Brendan Julian, James Noble, Craig Anslow
Agile Practices in Practice: Adoption & Evolution

MAY 21-25
XP 2019
MONTREAL
AGILE
Manifesto for Agile Software Development

We are uncovering better ways of developing software by doing it and helping others do it.
Through this work we have come to value:

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more.
M.C. Escher. Reptiles.
Agile Practices in Practice

Grounded Theory

The Discovery of Grounded Theory
Barney Glaser and Anslem Strauss.
Aldine, Chicago 1967.

A research method to study human aspects and social interactions \textit{in situ}

Captures the main concern of the participants not the researcher’s main interest

Complete research method — not just analysis
A Grounded Theory Project

- Qualitative Research
- 22 Participants, Wellington, New Zealand
- Started with area of interest:
  Agile Project Management
- Semi-structured Interviews and Observations
- Data analysis
## Participants

<table>
<thead>
<tr>
<th>P1</th>
<th>Product Owner</th>
<th>P12</th>
<th>Project Coordinator and Logistics</th>
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<tbody>
<tr>
<td>P2</td>
<td>Scrum Master</td>
<td>P13</td>
<td>Facilitative Team Lead</td>
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<td>P3</td>
<td>Team Lead</td>
<td>P14</td>
<td>Technical Business Analyst</td>
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<td>P4</td>
<td>Intermediate Developer</td>
<td>P15</td>
<td>Consultant/Agile Coach</td>
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<tr>
<td>P5</td>
<td>Consultant</td>
<td>P16</td>
<td>Team Lead/Business Director</td>
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<td>P6</td>
<td>Mobile Developer</td>
<td>P17</td>
<td>Lead Developer</td>
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<td>P7</td>
<td>Full Stack Developer</td>
<td>P18</td>
<td>Management Consultant</td>
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<td>P8</td>
<td>Release Manager</td>
<td>P19</td>
<td>Client Delivery Manager</td>
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<td>P9</td>
<td>Scrum Master/Agile Coach</td>
<td>P20</td>
<td>Test Consultant/Account Manager</td>
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<td>P10</td>
<td>Project Manager/Scrum Master</td>
<td>P21</td>
<td>Solutions Architect</td>
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<tr>
<td>P11</td>
<td>Scrum Master</td>
<td>P22</td>
<td>Digital Producer</td>
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**Code:** follow process with discipline

**Code:** have a defined framework
Constant Comparison

Concept

Category

Category

Category

Category

Code

Code

Code

Code

Code
Growing the Research

- **Theoretical Sampling:**
  - Guides choice of subjects & Content of interviews

- **Memoing:**
  - Write about codes, categories, and relationships

- **Sorting:**
  - Organise Memos and Ideas
Growing the Research

One of the categories *emerges* as core

“Adoption & Evolution”

- Selective Coding
- Theoretical Saturation
- Theoretical Coding Families
Research Process

- Research Area
- Minor Literature Review
- Data Collection
- Open Coding
- Constant Comparison
- Memoing
- Code / Concept / Category
- Core Category
- Selective Coding
- Sorting
- Theoretical Saturation
- Theoretical Coding
- Write-up
Findings: Common Practices

❖ Progress Tracking and Visualisation
  ❖ Jira, Kanban/Scrum Boards, little use of burndown charts

❖ Iteration Structure and Length
  ❖ 1 week Kanban — part time work in public service environment
  ❖ 4 week Kanban — align with company Scrum and vendor schedule
  ❖ 3 week Scrum — for more meaningful release chunks

❖ Open Communication
  ❖ Desk arrangements eg neighbourhood desks, hotdesking etc.  
    “Teams even one floor apart will start fighting”
  ❖ Get everyone together in person at least every 3 months
  ❖ Standups, retrospectives for eking out feedback
Findings: Adoption and Evolution

Fig. 1. Our model of Agile Process Evolution. Adoptions of agile methods by teams sit along the spectrum between a "big bang" or "gradual" approach. Following adoption, teams shift to a focus on continuous improvement, iteratively reflecting on and modifying their practices to better fit their current work.

3.1: Big Bang Approach
Those in leadership or consultant roles (such as P1, P5, and P9) often shared the idea that newer teams should start with an established framework that has extensive literature and successful examples behind it.

"That's what I always recommend to people; start with Scrum and then evolve it" - P1, Product Owner

In a big bang adoption, a team starts out following the same large set of general practices from day one. Even if there is an initial productivity hit while learning the practices, it was seen as being better to get it out of the way:

"You need to start a project the way you mean to carry it on... In terms of that basic agile structure you want to have that in place but you want to be agile with that. It would evolve some change over time but you want to have an understanding of the method and roles as close to day one as possible." - P18, Management Consultant

The team should gain experience with all of the practices involved in a chosen framework, learn their value, and understand why they're used, and then begin to assess which practices work well and which could be improved or replaced.

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Proponents of big bang felt that the core practices of frameworks such as Scrum were valuable guidance for teams looking to adopt agile, even if they weren't completely suited to their needs, and that attempting adoption without

3.2: Gradual Introduction Approach

3.3: Assess Challenges and Needs
3.4: Continuous Improvement
Try New Ideas in Iterations
Retrospect and Reflect on Usefulness
Gather Feedback

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Big Bang Adoption

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“We have tried putting nothing in place and taking on things as we need them. That hasn’t worked out so well. Without [structure], things start to fall apart, things get lost.

-P10, Project Manager/Scrum Master
Findings: Adoption and Evolution

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Gradual Introduction

Integrate agile practices over time into an existing development process

“It was small bits at a time ... if you try and do it all in one hit it just becomes overwhelming and it fails.

- P19, Client Delivery Manager
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- P19, Client Delivery Manager
Gradual Introduction

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“It was small bits at a time ... if you try and do it all in one hit it just becomes overwhelming and it fails. Where if you can do a bit, perfect it and that becomes the norm then move on to the next bit. First of all it was breaking into squads and then you were part of a squad of a business unit and then you do things like daily stand-ups and you just go through it.” - P19, Client Delivery Manager
Gradual Introduction

Integrate agile practices over time into an existing development process

“we’re in an environment where things can change on the day.... So I wanted something that was flexible but also visual...

–P13, Team Lead
Gradual Introduction

Integrate agile practices over time into an existing development process

“we’re in an environment where things can change on the day.... So I wanted something that was flexible but also visual... Within a few weeks or so my colleagues started putting up stuff [on a Kanban board] which was great because they were taking ownership”

–P13, Team Lead
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Evolution

The work determines the process, not vice versa

“If something like the definition of done or the definition of ready isn’t quite working for us, then maybe we look to improve that.

- P6, Mobile Developer
Evolution

The work determines the process, not vice versa

“If something like the definition of done or the definition of ready isn’t quite working for us, then maybe we look to improve that. It’s a constantly evolving process. It’s about making the process work for that team.”

- P6, Mobile Developer
Teams given flexibility and autonomy

“People don’t want to be controlled, they want to be able to feel that they have choices and decisions, and that they can be autonomous”

- P9, Scrum Master/Agile Coach
Evolution

The work determines the tools, not vice versa

P9 — abandoned physical board, adopted Jira

P16 — “It was originally in Jira but it made a lot more sense to take the stories out of Jira and give them their own identity. Jira is shit really,... the other thing that we’ve used which is working really well is [a spreadsheet based Scrum board]”
A commitment to continuous improvement

“You need to adapt... That’s what’s good about agile in general, ’cause the principle is never stay static.

- P1, Product Owner
 Evolution

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- P5, Consultant
Evaluation: Glaser’s Criteria

**Fit:** Codes are drawn directly from data

**Work:** The theory can be used to explain, interpret and predict behaviour

**Relevance:** The theory is directly relevant to the area of interest

**Modifiability:** The theory is open to modification as more data emerges

B. Glaser, “Advances in the methodology of grounded theory” (1978)
Becoming Agile: A Grounded Theory of Agile Transitions in Practice

Rashina Hoda
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THEORY OF BECOMING AGILE

Software Practices \(\rightarrow\) Team Practices \(\rightarrow\) Management Approach

Team Practices \(\rightarrow\) Culture

Management Approach \(\rightarrow\) Reflective Practice

Self-Organizing Roles
Hoda et al., ICSE2010

H2, H3, H4
Teams progress along the five dimensions at different rates, which explains why some teams are more ‘agile’ than others.
CHANGING PERSPECTIVES

From agile adoption as a one-off staged progression across abstract values and software development practices #DoingAgile

To agile transitions as holistic and complex network of ongoing changes across multiple dimensions #BecomingAgile
Agile is...

The core of XP is the **interconnected set** of software development practices listed below. While it is possible to do these practices in isolation, many teams have found some practices reinforce the others and should be done in conjunction to fully eliminate the risks you often face in software development.

https://www.agilealliance.org/glossary/xp
Agile is...

Many of these practices are old, tried and tested techniques, yet often forgotten by many, including most planned processes. As well as resurrecting these techniques, XP weaves them into a synergistic whole where each one is reinforced by the others.

https://www.martinfowler.com/articles/newMethodology.html
Conclusion

- Adoption is pragmatic
- New or less experienced teams start out with a prescribed framework
- As experience increases, teams throw out the rule book and modify their process
- Key process elements align well with the “essence” of agile
IT’S THE AGILE
At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.
READINESS IS ALL

Hamlet Act 4 Scene 2
READINESS IS ALL

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Further Reading

_Becoming Agile: A Grounded Theory of Agile Transitions in Practice._ Rashina Hoda & James Noble, ICSE 2017

_Confessions from a Grounded Theory PhD: Experiences and Lessons Learned._ Dominic Furniss, Ann Blandford, Paul Curzon, CHI 2011
