Implementing Agile SW Development Processes in a Healthcare IT Organization – Approach and Lessons Learned

5th Annual UTD Project Management Symposium
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Agenda

- Introduction
- Case Study Background
- Approach and Implementation Strategy
- Current State
- Lessons Learned
- Conclusion
- Q&A

Introduction

□ Case study in implementing Agile software development methods in Healthcare IT

◻ Approach and lessons learned

◻ Current state

Case Study Background

□ Up till 2008, IT PMO (spend segment) supported Waterfall SDLC Methodology

□ Process was 'repetitive' and 'consistent'

- **Issues encountered:**
  - **Solution delivery delays**
  - **Adverse impact on perceived solution 'value' to business**
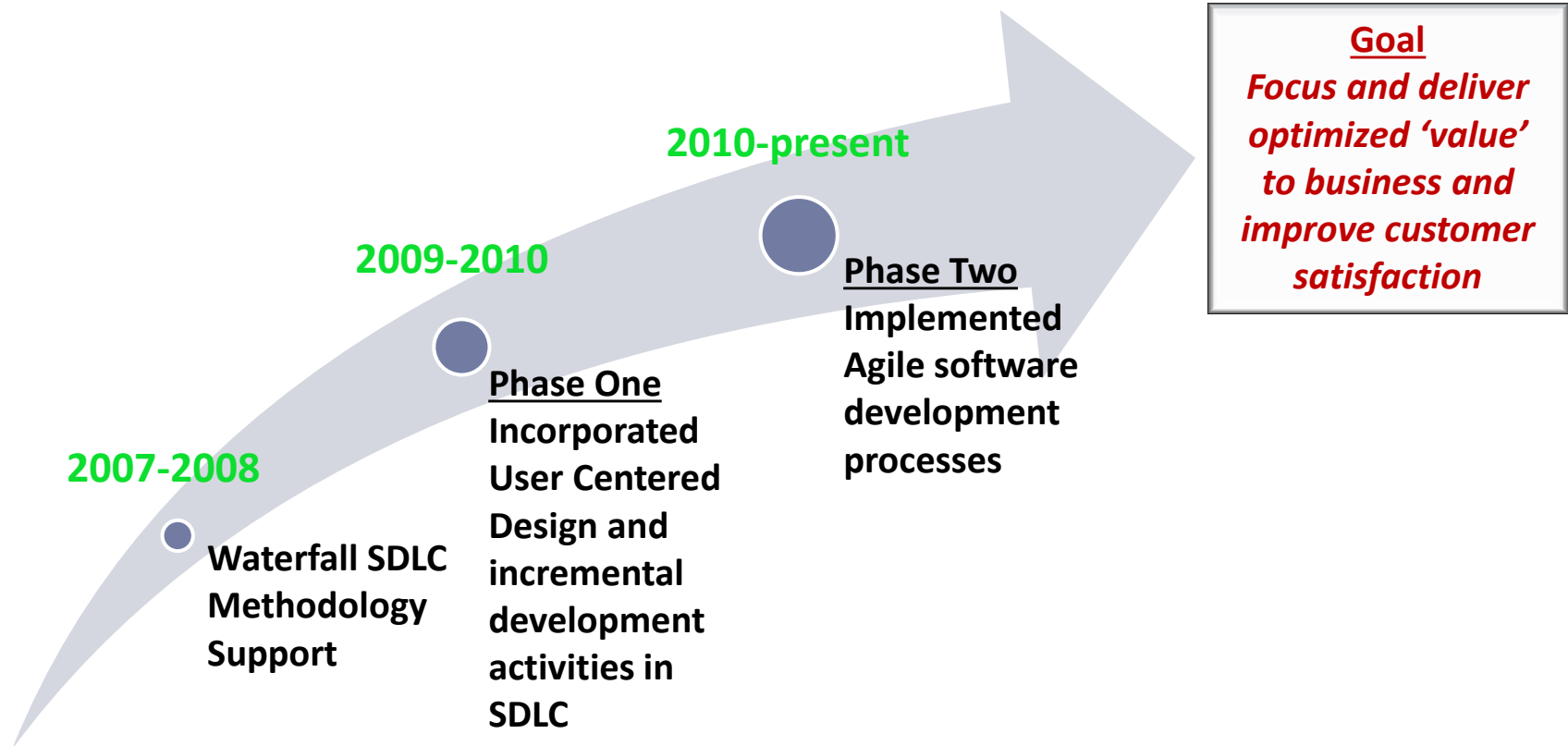 - **Low customer satisfaction ratings (target threshold – 4)**

Avg. Customer Satisfaction Rating, 2007-2008, © MedAssets

Case Study Background, contd…

- Key Reasons for low customer satisfaction
  - Requirements gathering was long drawn
  - Business stakeholders could not see results until development was complete
  - Outcomes not meeting business timelines resulting in expectation gaps
- Improvement areas identified
  - Enable business stakeholders to visually see outcome during project's life
  - Quicken product's delivery to market

Approach and Implementation Strategy

2010-present

2009-2010

2007-2008

Waterfall SDLC Methodology Support

Phase One
Incorporated User Centered Design and incremental development activities in SDLC

Phase Two
Implemented Agile software development processes

Goal
Focus and deliver optimized 'value' to business and improve customer satisfaction

Phase One – Incorporate User Centered Design Activities

□ Incorporate user centered design activities in SDLC

□ Allow business stakeholders to visualize end result prior to development

□ Conduct incremental development
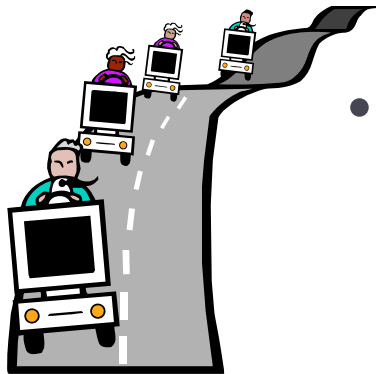
- **PMO's role:**
  - Coordinate and lead discussions between development and user experience teams
  - Socialize SDLC revisions with IT organization and business stakeholders
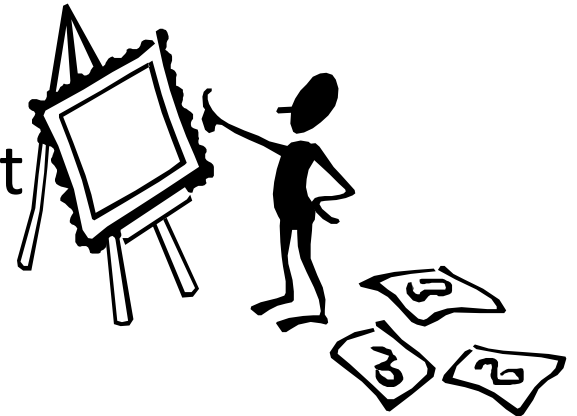
Phase One – Results

□ Over 12 month period customer satisfaction ratings crossed target threshold of 4

□ Development teams started using Scrum activities on projects

Avg. Customer Satisfaction Rating 2007-2009, © MedAssets

- **Inconsistency in process, artifacts and terminology**

- **Over all satisfaction ratings not impacted**

- **Precursor to formally implementing Agile methods**

Phase Two – Implement Agile SDLC Methodology

- Goals
  - Ensure lean software development process without compromising quality assurance
    - Reduce artifacts and approval stage gates
    - Incorporate flexible project roles and responsibilities
  - Ensure process met IT Governance needs
    - Implement cut down project change management processes
    - Account for activities related to release management, production support handover, technical architecture reviews, etc.
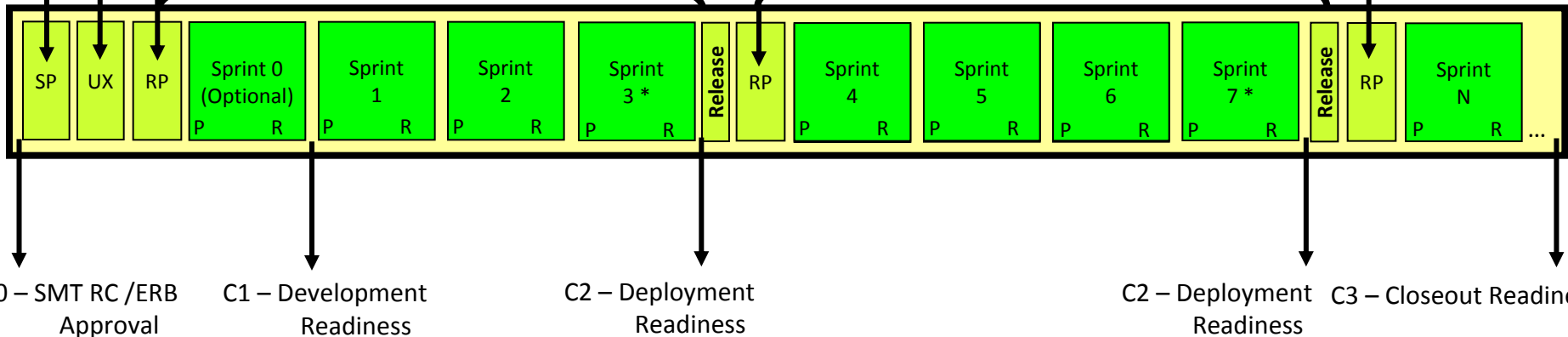
Phase Two – Agile SDLC Methodology

Strategic Planning (Vision & Roadmap)

Collaborative Design (Optional)

Release Planning (R1)   **Release Planning (R2)**   **Release Planning (Rn)**

| SP | UX | RP | Sprint 0 (Optional) | Sprint 1 | Sprint 2 | Sprint 3 * | Release | RP | Sprint 4 | Sprint 5 | Sprint 6 | Sprint 7 * | Release | RP | Sprint N |

C0 – SMT RC /ERB Approval

C1 – Development Readiness

C2 – Deployment Readiness

C2 – Deployment Readiness

C3 – Closeout Readiness

Legend

* - Stabilization Sprint (Optional)

Phase Two – PMO Role and Stakeholders

- PMO's role
  - Coordinate and lead discussions between teams and formalize process
  - Responsible for change management i.e. communication and training
  - Socialize new process with senior IT management and get their sign off/support
  - Monitor process within the continuous improvement framework
- Key stakeholders
  - Development, enterprise architecture, business analysis, user experience, quality assurance and project management team representatives

Phase Two – Rollout Strategy

- New process socialized to IT teams via training sessions
- 2-3 technology projects selected to pilot new process
- Key project characteristics
  - Substantial UI components
  - Requirements not well defined
  - Negligible business process reengineering scope
- Scope of pilots consisted of healthcare spend analytics, group purchasing office functionality and workforce scheduling solutions
- Lessons learned captured and improvements incorporated within process

Phase Two – Leaner and Flexible Process

Waterfall SDLC	
# of project documents*	12
# of stage gate approvals	8
# of project roles	17

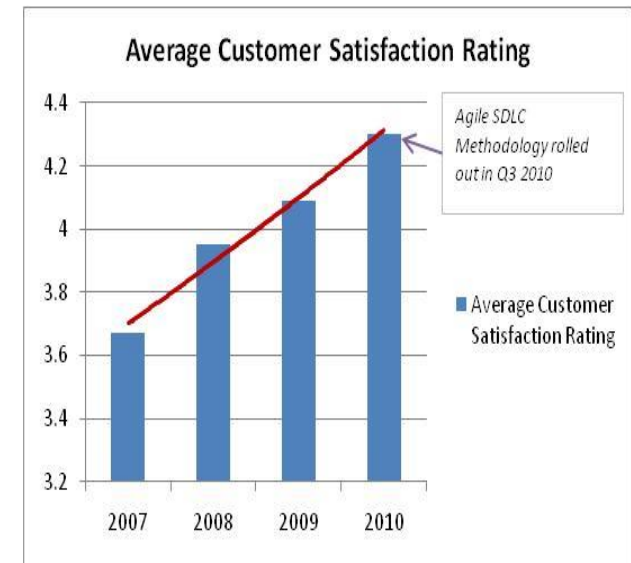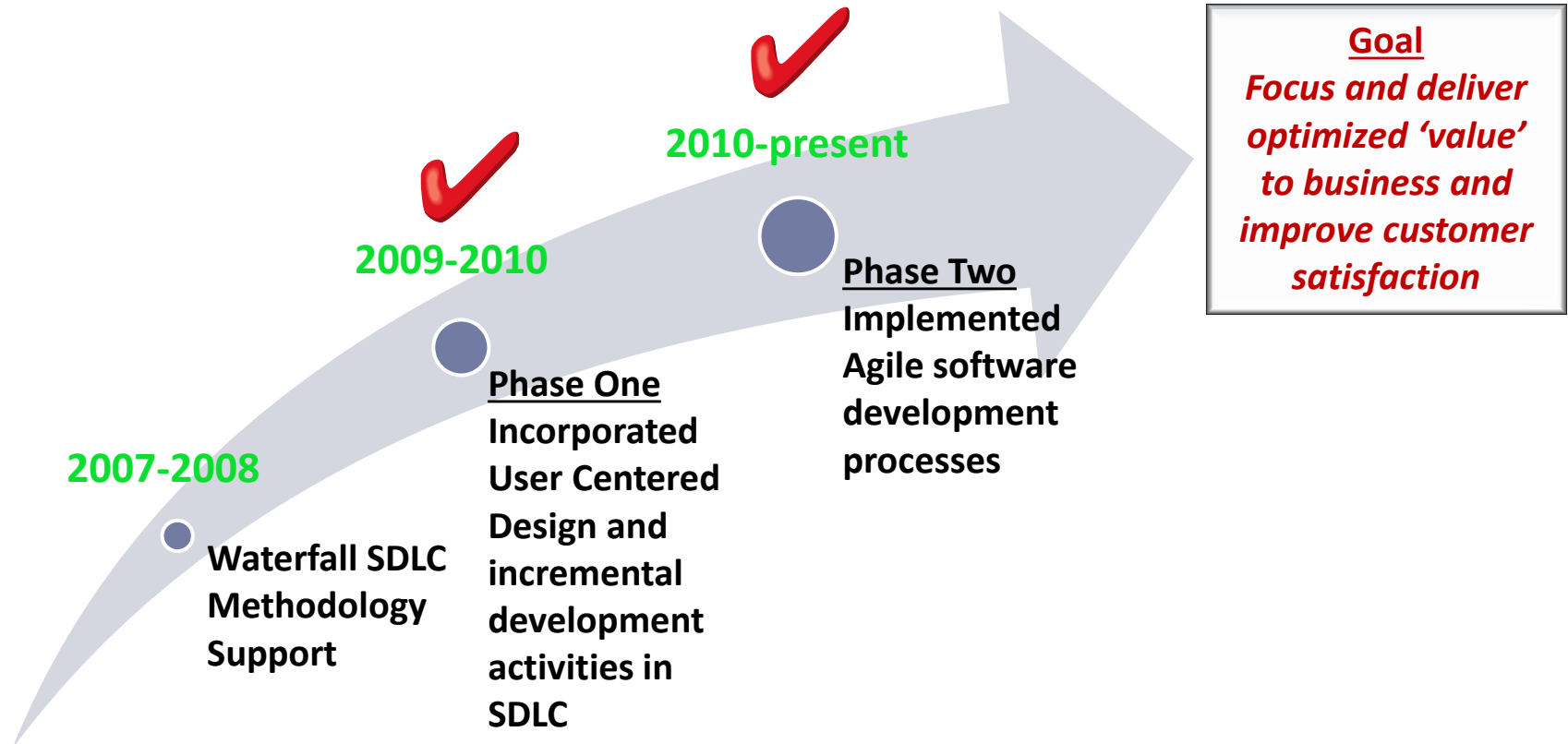| Agile SDLC	
# of project documents*	7
# of stage gate approvals	3
# of project roles	3

* Excludes checklists

Phase Two – Results

- In 2010 customer satisfaction ratings continued to grow well above target (target threshold – 4)

- Over 80% increase since 2007

- Correlation between incremental development cycles and improved ratings

Avg. Customer Satisfaction Rating, 2007-2010, © MedAssets

Approach and Implementation Strategy

Goal
Focus and deliver optimized 'value' to business and improve customer satisfaction

2010-present

2009-2010

Phase Two
Implemented Agile software development processes

Phase One
Incorporated User Centered Design and incremental development activities in SDLC

2007-2008

Waterfall SDLC Methodology Support

Current Status

- 80% of technology projects using Agile software development methods

- 70% of PMO team is Scrum Master certified

- Dedicated Scrum rooms established

- Deploying Rally© within segment to manage software development processes by Q3 '11

- Revised financial budget tracking

- Leaner project change management process tracking changes to major 'themes'

Lessons Learned

- Committed product owners are key for successful Agile implementations

  - This group was overlooked in the initial rollout in 2010

  - Resulted in IT product managers taking on the role to fill gap

- A dedicated experienced resource is necessary to coach teams in using Agile methods

  - This role was not assigned consistently on all projects due to availability constraints

  - Resulted in teams taking longer to understand and adhere to Agile methods / concepts

Conclusion

- Agile SDLC implementation has brought about positive change in the IT organization and has met minimal resistance

- Faced challenges and continues to do so today, i.e.:
  - Bring about behavioral and organizational change within teams to embrace self management and empowerment
  - The Product owner role is most challenging to fill but at the same time key in delivering successful outcomes

- PMI commencing Agile PM certification pilot (PMI-ACP[3])

- Application of a consistent SDLC methodology is important but process should not drive outcomes

Questions?

Acronym Key

Acronym	Description
ACP	Agile Certified Practitioner
IT	Information Technology
PMI	Project Management Institute
PMO	Project Management Office
SDLC	Software Development Life Cycle
SW	Software
UI	User Interface