Agile/Scrum Adoption Paths: A Case Study of Two Approaches

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Agenda

- Introduction
- Objectives
- What is Agile/Scrum?
- Medtronic – Agile Immersion Adoption
- AMIC (A Medical Insurance Co) – Guerilla Adoption
- Q&A
- Other Agile Adoption Paths
- Agile Adoption Paths – Assessing Your Culture
- Agile Adoption Paths – The Best One
Introduction

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Objectives

- Show how two completely different approaches can be used with similar successful results
- Discuss degrees of Agile Adoption
- Outline factors to consider in determining your organization's readiness
What is Agile/Scrum? – Definition

- Definition – An iterative and incremental (evolutionary) approach to software development which is performed in a highly collaborative manner by self-organizing teams within an effective governance framework with "just enough" ceremony that produces high quality software in a cost effective and timely manner which meets the changing needs of its stakeholders.

- Includes a number of methodologies:
  - XP – Extreme Programming
  - Scrum
  - Adaptive Software Development
  - Dynamic Systems Development Method
  - Feature Driven Development

Reference: “Disciplined Agile Software Definition” Scott Ambler
http://www.agilemodeling.com/essays/agileSoftwareDevelopment.htm
Reference: “ABC: An Introduction to Agile Programming”
http://www.cio.com/article/100501/ABC_An_Introduction_to_Agile_Programming
Agile Manifesto

“… better ways of developing software …:

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

While there is value in the items on the right, we value the items on the left more”

What is Agile/Scrum? – Definition of “SCRUM”

- A methodology with the roles of “SCRUM Master”, Product Owner and Developers.

- Team members who can work closely together. 😊

- The SCRUM Master facilitates the frequent meetings and drives the time boxed “sprint(s)”. Sprints last 2-4 weeks typically.

- The Product Owner is expected to write requirements, prioritize them and communicate them to the SCRUM Master. This can be delegated.

- Daily (or frequent) team meetings consist of 15 minutes where three questions are asked:
  1. What have you done since yesterday?
  2. What are you planning to do by today?
  3. Do you have any problems preventing you from accomplishing your goal?

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Agile Adoption Paths – Agile Immersion – Medtronic

- Everyone jumps right in
  - May be led by one, few, or many leaders, or everybody
  - Big deal, highly visible
  - Full investment (training, definition, communication)

- Why would you use this path?
  - Culture aligns well with Agile Principles
  - High buy-in from stakeholders, managers, and team participants
  - Sure you want it and you want it fast

- Pitfalls/ Risks
  - Zealots
  - Is the culture truly aligned?
  - Stakeholders going along for the ride, but not helping drive
Agile Immersion – Project Description – Medtronic

- **IT-Driven Project** – Convert 35+ mobile applications from the Palm Operating System to the Windows Mobile Operating System

- Rationalize the application portfolio to:
  - Emphasis use across multiple business units
  - Improve user productivity, efficiency and effectiveness by implementing new applications and select enhancements

- Deploy new applications on new Smartphones

- $2.8 million project inclusive of both hardware and software
Agile Immersion – Agile/SCRUM Roles – Medtronic

- **Agile/Scrum Master – Servant Leader for Team**
  - Initially staffed by Development Manager
  - Transitioned to Project Manager or Business Analyst once rhythm established

- **Agile/Scrum Coach – Coaching on Agile/Scrum Process**
  - Staffed by people with Agile expertise / experience
  - Key role early on in adoption path

- **Product Owner – Product Vision, Prioritization**
  - Key Challenge: Lack of business involvement
  - Staffed by Trainers or Business Analysts when business was unavailable

- **Team Members – Business Analysts, Testers, Deployment, Support Technicians**
  - Importance of inclusivity in structuring team
Agile Immersion – Agile / SCRUM Approach – Medtronic

- Sprint Duration – Approximately 2 weeks
- Sprint Planning/ Release Planning – 1.5 to 2 hrs. meetings
- 33 Sprints completed as of August 8, 2009
- Demonstrations following each Sprint or as necessary
- Retrospectives
  - Following each sprint initially
  - Currently as necessary
- Supporting Processes
  - Automated build & unit-testing
- Lessons Learned
  - Need for common definition of done
  - Importance of Sprint 0
  - Deploy something to production earlier
  - Automate, automate, automate
Agile Immersion – Project Results – Medtronic

- Facilitated user interface re-design in Summer 2008
- Implemented first application in October 2008
- Approx. users as of August 2009: 3,000
- Ongoing deployment to additional users
- New applications/enhancements being added each release
Agile Immersion – Pros/Cons – Medtronic

**Pros**
- Delivered highly usable system that is being adopted by challenging user community
- Change is welcomed, not cursed
- Able to execute to date better than with previous methodologies
- Demonstrable progress with each sprint
- Constant “inspect and adapt” to evolve process
- Team (not management) owns process and solution

**Cons**
- Agile is about organizational change and change is hard
- Key challenge: business involvement
- Key challenge: establishing Agile infrastructure prior to start of Sprint 1
- Must educate both the Business and IT extensively throughout development process
- Agile is blamed for any deviation from plan – “We never use to struggle with estimating”
Agile Adoption Paths – “Guerilla Agile” – AMIC

- Small group, often led by one or few strong proponents, without officially declaring “Agile”

- Why would you use this path?
  - Someone really wants it
  - Organization is sensitive to the term “Agile”
  - Build positive experiences before making a bigger deal

- Pitfalls/ Risks
  - Depends on the resiliency of the guerillas
  - Can hurt larger scale Agile rollout
  - May not have benefit of synergy between full use of Agile principles and practices
“Guerilla Agile” – Agile/SCRUM Roles used – AMIC

- **SCRUM Master** - Shared role between Business Owner and Sr. BA
- **Product Owner** - Delegated to Sr. BA to write all the requirements with signoff by Business Owner
- **Developers** - six different sets of Designer/Developers
- **Testers** - IT QA and Business Acceptance Tester worked concurrently. Unit testing was conducted by Developers.
“Guerilla Agile” – Project Description – AMIC

- Select a Vendor for critical business activities, create a new business function and re-engineer existing related business processes
- Work with Vendor on necessary data interfaces for initial product
- Started on Jan. 5, 2008 to meet initial sprint deadline 1/31/08
- Added Products to all data interfaces by March 6
- Data interface improvements by April 5
- Data refinements by June 5
- Added two additional products July 10
- Internal Audit
- Automated monthly data refreshes
  - Provider by December 2008
  - Membership by Feb. 2009
  - Medical Claims by Jan. 2009
  - Pharmacy by March 2009
- Automated most of the file transfer processes
- Managed and monitored the vendor’s processes throughout
“Guerilla Agile” – Sprint (“Iterations”) Descriptions – AMIC

- Select a Vendor for critical business activities, create a new business function and re-engineer existing related business processes
- Work with Vendor on necessary data interfaces for initial product
- Started on Jan. 5, 2008 to meet 1/31/08 deadline
  - Membership, Claims, Providers, and Pharmacy extracted data
- Added two products to all data interfaces by March 6
  - Membership, Claims, Providers, and Pharmacy extracted data
- Data interface improvements by April 5
- More Data refinements by June 5
- Added two additional products July 10
- Internal Audit
- Automated monthly data refreshes
  - Provider by December 2008
  - Membership by Feb. 2009
  - Medical Claims by Jan. 2009
  - Pharmacy by March 2009

Planning
Sprint 1
Sprint 2
Sprint 3
Sprint 4
Sprint 5
Sprint 6-10
Sprint 11
Sprint 12
Sprint 13
Sprint 14
“Guerilla Agile” – Project Results – AMIC

- Made all critical Government deadlines to recoup money that would have been unobtainable past the deadline – reimbursement for past history – million dollar benefit
- Made all critical Government deadlines for increasing monthly revenue
- Quicker delivery – original project estimates pushed out the date two years if we would have followed the water fall approach
“Guerilla Agile” – Pros/Cons – AMIC

**Pros**
- Met timelines
- End result was superior
- Visible progress
- Manageable chunks to develop and test – sometimes we just changed the requirements
- Removes barriers sooner, less waiting
- Developers getting straight communication without middle person translating
- More efficient use of everyone’s time
- Working a few multiple iterations at the same time kept our testers working without waiting
- Smaller changes made it easier for Vendor to absorb level of change
- QA and UAT were done concurrently and had daily meetings to share findings.
- Everyone loved being part of a successfully completed effort

**Cons**
- Appears to not have change control on requirements working directly with developers
- Requires huge business involvement – not all business units have that level of availability
- Hard to track time and actual dollars spent on each iteration (sprint). Missed costs due to people working on little pieces here and there.
Q&A
Agile/Scrum Adoption Paths
Considerations/Other Approaches

Supplemental Slides
Other Agile Adoption Paths

- **Top Down**
  - **Defn:** Senior Executive champions, maybe even dictates, moving to Agile
  - **Why would you use this path?**
  - **Pitfalls/ Risks**

- **Experimental**
  - **Defn:** A small or isolated, but visible, experiment
  - **Why would you use this path?**
  - **Pitfalls/ Risks**

- **Outside Consultant**

- **An outside consultant drives**
  - **Defn:** Not your group or not your company
  - **Why would you use this path?**
  - **Pitfalls/ Risks**
Agile Adoption Paths – Assessing Your Culture

- How can you tell if your organization is ready?

- Assessing Your Culture:
  - Customer Satisfaction
  - Response to Change
  - Get it “Done”
  - Collaboration
  - Discipline
  - Simplicity
  - Leadership
  - Inspect and Adapt
Agile Adoption Paths – The Best One?

- Depends…

- Common traits
  - Needs someone who will drive
  - Others who are either engaged, supportive, enabling, or willing to stay out of the way
  - Willingness and ability to inspect and adapt
Agile Adoption Paths – Top-Down Agile

- Senior Executive champions, maybe even dictates, moving to Agile

- Why would you use this path?
  - Group that needs/wants the "Executive Voice" to drive action
  - The house is on fire

- Pitfalls/Risks
  - Is the culture truly aligned?
  - Stakeholders going along for the ride, but not helping drive
  - Might conflict with Agile’s self-organizing nature
  - Passive resistance (does not promote high empowerment)
Agile Adoption Paths – Experimental Agile

- A small or isolated, but visible, experiment

- Why would you use this path?
  - Organization is interested, but cautious
  - Someone willing to experiment, others willing to watch
  - Desire to demonstrate benefits before making additional investment

- Pitfalls/ Risks
  - Success attributed to the experiment, but not to Agile – “Sure, worked for them, but…”
  - Failure attributed to Agile when it could have been the experiment
  - Stacking the deck (for success or failure)
Agile Adoption Paths – Outside Consultant

- An outside consultant drives
  - Not your group, or not your company

- Why would you use this path?
  - Organization responds to outside expertise
  - Unwilling/unable to invest in training for current team

- Pitfalls/ Risks
  - Unqualified consultant (whether in fact or perception)
  - May not survive after the consultant leaves
  - Silver bullet syndrome
  - Recipes and dogma
What doesn’t work

- No project manager, therefore no controls in place (schedule, scope, budget).
- No business analyst, therefore no scope or quality in place.
- No documentation, therefore no knowledge transfer, decision making tracking, no way to verify and validate what was built.
- Warning: Sometimes people use “Agile” as an excuse not to document anything. This should be a warning flag.
Assessing Your Culture – Customer Satisfaction

- Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

- **Key Questions:**
  - Can you define your customer? Can your team?
  - How does your Customer define success?
  - Is Customer Satisfaction measured, reported and celebrated?
  - Is Customer Satisfaction rewarded in your organization?
  - What does “continuous delivery” mean to your organization?

- **Guidance:**
  - Having a “Customer” is a requirement, not an option
Assessing Your Culture – Response to Change

- Welcome changing requirements, even late in development. Agile processes harness change for the customer’s competitive advantage.

- Key Questions:
  - How does your organization react to change?
  - Describe the last time something unexpected occurred on your team. How did your team react? How did you react?

- Guidance:
  - Knowledge Will Emerge
  - Embrace Ambiguity
    - Of uncertainty in what the end will be,
    - But knowing that we have the means to get to a good end
Assessing Your Culture – Get to “Done”

- Regular delivery of customer value at a sustainable pace. Working software is the primary measure of progress.

- Key Questions:
  - Are your team’s processes set-up for frequent delivery?
  - How does your Team define “Done”?

- Guidance:
  - Regular delivery of Customer Value, little bits at a time, all the time
  - Define what “Done” means
    - Best if Done = Shippable (But wow, is that hard to do)
Assessing Your Culture – Collaboration

- **Shared Responsibility and Face-to-Face Communication** – Business people and developers must work together daily throughout the project. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

- **Key Questions:**
  - How does your team communicate presently?
  - Is your client willing to commit time to work with you on a daily basis throughout the project? If not, why?

- **Guidance:**
  - Business/Client commitment is critical
  - Co-location is very helpful
  - Face-to-Face is best, but not always feasible
  - New Technology (e.g. Instant messenger) help with distributed teams
Assessing Your Culture – Discipline

- Continuous attention to technical excellence and good design enhances agility. Attention to process and practices. Inspect and adapt the product and the process.

- Key Questions:
  - What’s your team’s standard of technical excellence?
  - What is your existing process and how much discipline does it require?
  - Is your team willing to think, learn about, and change how they work?

- Guidance:
  - Automation (e.g. continuous build) is a necessity
  - Process is good, accountability to the process is better
  - Test driven development recommended
Assessing Your Culture – Simplicity

- The art of maximizing the amount of work not done — is essential.

- Key Questions:
  - How does your team measure progress currently?
  - Are your team’s processes lightweight? Can you describe them in less than one page?

- Guidance:
  - Ensure that you don’t confuse activity with progress
  - Simple rules — “Simple, clear purpose and principles give rise to complex and intelligent behaviour. Complex rules and regulations give rise to simple and stupid behaviour.” — Dee Hock
Assessing Your Culture – Leadership

- **Self-organization and Empowerment** – The best architectures, requirements, and designs emerge from self-organizing teams. Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

- **Key Questions:**
  - Is your team ready to self-organize?
  - How are managers within your organization recognized and rewarded?

- **Guidance:**
  - Doesn’t mean team decides what goal they are to pursue or who is on the team
  - Doesn’t mean that workers instead of managers engineer the organization
  - Doesn’t mean letting people do whatever they want
  - Team determines how they respond to the environment
  - Control is not evil ... Simple Rules or incentives can be used to guide behavior
  - Empowerment grows with practice

Assessing Your Culture – Inspect and Adapt

- Reflect together regularly. Plan to learn together.

- Key Questions:
  - How introspective is your team?
  - Does your organization learn from its past projects?

- Guidance:
  - Make time for Reflections
  - Inspect and Adapt:
    - We will have incomplete information
    - We will make mistakes
    - We will struggle and get frustrated
    - And we will learn how to deal with that and leverage that skill as a constructive advantage