When the Business Wants WaterFall: Adaption Strategies

Marjorie Farmer – Product Manager, Cementing Software
Oil & Gas and Halliburton

Oil & Gas
Employs 3.2% of the working age population in the US (1.39 million people)
Global industry, active in nearly every country in the world

Halliburton
More than 60,000 employees in approximately 80 countries
Science, manufacturing, operations, and technology
Almost 37,000 patents; R&D spent USD 390 million in 2018
Halliburton LIFECYCLE Process

- Projects commonly cost USD millions
- High-cost, long lead time prototypes
- Significant safety implications
- Cost for corrections is often very high
# Wireline Software – In the Field

![Operator at Wireline Truck](image1.png)

![Wireline Downhole Tools](image2.png)

![Wireline Logging Diagram](image3.png)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Gamma API</td>
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<tr>
<td>Density</td>
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<td>Neutron</td>
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<td>Middle</td>
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**Wireline Software – January 2014**

**WP Software Headcount**
- Hal-Houston
- Hal-Singapore
- WIPRO-India

**Average years experience - 21**

**Scope of WP Software Team**
- **Wireline InSite® (WLI)** Primary product
- **9.6 Million lines of code in multiple different languages**
  - (C++, XML, C, HTML, C#, Assembly, MATLAB, Fortran, others)
Getting Started

Implementing Tool

Staffing

Conduct Ceremonies

Training

Issues
- Story Sizing
- Acceptance Criteria
- Meeting Attendance

- Roles and Responsibilities
- Backlog Management
- Definition of Done
Solutions

Solution

- Professional Agile Coach
- Continued team practice
Agile Adoption

- **Success Contributors**
  - Training
  - Expert coaching
  - Patience, practice, and persistence
  - Team input in implementation
  - Management steps to take care of the team (promotions, awards, snack drawer, celebrations, etc.)

- **Observations**
  - First success: Stand-up meetings
    - Testers and leads gained visibility into dev activities.
    - Everyone stood up. Late arrivals contributed 25 cents towards doughnuts. The meetings didn’t run long.
  - Professional coaching added critical value - part-time help from an experienced scrum master manager isn’t sufficient.
  - Internal champions were key – product owner and a senior tester, plus all the leads at least cooperated.
  - The team was willing to go along through the roughest parts because I took care of them in other ways.
Checking the Boxes

The Boxes
- Gate reviews
- Risk management

Not the Boxes
- Stable scope
- Clear breaks between phases

Extra Agile Value
- Consistent schedule
- Consistent business value
- User engagement

Extra Needs
- Product owner
Box Checking

The Boxes
- Built credibility and trust
- Found other important boxes to check – IT Audit

Not the Boxes
- The organization thinks these aren’t as important. Don’t be the person to raise these as issues.

Extra Agile Value
- Promote other successes as well – awards, praise from other departments

Extra Needs
- Defend, but note - everyone is different
- Defense on a case-by-case basis – data, anecdotes, testimonials, costs, personal talents of the person

Under the Hood
- Agile Terminology
- Implementation Details
Checking the Boxes - Results

Team Players. Competent. Transparent.
The Sky Falls – The Oil Crash of 2014

WTI $$/bbl

$120

$100

$80

$60

$40

$20

$-
Agile Response

Impact

- Lost Agile consultant
- Lost 25% of employees
- Lost 50% of contract resources
- Deep cuts to budget

Solution – Agile Manifesto*

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.

Kent Beck  
Mike Beedle  
Arie van Bennekum  
Alistair Cockburn  
Ward Cunningham  
Martin Fowler

James Grenning  
Jim Highsmith  
Andrew Hunt  
Ron Jeffries  
Jon Kern  
Brian Marick

Robert C. Martin  
Steve Mellor  
Ken Schwaber  
Jeff Sutherland  
Dave Thomas

Result

- Maintained on-time delivery of critical scope
- 0% voluntary attrition
- 3 domain experts added

* www.agilemanifesto.org

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Reflections

Cycle of Trust

- Communication
- Reliable delivery
- Assumption of value
- Exhibit caring
THANK YOU

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