Agile Adolescence to Maturity:
Experience leads to Collaboration

*Based on in-depth analysis of the Swiss Agile Study 2014*

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Agile Breakfast, Bern
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[www.swissagilestudy.ch](http://www.swissagilestudy.ch)
Content

• Swiss Agile Study
  – Overview and Results

• Agile Adolescence
  – 1. Agile Practices
  – 2. Agile Culture
  – 3. MyAgile
Swiss Agile Study

A joint project of

In cooperation with

Funded by

Swiss Agile Study

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Survey Setup Facts

• Quantitative studies 2012 and 2014
• 2 Surveys:
  – IT-Companies directly contacted
    • 1462 contacted
    • 181 started (12.4%)
    • 101 finished (6.9%)
  – IT-Professionals anonymous
    • 390 on site
    • 324 started (83.1%)
    • 128 finished (32.8%)

• Each survey divided into two main categories:
  – Agile/Non-Agile
Analysis Approach

• Analysis along Agile Experience
  – <= 2 years, 2-5 years, >=6 years

• Organizational Culture
  – Model of William Schneider (1994)
  – Control, Collaboration, Competence, Cultivation

• New Tools
  – “Agile Practices Map”
  – co-occurrence analysis
Agile vs. Non-Agile

Item 1.1: Is your company currently practicing agile software development?

Company Overview

- **Agile**: 70%
- **Non Agile**: 30%

**2012**
- Non Agile: 43%
- Agile: 57%
Agile Methodologies

Item 1.4: Which methodology does your company follow most closely?

- Scrum: 60%
- Lean / Kanban: 30%
- Other: 10%
- V-Model: 0%
- RUP (Rational Unified Process): 0%
- HERMES: 0%
- Open Unified Process (Eclipse): 0%
- Don’t know: 0%
- eXtreme Programming (XP): 0%
- Scrumban: 0%

2012
- Scrum: +8%
- Lean / Kanban: +4%
Satisfaction

Item 1.5: How satisfied are you with your current methodology?

Non-Agile Professionals
- Unsatisfied: 18%
- Somewhat satisfied: 33%
- Satisfied: 18%
- Very satisfied: 30%

Agile Professionals
- Unsatisfied: 25%
- Somewhat satisfied: 52%
- Satisfied: 18%

Non-Agile Companies
- Unsatisfied: %
- Somewhat satisfied: 45%
- Satisfied: 42%
- Very satisfied: 12%

Agile Companies
- Unsatisfied: 21%
- Somewhat satisfied: 50%
- Satisfied: 28%

2012
Agile Companies: -6% Sat./Very Sat.
Agile Prof.: 5% unsatisfied
Non-Agile: +23% satisfied
### Agile Influence – Company View

**Item 5.7 How has agile software development influenced the following aspects?**

<table>
<thead>
<tr>
<th>Aspect</th>
<th>MUCH WORSE</th>
<th>WORSE</th>
<th>UNCHANGED</th>
<th>IMPROVED</th>
<th>SIGNIFICANTLY IMPROVED</th>
<th>DON'T KNOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirements management</td>
<td>6%</td>
<td>26%</td>
<td>43%</td>
<td>20%</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Management of distributed teams</td>
<td>5%</td>
<td>38%</td>
<td>29%</td>
<td>6%</td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td>Engineering discipline</td>
<td>8%</td>
<td>33%</td>
<td>38%</td>
<td>13%</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Development cost</td>
<td>13%</td>
<td>40%</td>
<td>24%</td>
<td>10%</td>
<td>13%</td>
<td></td>
</tr>
<tr>
<td>Team morale</td>
<td>1%</td>
<td>21%</td>
<td>40%</td>
<td>33%</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Maintainability / extensibility</td>
<td>6%</td>
<td>44%</td>
<td>29%</td>
<td>18%</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Development process</td>
<td>1%</td>
<td>21%</td>
<td>54%</td>
<td>20%</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Risk management</td>
<td>8%</td>
<td>35%</td>
<td>31%</td>
<td>15%</td>
<td>11%</td>
<td></td>
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<tr>
<td>Project visibility</td>
<td>4%</td>
<td>26%</td>
<td>37%</td>
<td>28%</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Alignment IT &amp; business</td>
<td>1%</td>
<td>24%</td>
<td>44%</td>
<td>24%</td>
<td>8%</td>
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</tr>
<tr>
<td>Software quality</td>
<td>6%</td>
<td>29%</td>
<td>41%</td>
<td>19%</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Productivity</td>
<td>3%</td>
<td>25%</td>
<td>46%</td>
<td>20%</td>
<td>6%</td>
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<tr>
<td>Manage changing priorities</td>
<td>0%</td>
<td>44%</td>
<td>46%</td>
<td>46%</td>
<td>6%</td>
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<tr>
<td>Time to market</td>
<td>4%</td>
<td>14%</td>
<td>44%</td>
<td>29%</td>
<td>9%</td>
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</tr>
</tbody>
</table>

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Technical Practices

Item 3.1: Which of the following engineering practices could be observed by someone visiting your company next month?

- Unit testing
- Coding standards
- Automated builds
- Continuous integration
- Refactoring
- Continuous delivery
- Test Driven Development (TDD)
- Pair programming
- Collective code ownership
- Clean Code
- Automated acceptance testing
- ATDD
- Behavior Driven Development (BDD)

**2012**

*Cont. Delivery: +19%*
Collaboration Practices

Item 3.2: Which of the following management practices could be observed by someone visiting your company next month?

- **Release planning**
  - Agile Companies: 87%
  - Non-Agile Companies: 52%

- **Iteration planning**
  - Agile Companies: 77%
  - Non-Agile Companies: 32%

- **User stories**
  - Agile Companies: 71%
  - Non-Agile Companies: 32%

- **Taskboard**
  - Agile Companies: 70%
  - Non-Agile Companies: 8%

- **Daily standup**
  - Agile Companies: 68%
  - Non-Agile Companies: 8%

- **Retrospective**
  - Agile Companies: 54%
  - Non-Agile Companies: 8%

- **Burndown charts**
  - Agile Companies: 51%
  - Non-Agile Companies: 12%

- **On-site customer**
  - Agile Companies: 38%
  - Non-Agile Companies: 24%

- **Open work area**
  - Agile Companies: 32%
  - Non-Agile Companies: 8%

- **Kanban Pull System/Limited WIP**
  - Agile Companies: 26%
  - Non-Agile Companies: 8%

2012
Daily standup, Retros, Task Board much more used

Non-Agile Companies
Agile Companies
Agility by Experience
Influences:
Multiple Results and Co-occurrence Heatmaps
5.4 How has agile software development influenced the following aspects? (only the improved/significantly improved answers)
Technical Practices (by exp.)

Item 3.1: Which of the following engineering practices could be observed by someone visiting your company next month?

High Start Value
- Unit testing
- Coding standards
- Automated builds
- Continuous integration

Medium Start Value
- Collective code ownership
- Pair programming
- Clean Code
- Test Driven Development (TDD)
- Refactoring

Low Start Value
- Behavior Driven Development (BDD)
- Acceptance Test Driven Development (ATDD)
- Automated acceptance testing
- Continuous delivery
Collaboration Practices (by exp.)

Item 3.1: Which of the following management practices could be observed by someone visiting your company next month?

High Start Value

- Release planning
- Iteration planning
- User stories
- Daily standup
- Taskboard
- Retrospective

Low Start Value

- On-site customer
- Burndown charts
- Open work area
- Kanban Pull

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Practices by Experience

More Experience → More Collaborative

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<table>
<thead>
<tr>
<th>Practices</th>
<th>PROF Practices: &lt;2yrs n = 34</th>
<th>PROF Practices: 2-5yrs n = 93</th>
<th>PROF Practices: &gt;5yrs n = 33</th>
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</thead>
<tbody>
<tr>
<td>Unit testing</td>
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<td>Refactoring</td>
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<td>Automated builds</td>
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<td>Cont. integration</td>
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<td>Clean Code</td>
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<td>TDD</td>
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<td>Continuous delivery</td>
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<td>Autom. acc. testing</td>
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<td>Burndown charts</td>
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<td>Release planning</td>
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<td>On-site customer</td>
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<td>Iteration planning</td>
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<td>User stories</td>
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<td>Daily Standup</td>
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<td>Retrospective</td>
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<td>Open work area</td>
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<td>Kanban</td>
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<td>BDD</td>
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Life in the Organization

• Schneider’s Model:
  – **Control** Culture is about getting and keeping control
  – **Collaboration** Culture is about working together
  – **Competence** Culture is about being the best
  – **Cultivation** Culture is about learning and growing with a sense of purpose

• No organization has only one, but most have a dominant culture...
Organizational Culture

"CULTURE = "How we do things around here to succeed."

REALITY (Actuality)
"We succeed by getting and keeping control."

POWER
Predictability
Process

SECURITY
Standardization Hierarchical
Stability Order

COMPANY ORIENTED

COMPETENCE

Meritocracy
Expertise
Creativity
Achievement
Be the Best

POSSIBILITY ORIENTED

GROWTH
Purpose/Faith
Dedication
Evolve

GROWTH
Subjectivity
Creativity

CULTIVATION

PEOPLE ORIENTED

We succeed by working together.

Collaboration
Synergy
Partnership
Trust
Equitation

c C Agilitrix 2011

• What is the actual culture in an agile team?

- Collaboration – 38%
- Cultivation – 40%
- Control – 9%
- Competence – 13%
Organizational Culture Evolves

- Based on the Schneider Model

Company

Professionals

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Organizational Culture

• How is Collaboration applied at your company?

• Late Collaboration
  – Why? What can be done?
Practices By Culture

Collaborative & Cultivating

-> More Collaboration

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What are the Barriers?

Rank 1 - Viewed by experience level (PROF)

Rank 1 - Viewed by experience level (COMP)

- Ability to change organizational culture
- General resistance to change
- Availability of personnel with necessary skills
- Lack of management support
- Project complexity or size
- Customer collaboration
- Confidence in ability to scale agile
- Perceived time to transition
- Budget constraints

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What are the Barriers?

Rank 1 - viewed by barrier (PROF)

Rank 1 - viewed by barrier (COMP)

<2  2-5  >=6

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My Agile - Much Stress at first

the team has been empowered to make decisions about how to...
we have a team environment which is honest, trusting and allows...
team morale has improved
I think my work is more valued
I have more fun at work
I feel much more committed/dedicated to the team and to the...
we have developed a culture of mutual respect
I work less overtime
release is not a nightmare anymore
my work life balance has improved
I pay more attention to technical excellence

Exp: <2ys

CD&D A&CA

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Professional’s Views on Agile

Agile is **Stressful**, Especially at First

---

Overtime  Stress

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How do they feel

Immediate Improvements

- I pay more attention to technical excellence
- Release is not a nightmare anymore
- We have developed a culture of mutual respect
- I feel much more committed/dedicated to the team and to the work
- I have more fun at work
- Team morale has improved
- We have a team environment which is honest, trusting and allows for mistakes
- Team members take the initiative to accomplish tasks more often

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How do they feel

Longterm Improvements

- my work life balance has improved
- I work less overtime
- I think my work is more valued
- I have less stress
- the team has been empowered to make decisions about how to do their work and execute on those decisions without outside interference
- we have a culture of servant leadership

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My Agile

• How do you feel?

• Agile is Stressful:
  – Why? What can be done?
Summary - What Have We Learned?

• Tech Practices precede Collaborative Practices:
  – Why? Initial Misunderstanding of Importance?
• Organization Culture linked to Agile Experience:
  – What does it mean for your organization?
• Barriers are cultural first, complexity later:
  – How should Agile handle complex software development?
• Agile is Stressful:
  – Why? What can be done?
Thank you very much for your attention