Agile Requirements at Scale: Context Counts

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Rational. software

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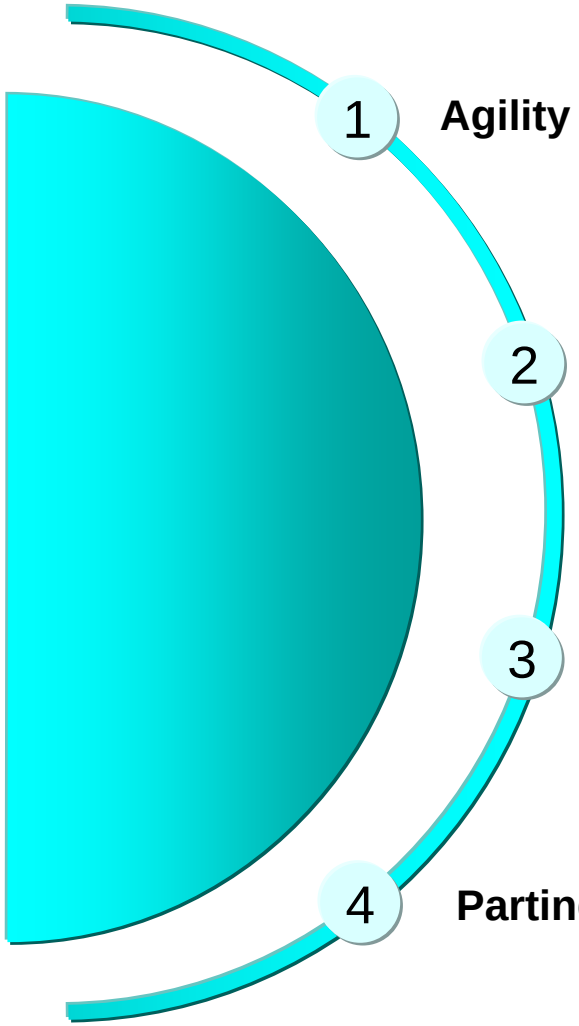
My Goals

- To challenge your beliefs regarding requirements practices
- To share industry data with you
- To explore how to scale agile requirements practices
- To show that context counts, that one “process size” does not fit all

Agenda



1. **Agility and requirements**
2. **Introduction to agility@scale**
3. **Agile requirements at scale**
4. **Parting thoughts**

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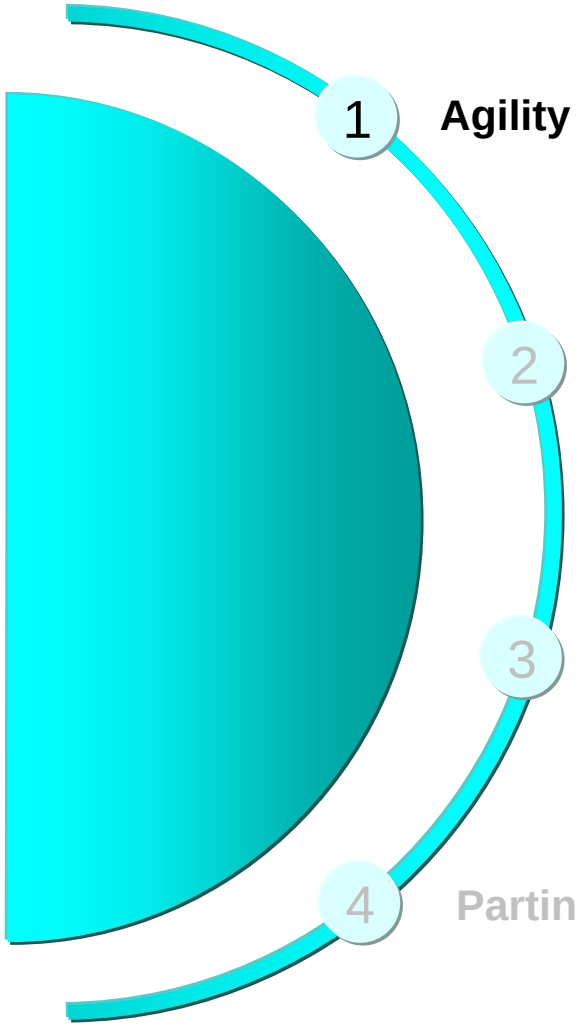

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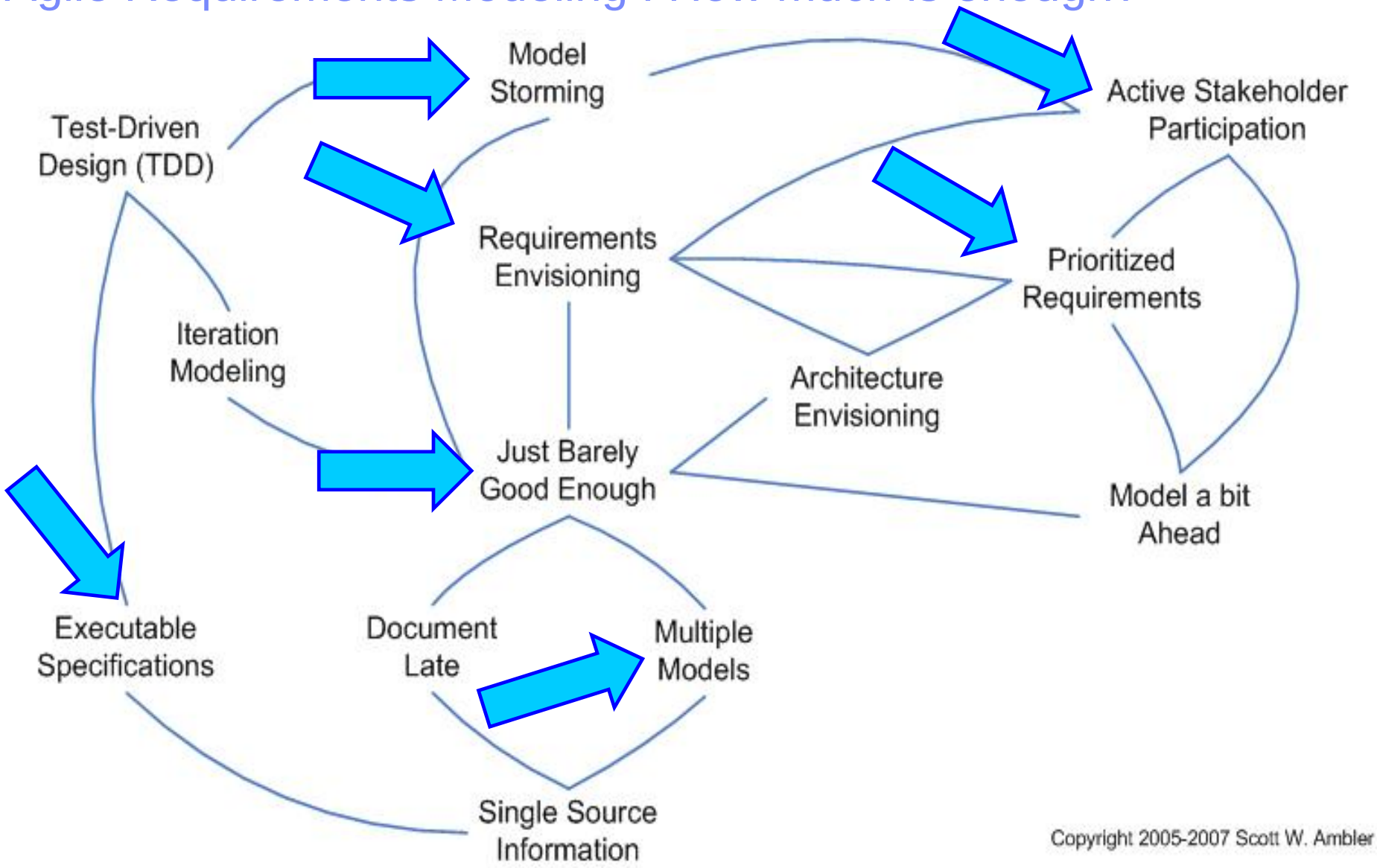
Requirements strategies are changing

- Continual customer involvement
  - Product owner represents the stakeholders
- Shared vision
  - Understand business needs
  - Focus on stakeholders goals
- Requirements elicitations
  - Conversations, agile modeling, workshops
- Requirements analysis
  - Performed “just in time”
- Requirements documentation
  - User stories, storyboards, acceptance tests, agile models
  - Test your documentation effectiveness : ”CRUFT” Measure
- Formality
  - Improvised, more relaxed approach

Agile Requirements Modeling : How much is enough?

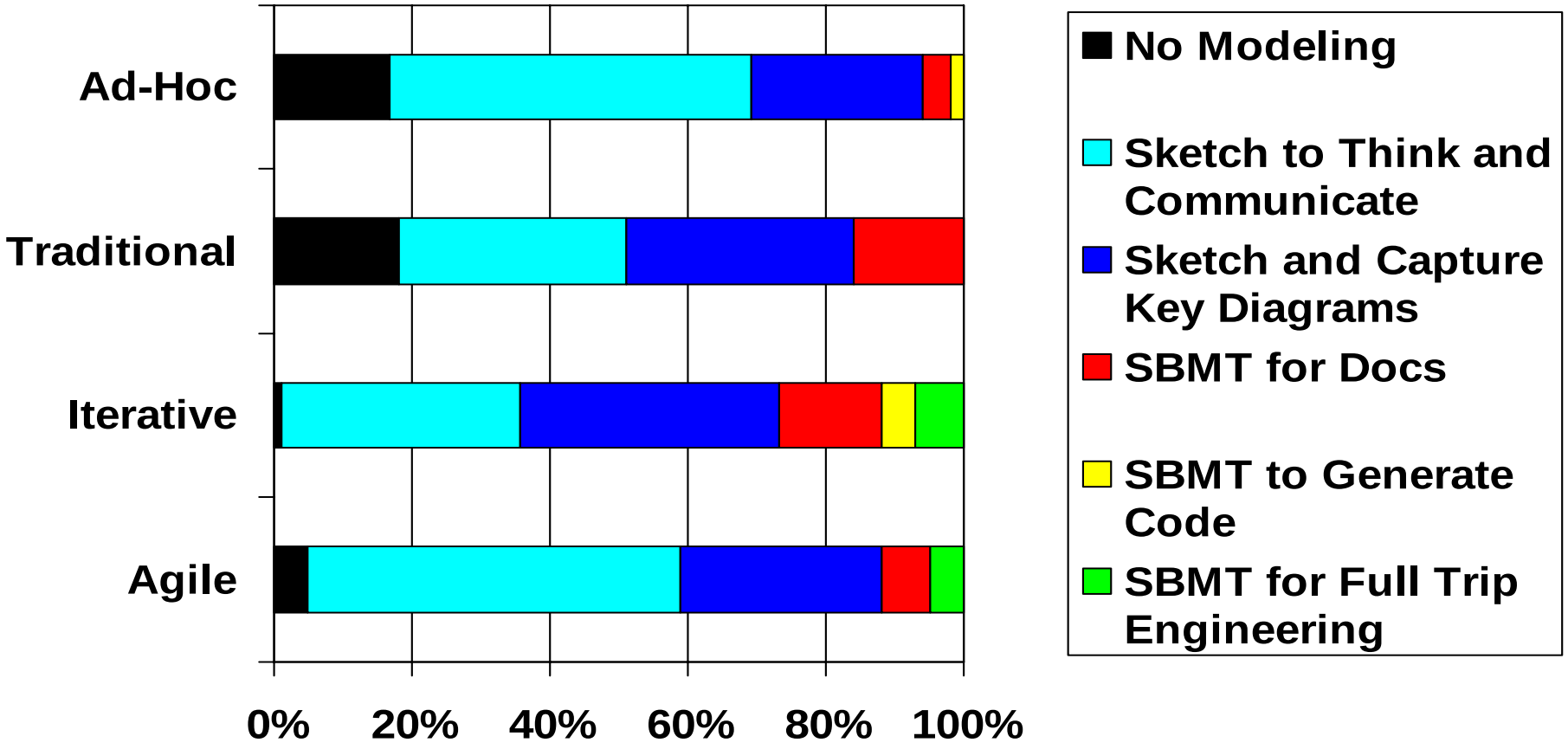


Agile Approach to Initial Requirements

76%	High-level initial requirements modeling
30%	Detailed initial requirements modeling
12%	Have initial requirements models supplied to them
10%	Use enterprise models as a reference
12%	Use industry models as a reference
88%	Do some sort of initial modeling or have initial models supplied to them
89%	Do some sort of initial modeling, or have initial models supplied, or leverage reference models

Source: Ambysoft 2009 Agile Project Initiation Survey

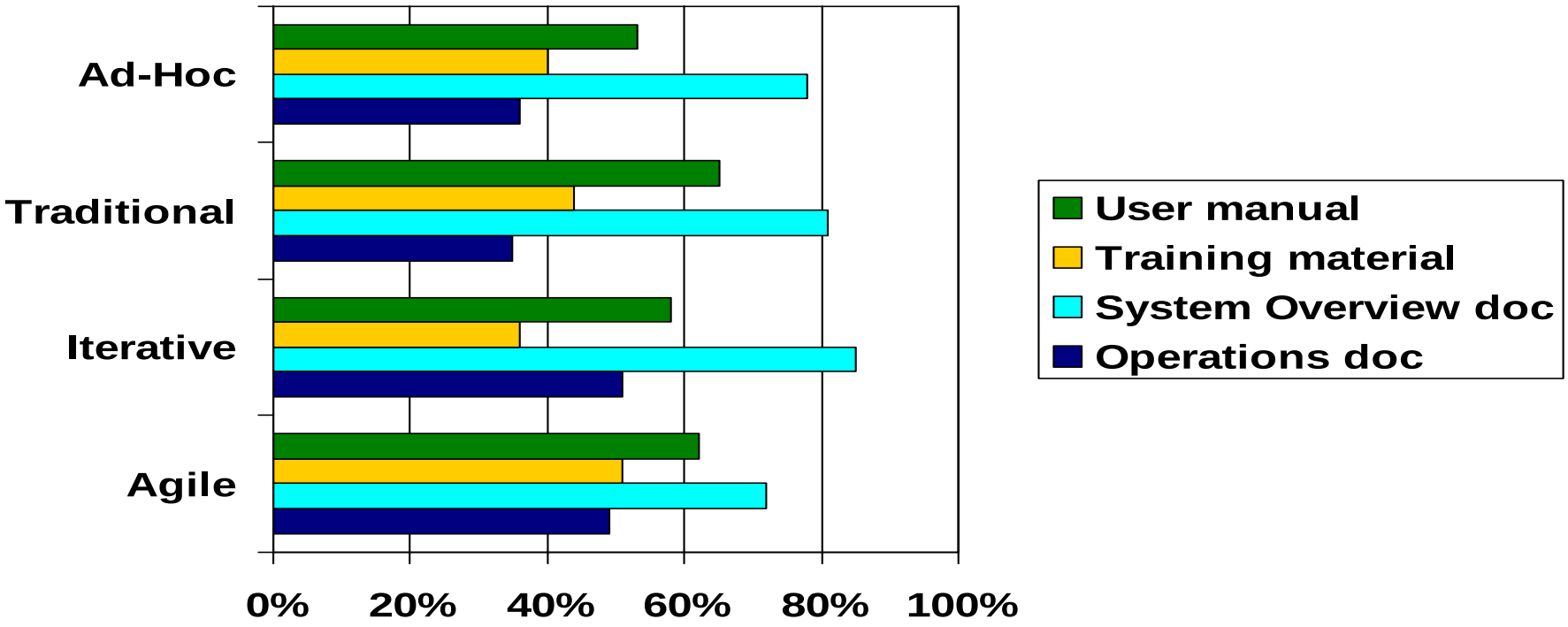
Agilists Model!
Their primary strategy for modeling



Source: Dr Dobb's 2008 Modeling and Documentation Survey

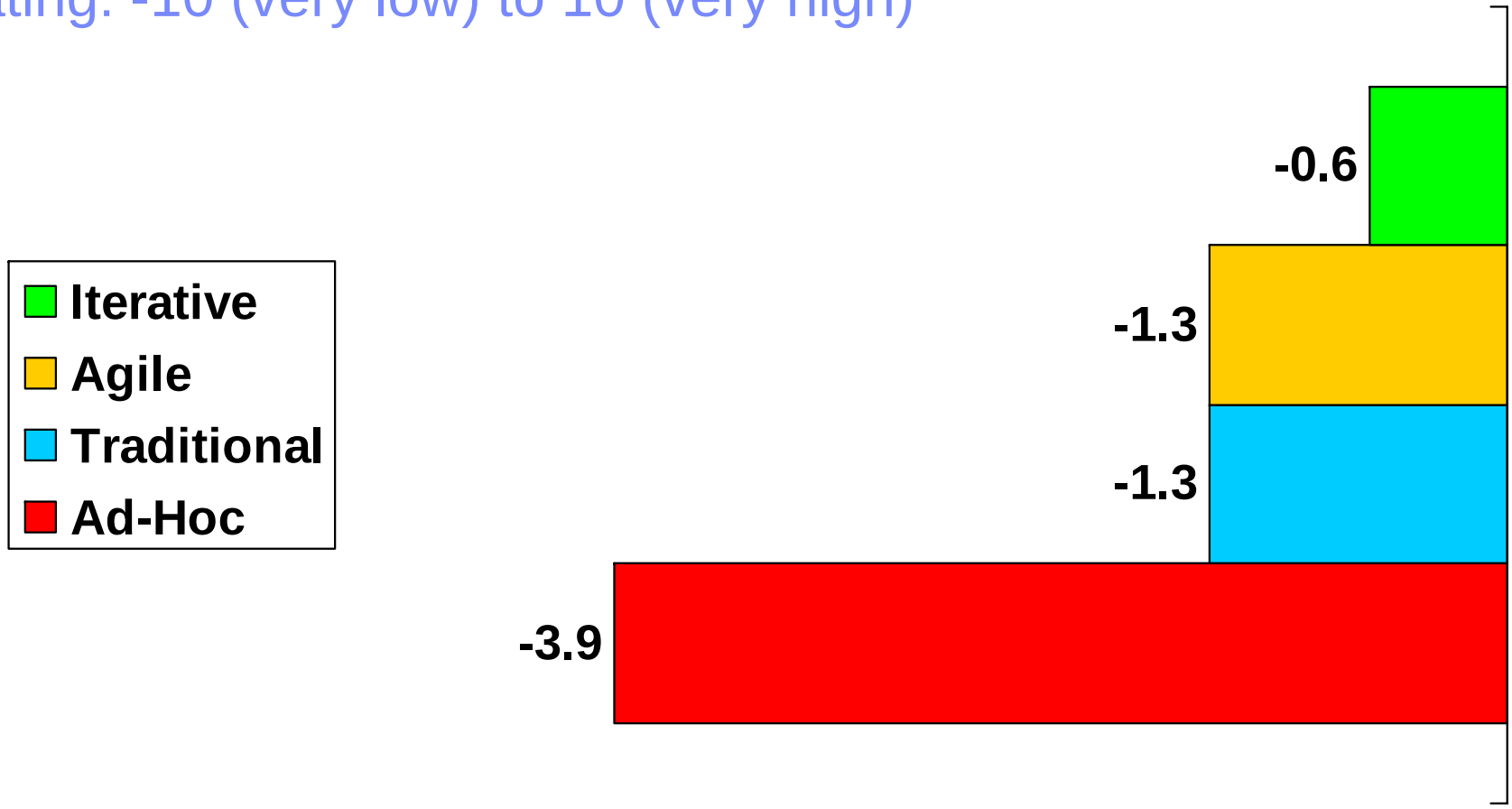
SBMT: Software-Based Modeling Tool

Agilists Write Documentation!
Percentage of teams creating deliverable documentation



Source: Dr Dobb's 2008 Modeling and Documentation Survey

What is the quality of the deliverable documentation produced by a development team?
Rating: -10 (very low) to 10 (very high)



Source: Dr Dobb's September 2009 State of the IT Union Survey

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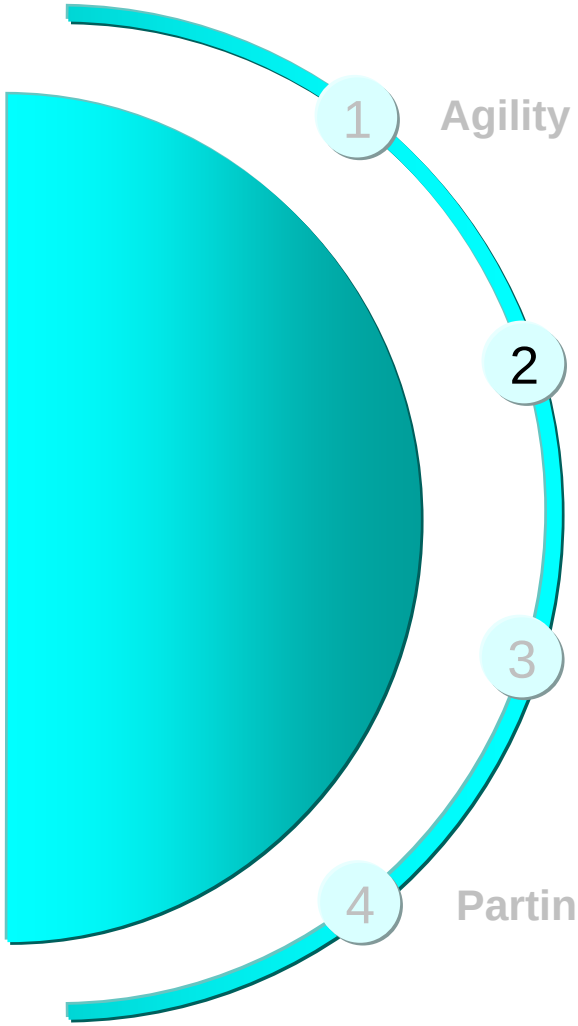

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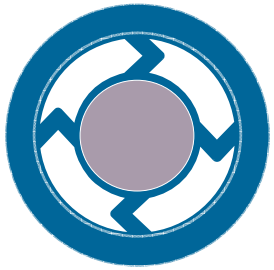
Agile Scaling Model (ASM)



Core Agile Development

- Focus is on construction
- Goal is to develop a high-quality system in an evolutionary, collaborative, and self-organizing manner
- Value-driven lifecycle with regular production of working software
- Small, co-located team developing straightforward software

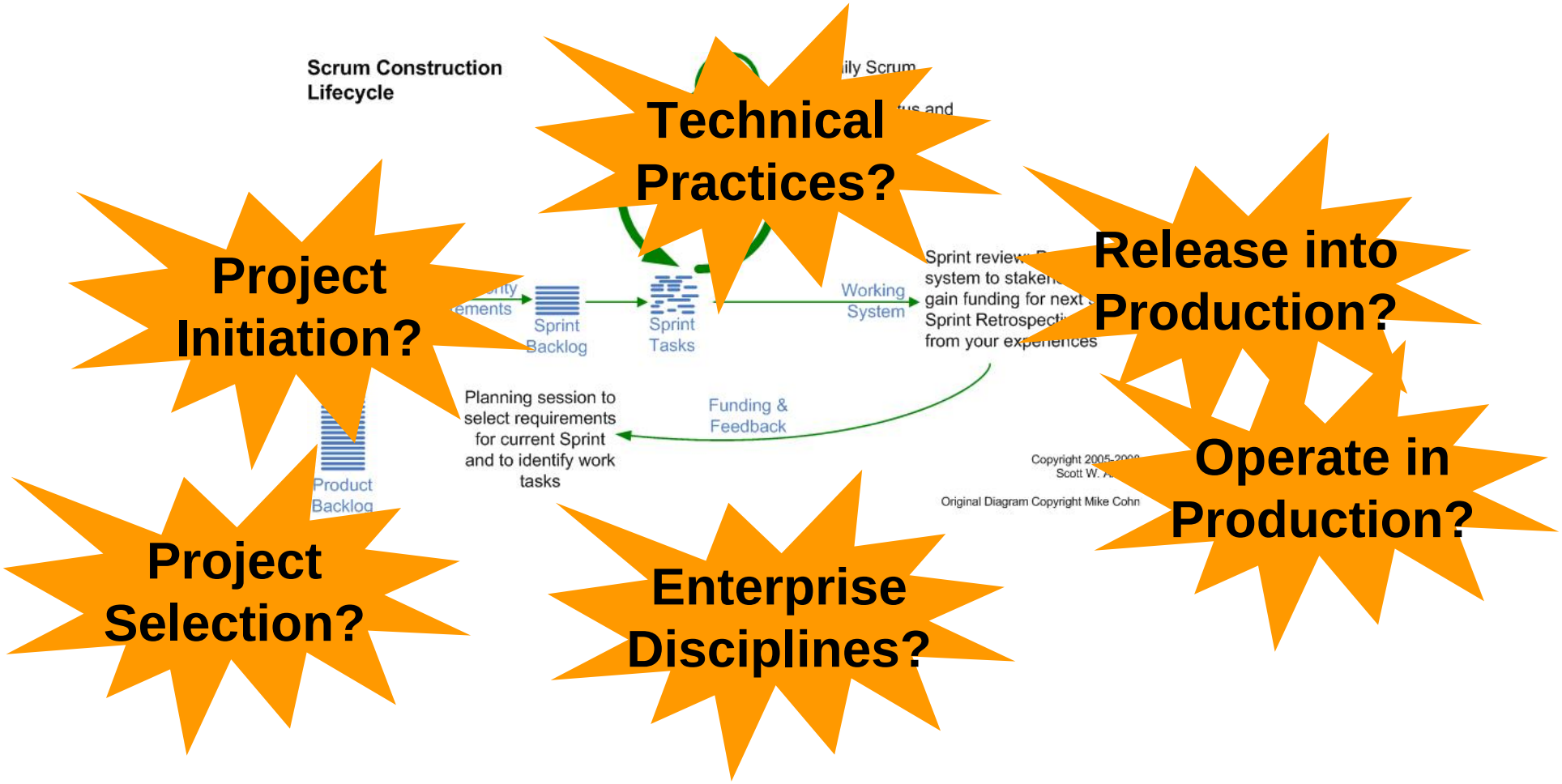
Disciplined Agile Delivery

- Extends agile development to address full system lifecycle
- Risk and value-driven lifecycle
- Self organization within an appropriate governance framework
- Small, co-located team delivering a straightforward solution

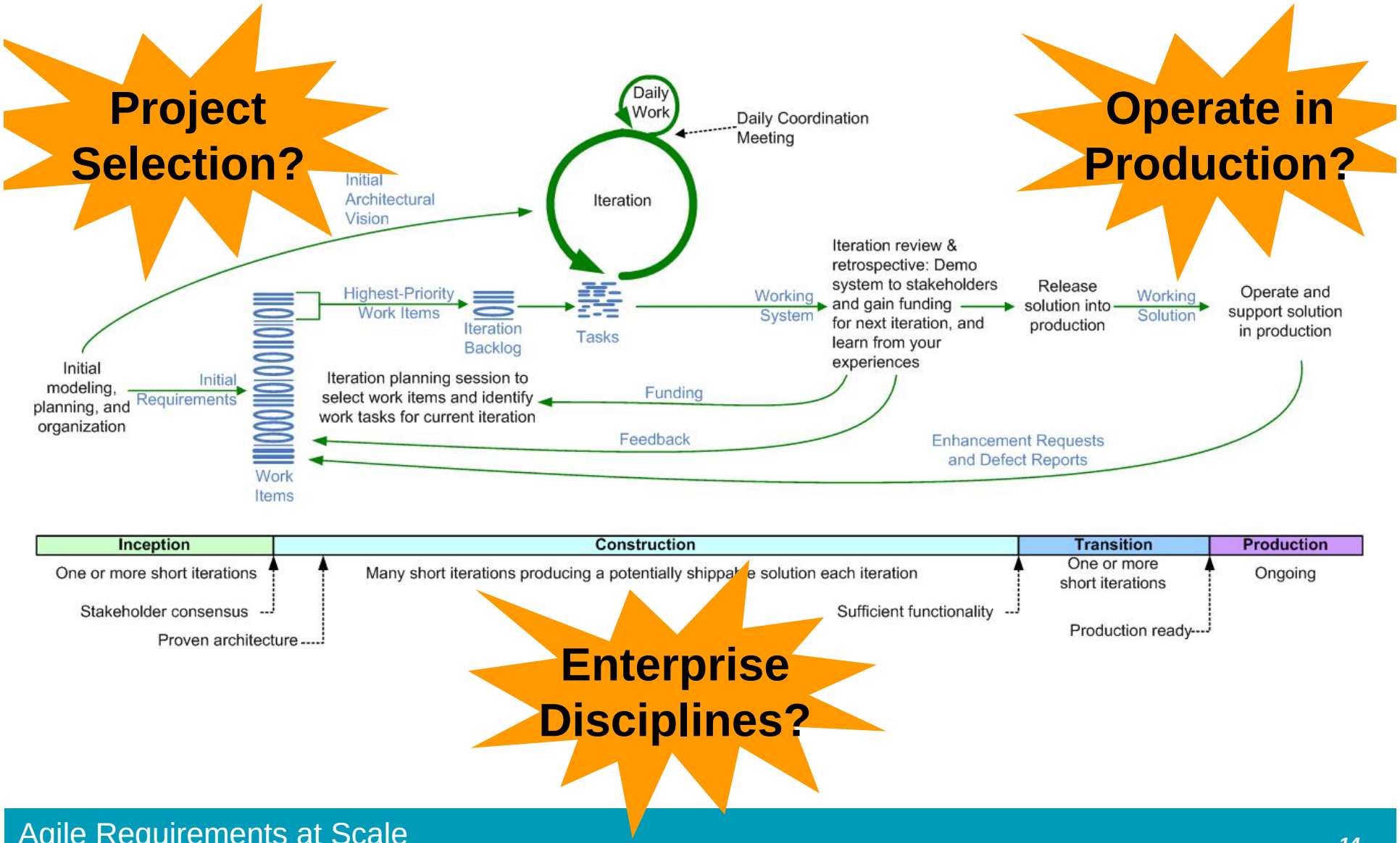
Agility at Scale

- Disciplined agile delivery and one or more scaling factors applies

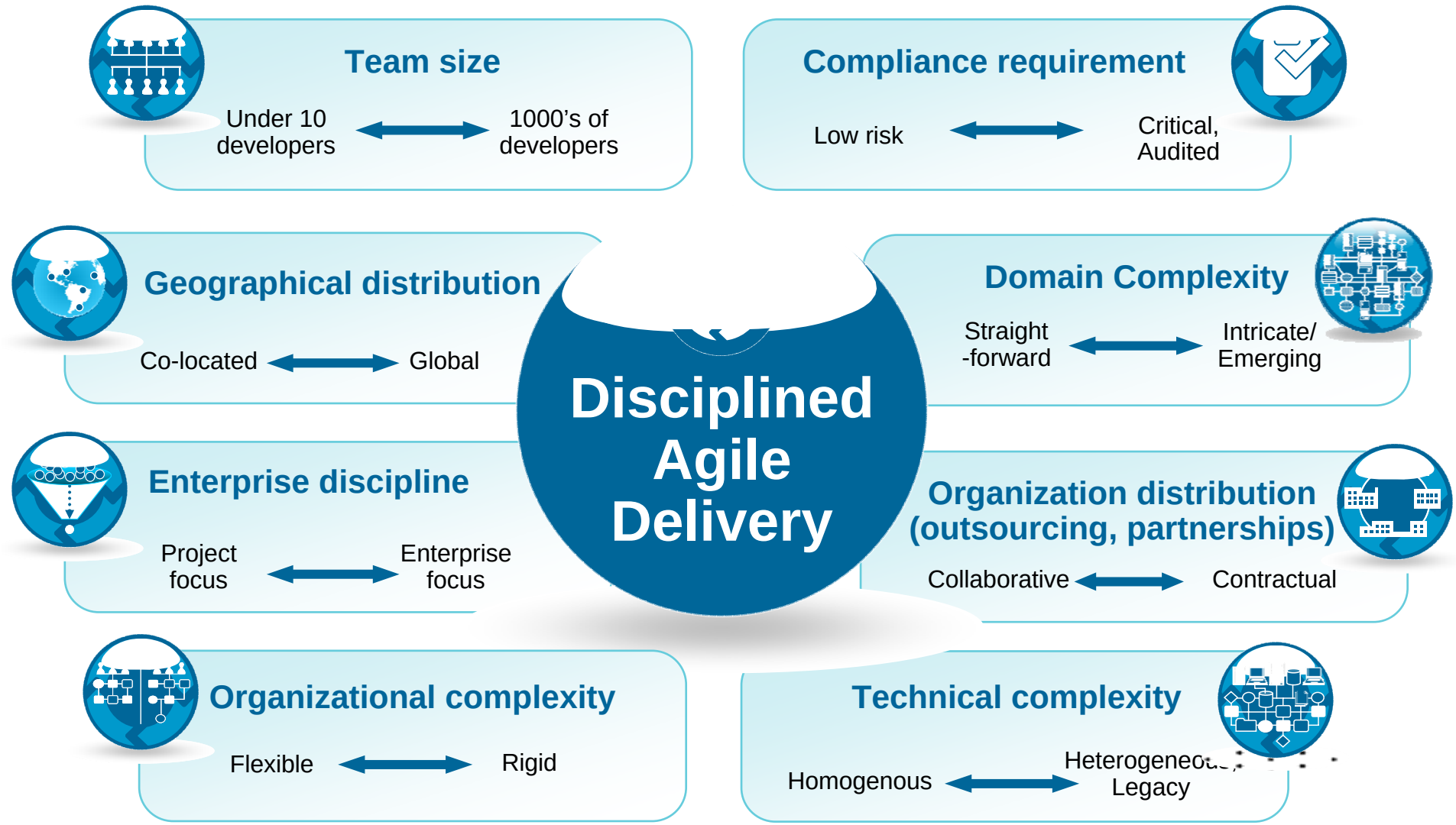
The Scrum construction lifecycle



The disciplined agile delivery life cycle



Agile scaling factors



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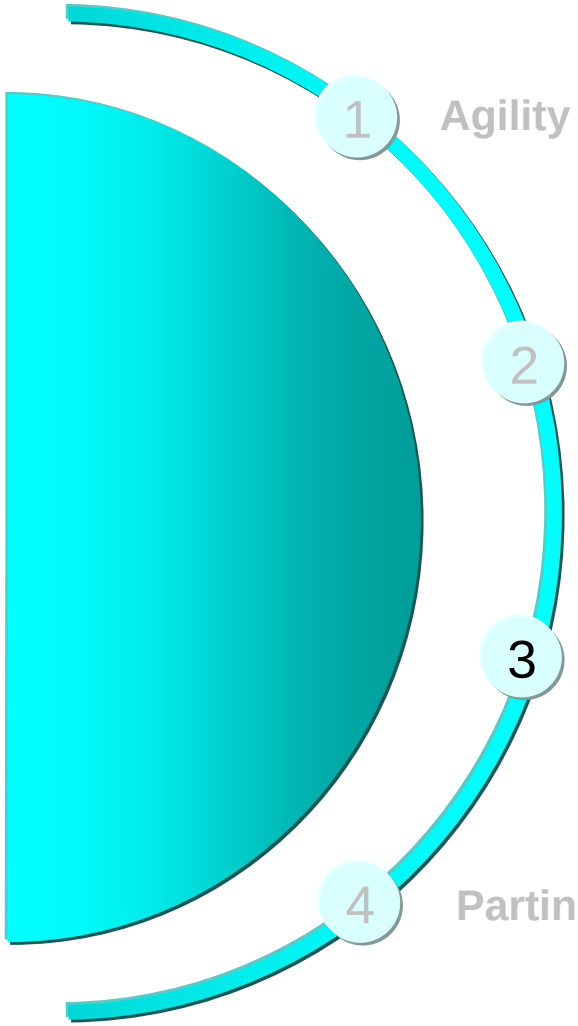

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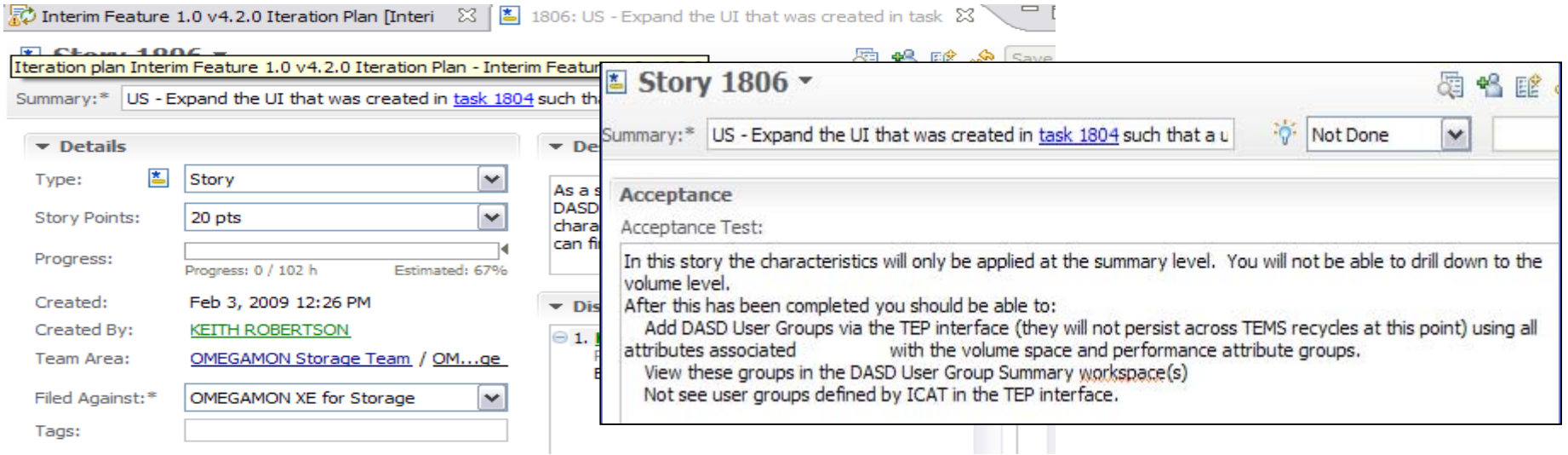
Requirements and disciplined agile delivery

- Small, co-located team developing a straightforward solution
- Capture requirements using inclusive tools (paper and whiteboards)
- Planning can be done by displaying the cards on a corkboard or table
- Prioritization can be done by keeping the cards in a stack

- Use simple tools and strategies for simple situations!

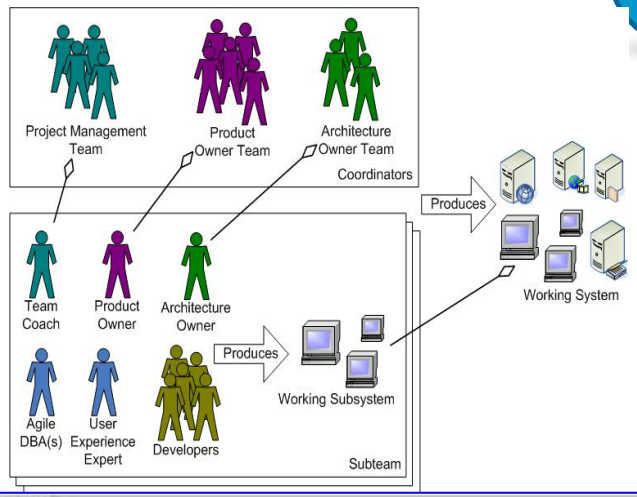
Agile requirements and large teams

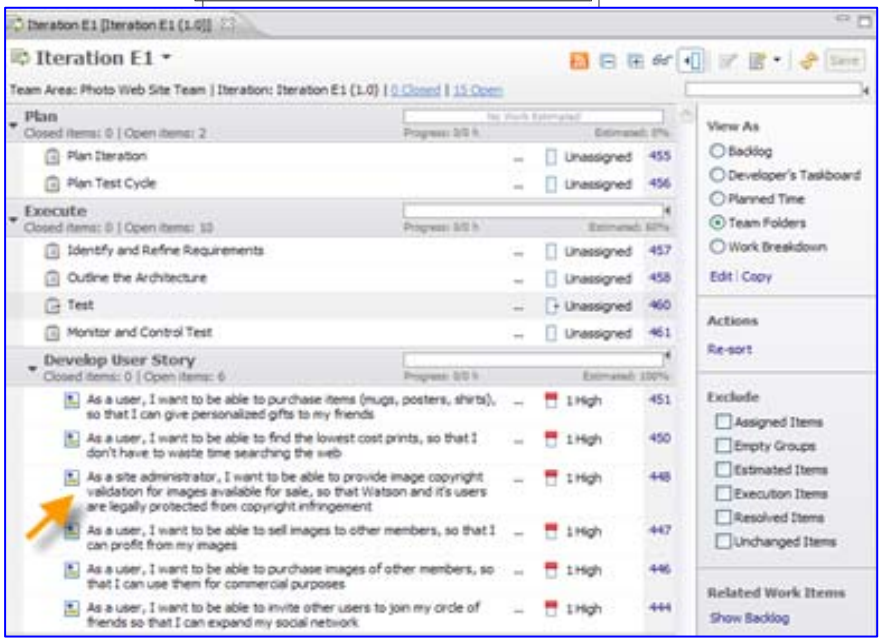
- Communication and coordination risk increases with large teams
- Initial requirements and architecture envisioning is critical
- Coordination of requirements between subteams is important
- Team organization, architecture, and requirements must reflect each other
- Re-enforce the usage of product backlog for scope management
- Use simple tools, apply some agile practices such as active participation of stakeholders



Agile requirements and geographically distributed development

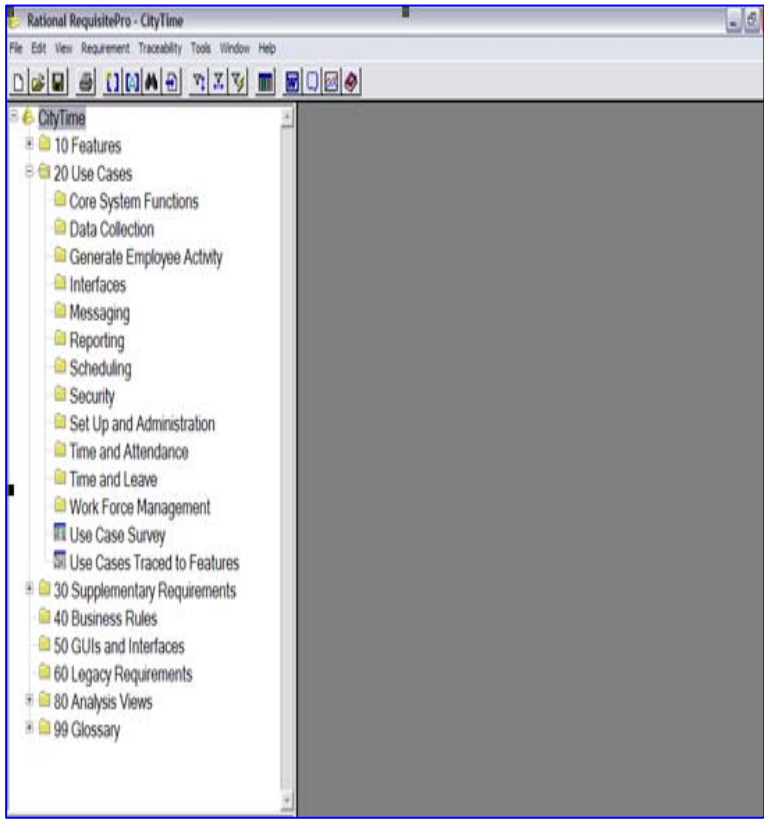
- Geographically distributed teams incur significant communication risk
- Need a more “disciplined” agile requirements approach
  - One that can address risks
  - Automation is a “must” for requirements traceability, version control and collaboration
  - Requirements dashboards and reporting on certain important measures become necessary
- Large team considerations apply





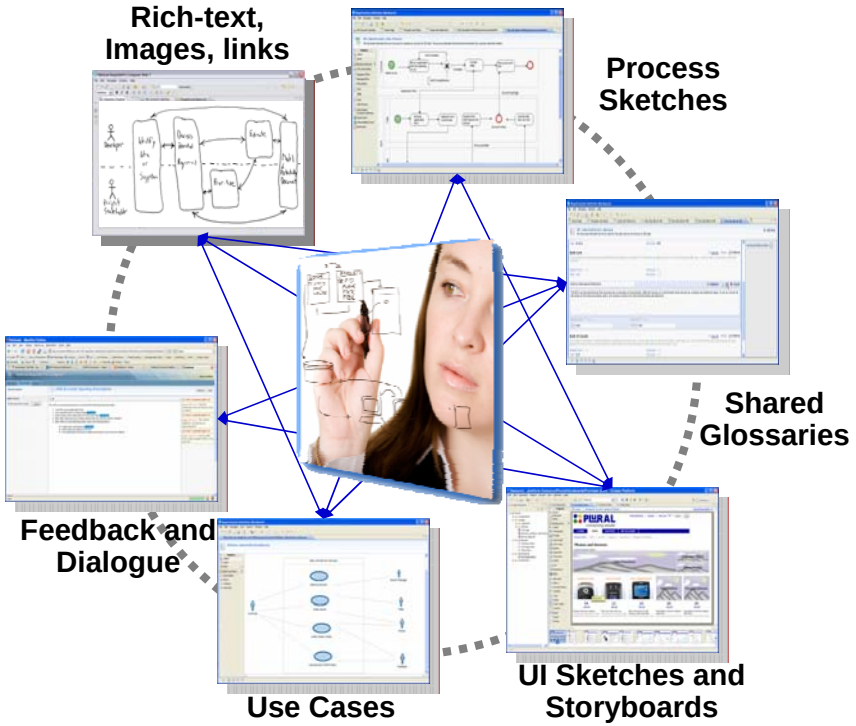
Agile requirements and regulatory compliance

- You may need to adopt other requirements strategies, such as use cases or formal System Requirements Specifications (SRSs)
  - BUT... read the regulations, because they likely don't specify how, nor when, to capture the requirements
- Traceability is often a secondary, but important, part of the regulation
  - BUT… read the regulations, because they likely don't specify the level of detail required
- You will likely need to write more documentation, particularly business rules and requirements pertaining to sensitive data
  - BUT… read the regulations, because you only need to do this to the extent of the risk of the project
- You may need to hold reviews
  - BUT… read the regulations, because they seldom require formal reviews



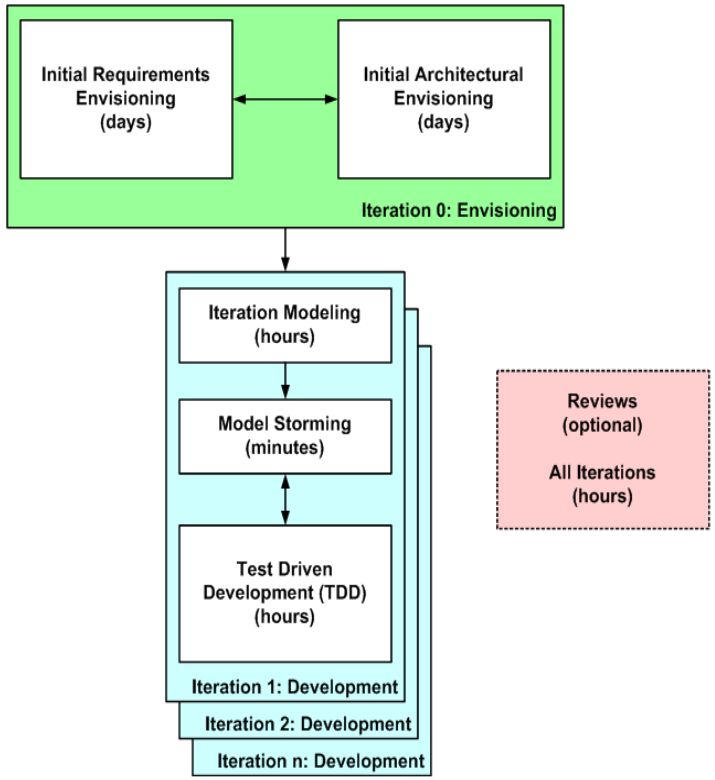
Agile requirements and domain complexity

- Business process sketching may help understand the complex domain environment
- Might want to consider light-weight use cases instead
- Will likely need to do more user interface (UI) prototyping
- Active participation of stakeholders throughout the life cycle is crucial for you to understand their changing needs
- Important: Complex domains don't imply that you need detailed requirements speculations



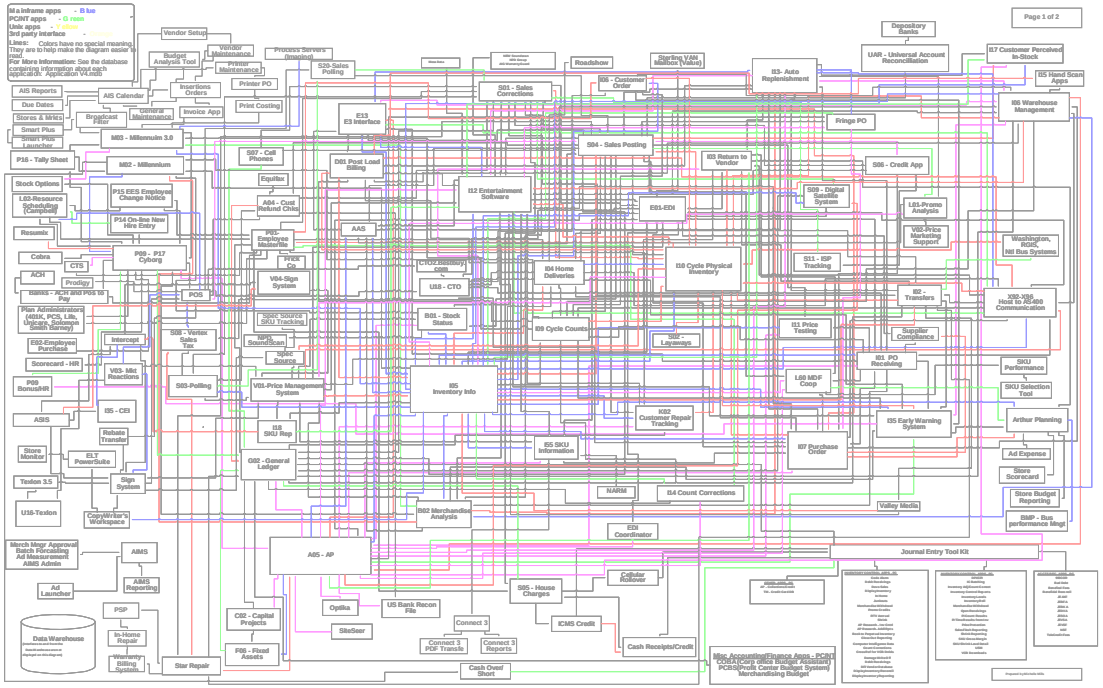
Agile requirements and organization distribution

- When multiple organizations are involved:
  - Access control to portions of the work may become critical
  - You will need to negotiate access rights, particularly in secure situations
  - Intellectual property (IP) rights need to be negotiated up front
- Initial requirements and architecture envisioning are required to organize the work between the organizations



Agile requirements and technical complexity

- May want to consider more sophisticated strategies, such as light-weight use cases, instead of user stories
- Sizing of the individual requirements becomes difficult if the development teams doesn't understand the technology
- Adopt a Risk-Driven life cycle (e.g. a disciplined agile delivery strategy)



Agile requirements and enterprise discipline

- Enterprise disciplines, such as enterprise business modeling, portfolio management, and enterprise architecture can add complexity to project level activities
- Enterprise business modeling
  - Enterprise-level process and domain models very common
  - May need to trace stories back to these models, although perhaps a high-level trace from the project to these models is more effective
- Enterprise architecture (EA)
  - Technical stories which reflect the EA may be common
  - The EA will motivate non-functional requirements for user stories
- Enterprise portfolio management
  - Need to identify visions for potential products
  - Key user stories may help, but use cases or scenarios better options

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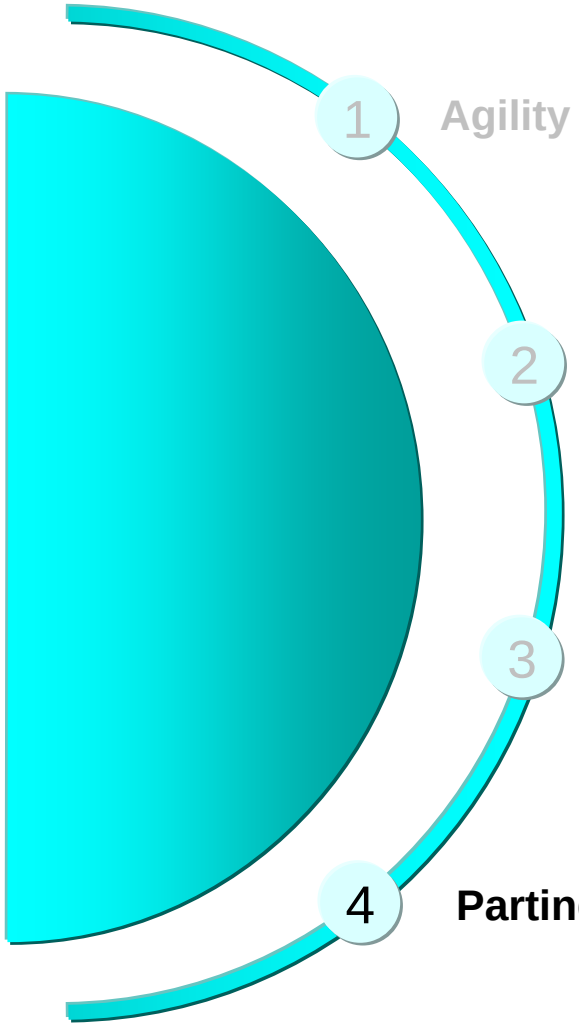

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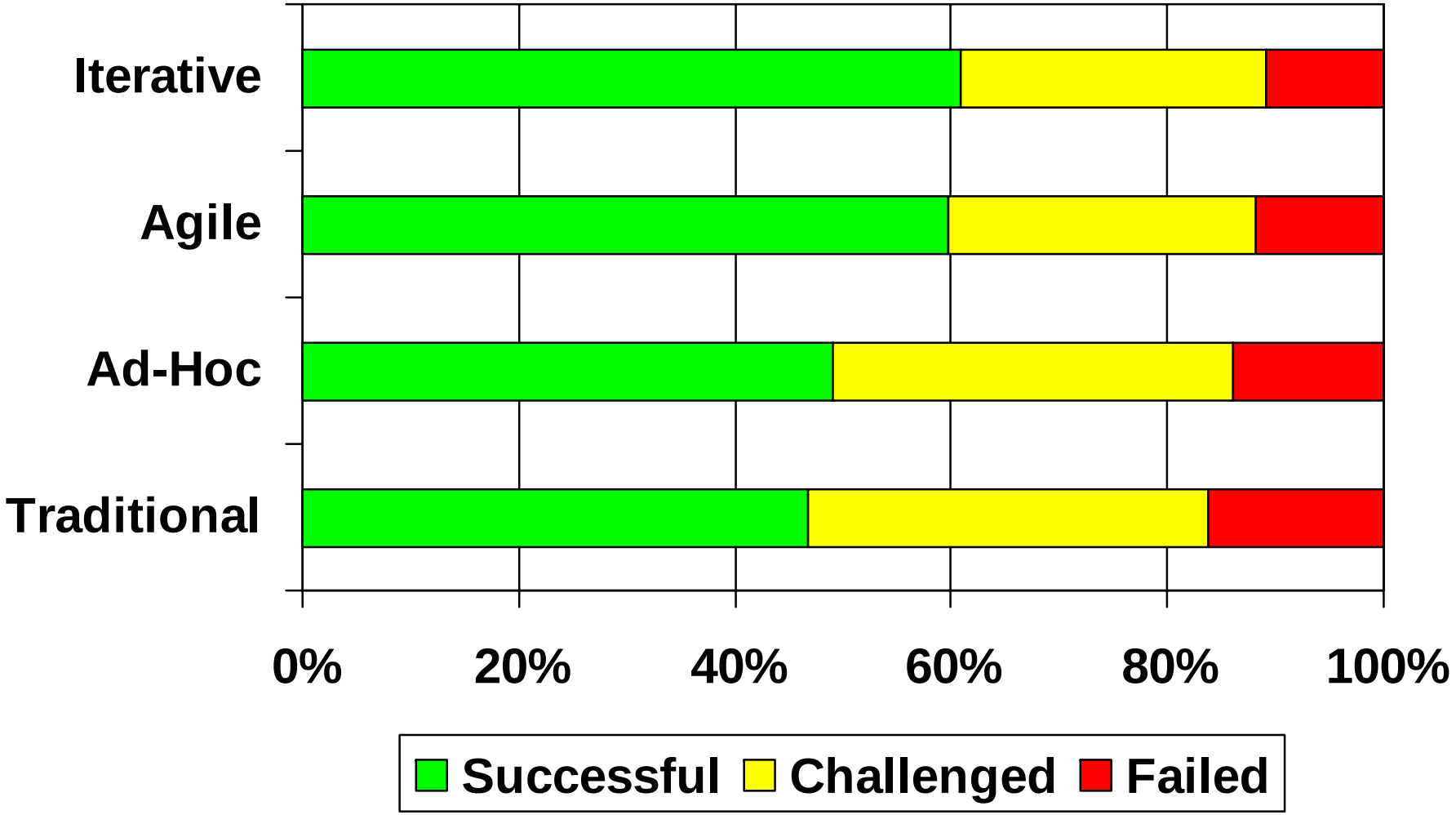
Why agile?



Source: 2010 Project Success Survey, www.ambysoft.com/surveys/

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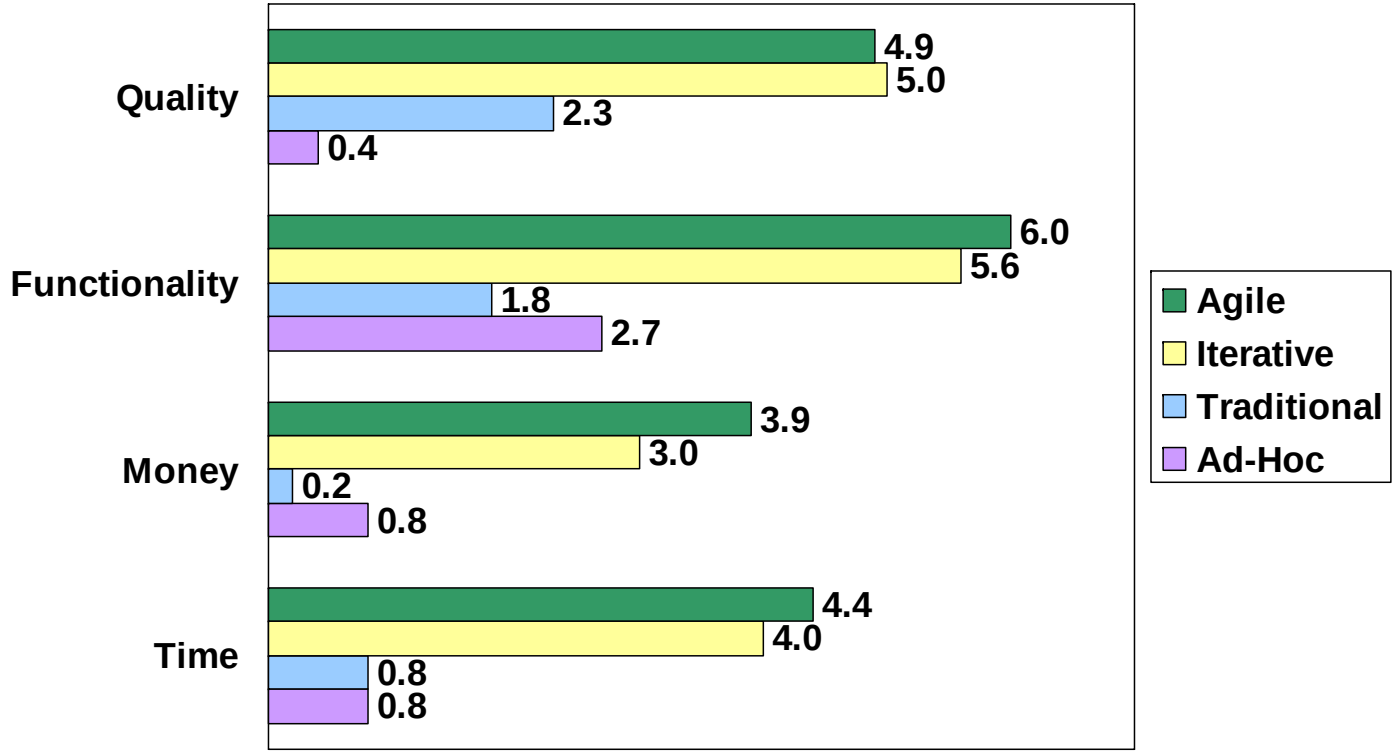

Agile teams produce higher quality work, are quicker to deliver, are more likely to deliver the right functionality, and more likely to provide greater ROI than traditional teams

Source: 2008 Project Success Survey, www.ambysoft.com/surveys/

Implications for Business Analysts

- Your goal is to build a shared understanding, it isn't to write detailed documentation
- A critical success factor is to use inclusive modeling techniques which enable active stakeholder participation
- Expand your horizons and become a generalizing specialist
- Learn how to perform acceptance TDD so that you can capture requirements as executable specifications
- Recognize that one process size does not fit all, that you will need to be flexible
- Your primary goals should be to:
  - Facilitate communication between stakeholders and developers
  - Put developers in direct contact with stakeholders wherever possible
  - Help developers learn better communication skills

Implications for Organizations

- Don’t be fooled by the agile rhetoric
  - You still need to invest in modeling
  - You still need to invest in requirements management
- Don’t be fooled by the traditional rhetoric
  - Detailed documentation adds risk to IT projects
- Individual teams find themselves in unique situations, so will have unique tailorings of your process
  - Don’t sub-optimize around a “standard” process in a naïve attempt at IT governance

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