Stars

Grid Lines: 10 Snap to Grid

Min Value: 10 Max Value: 80 Number of Decimals: 0

Options: Show Value Custom Start Position Not Applicable Mobile Friendly Center Labels

Validation Options Force Response Validation Type None Custom Validation

Add Page Break Add Display Logic Add Skip Logic Copy Question Move Question Add Note

Analysis: R

RStudio

Environment History Global Environment

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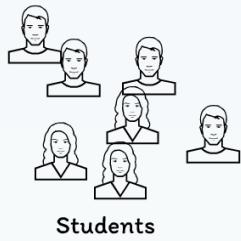
daily-startup-analysis.R# > analysis_for_paper.R #> load_and_create_variables.R #> figure1.R #> table1.R
## > polygon(vortmap, col = "red", border = "blue")
144
145
146
147 # Density plot of team size and distribution:
148 plot(density(d$Q31_team_size_1[(is.not(d$Q31_team_size_1) & d$Q31_team_size_1 > 0),], main = "Density plot of team size")
149 lwd=2)
150 lines(density(d$Q31_team_size_1[(is.not(d$Q31_team_size_1) & d$Q31_team_size_1 > 0),], main = "Density plot of team size"))
151 d <- density(d$Q31_team_size_1[(is.not(d$Q31_team_size_1) & d$Q31_team_size_1 > 0),])
152 f <- test(d$Q31_team_size_1, d$Q31_team_size_1)
153 legend(15, 1, c("local", "distributed"), lty=c(1,1), lwd=c(2.5, 2.5), col=c("red", "blue"))
154
155
156 # t-test: Differences between team size and distribution
157 t.test(d$Q31_team_size_1 ~ d$Q31_team_distribution) # not significant, but 1 person more
158
159 # Plot example of post test and time spent in meetings
160 plot(d$Q31_sum_meet, d$Q33_hours_spent)
161
162 # Report of just test and hours spent programming
163 boxplot(Q33_hours_spent~Q32_sun_score, data=d, main="", xlab="Joel sun score", ylab="Hours spent programming", ylim=c(0,20))
164
165 # Boxplot of team distribution vs hours spent programming
166 boxplot(Q33_hours_spent~Q34_team_distribution, data=d, main="")
167 boxplot(Q33_hours_spent~Q34_team_distribution, data=d, main="")
168 xlab="Team distribution", ylab="Hours spent programming", ylim=c(0,15))
169
170 # Dropping subjects who do not use programming
171 # Boxplot of team distribution and hours spent programming
172 boxplot(d$Q33_hours_spent~d$Q33_hours_spent>0, data=d, main="")
173 xlab="Joel sun score", ylab="Hours spent programming", ylim=c(0,20))
174
175 # Boxplot of attending standup and hours spent programming
176 boxplot(Q33_hours_spent~Q32_sun_score, data=d, main="")
177
178 # Descriptive statistics
179 # t-test(d$Q31_team_size_1 ~ d$Q31_team_distribution) # not significant, but 1 person more
180
181 Welch Two Sample t-test
182
183 data: d$Q31_team_size_1 by d$Q31_team_distribution
t = 1.579, df = 165.95, p-value = 0.11173
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
-0.2625397 2.3167089
sample estimates:
mean in group is distributed across sites mean in group is local
7.951613 6.924528
184
185 plot(d$Q32_sun_score, d$Q33_hours_spent)
186 boxplot(Q33_hours_spent~Q32_sun_score, data=d, main="")
187 xlab="Joel sun score", ylab="Hours spent programming", ylim=c(0,20))
188 boxplot(Q33_hours_spent~Q34_team_distribution, data=d, main="")
189 xlab="Team distribution", ylab="Hours spent programming", ylim=c(0,15))
190
191 t.test(d$Q31_team_size_1 ~ d$Q31_team_distribution) # not significant, but 1 person more
192
193 Welch Two Sample t-test
194
195 data: d$Q31_team_size_1 by d$Q31_team_distribution
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mean in group is distributed across sites mean in group is local
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196
197 plot(d$Q32_sun_score, d$Q33_hours_spent)
198 boxplot(Q33_hours_spent~Q32_sun_score, data=d, main="")
199 xlab="Joel sun score", ylab="Hours spent programming", ylim=c(0,20))
200

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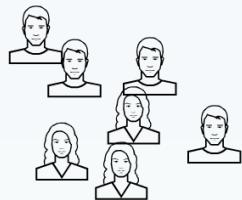
Plots:

- Boxplot of Hours spent programming vs Joel sun score.

Results from survey



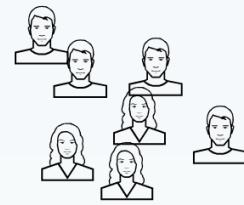
Students



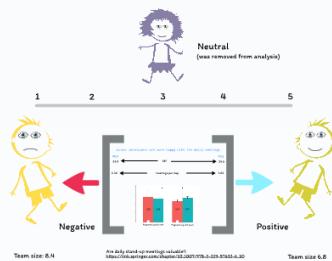
Professional developers

74% use agile methods

87% of agile developers attend daily stand-up meetings



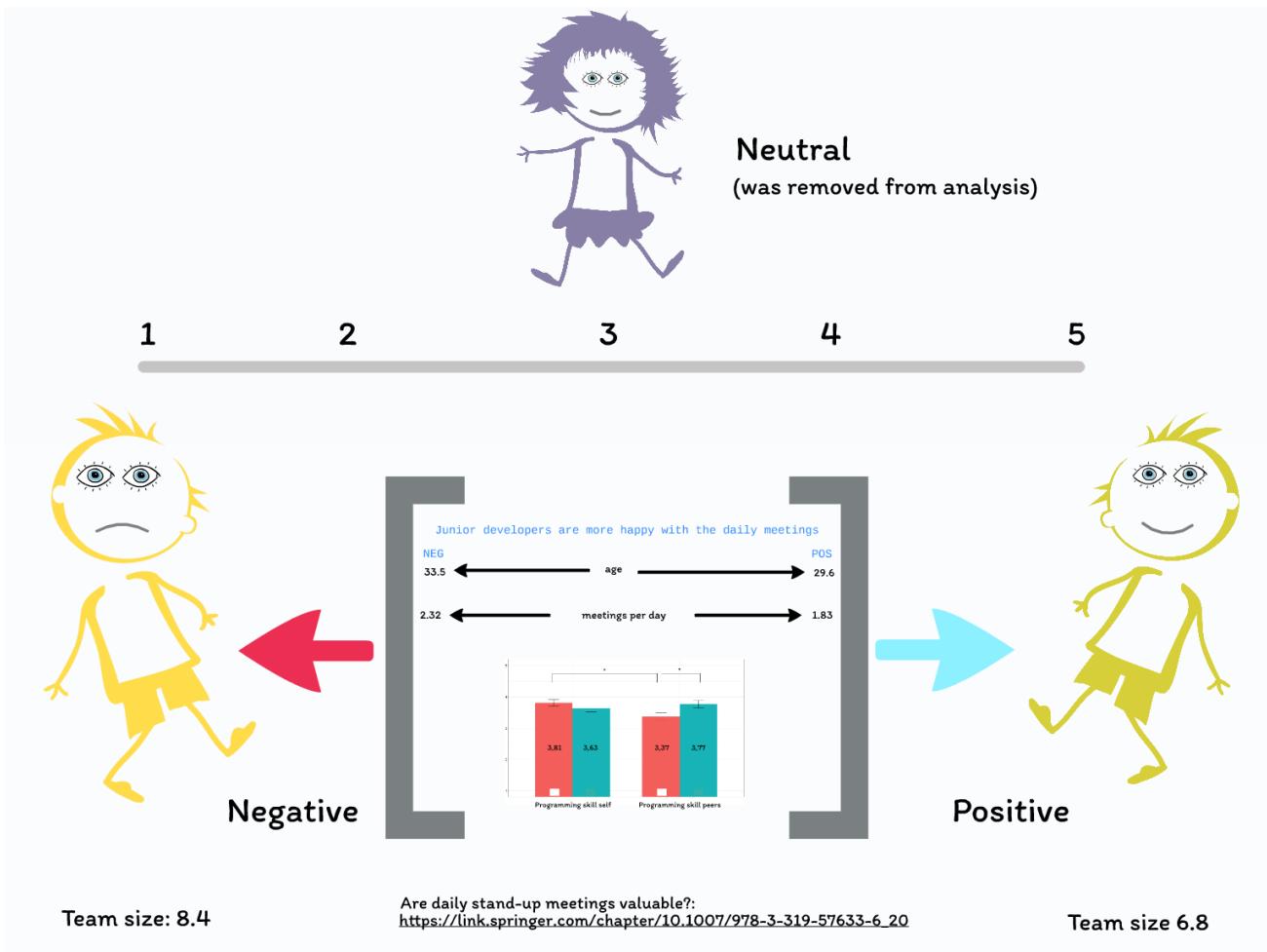
Not working in a team



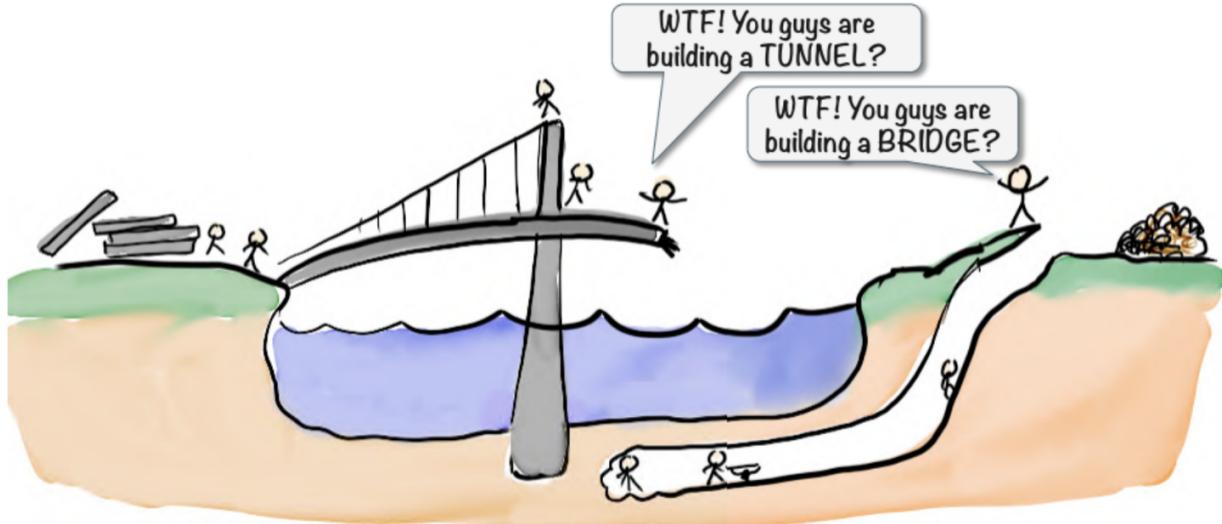
Professional developers

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87% of agile developers attend daily stand-up meetings



Team awareness

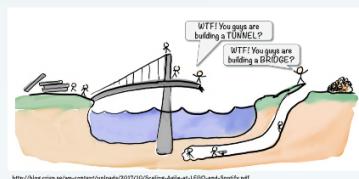


<http://blog.crisp.se/wp-content/uploads/2017/10/Scaling-Agile-at-LEGO-and-Spotify.pdf>

NEW GUIDELINES

- Purpose: Obtain a shared understanding of the current activities of other team members

- Team awareness



<http://blog.crisp.se/wp-content/uploads/2017/10/Scaling-Agile-at-LEGO-and-Spotify.pdf>

- The team should strive to find the least disruptive time
- Does not have to be held every day, but must have a regular frequency
- Round robin approach for turn-taking



MORE READING

- <https://www.dig.no/article/change-has-caused-standard-meetings-to-grow-too-large-forklaringen-til-kontra/2983397.html>
- https://www.researchgate.net/publication/211559798_The_Daily_Standup_Meeting_A_Guided_Theory_Study

MORE READING

Digi.no:

<https://www.digi.no/artikler/mange-har-endret-standup-motene-pa-grunn-av-forskningen-til-viktoria/398339?key=k4fqQOQ9>

Journal of Systems and Software:

https://www.researchgate.net/publication/301559978_The_Daily_Standup_Meeting_A_Grounded_Theory_Study