

Agile Fundamentals

The Agile Enterprise

Strategically Aligned, Throughput Focused, Human Powered

“Dennis Stevens helped us develop a structured approach that connected customer value to execution. He helped us deliver over \$200 million in value to our customers.”
 -- Ric Merrifield, Microsoft Corporation



“Dennis Stevens helped us align business analysis, architecture, development, QA, support and implementation. He was an advocate for the success of our business”
 -- Rob Andes, CTO, John Deere



“In a time growth and change, Dennis Stevens helped us identify and develop the capabilities needed to deliver technology that was critical to our success.”
 -- Mike Rouse, COO, Security First Network Bank



Connecting the Strategy and Execution
 HBR: *The Next Revolution in Productivity*



- OPM3
- PMI Agile LIG
- PMI Agile CoP
- PMI Agile Certification

Agile in the Enterprise
 Core Team Member



Exploiting Agile Development
 Cutter: *Rethinking the Agile Enterprise*



Agile Extension to the Business Analysis Body of Knowledge

Draft for review

Agile Business Analysis
 Agile Extension to the BABOK



Agenda

- Roots of Agile
- Agile Manifesto
- Agile Fundamental Ideas
- Scaling Agile
- Q&A

Agenda

- Roots of Agile

What is Agile?

Agile:

1. (adj.) (characterized by quickness, lightness, and ease of movement; nimble.
2. (adj.) Mentally quick or alert.
3. (n.) A group of product development methodologies based on iterative and incremental development, where requirements emerge through feedback with the customer and solutions evolve through collaboration between members of self-organizing, cross-functional teams.

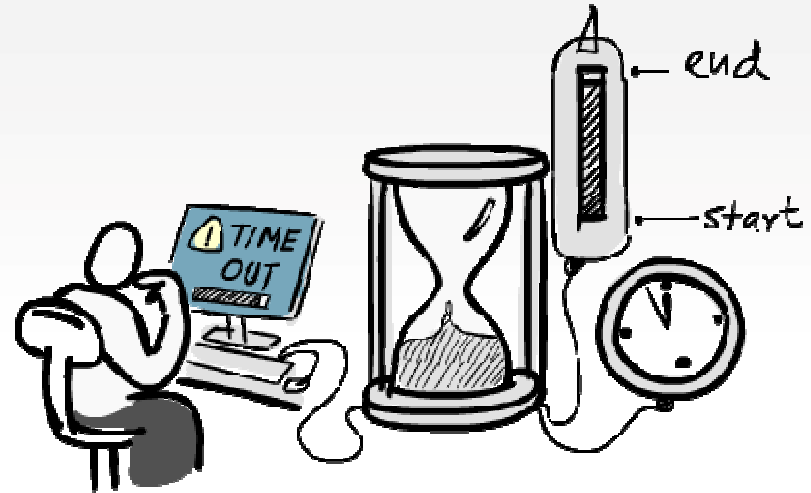
Predictive Approach

- The way Traditional, or **Predictive Approach**, shapes the definition of Scope, control of Project Schedule and Cost, and management of the software development process based on roots in *scientific management, plan driven management, and manufacturing*

Predictive Approach

Scientific Management

- **Frederick Taylor - 1880's and 1890's**



- **Transformation of Craft Production into Mass Production**
 - Work Simplification
 - Specialization
 - Resource Optimization through Time in Motion Studies
 - Piece-rate pay

Predictive Approach

Scientific Management

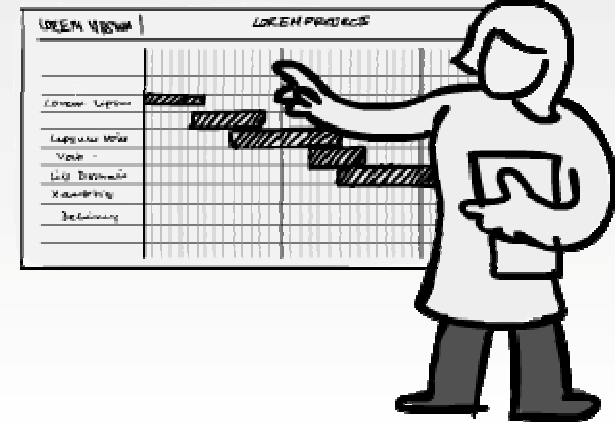
- **Initial Benefits in Manufacturing**
 - Significant reduction in per unit labor costs
 - Transfer of unskilled agrarian workforce into productive manufacturing resources
 - Standards in productivity

- **Result of Scientific Management in Knowledge Work**
 - Low intrinsic value for the skilled worker
 - Low job satisfaction for everyone over time
 - Deskilling and dehumanizing work conditions
 - Increase in management to worker ratio
 - Reduction in innovation

Predictive Approach

Plan Driven Management

- Henry Gantt in 1918
- Henry Ford mass production
- DoD uses PERT in 1957
- PMBOK 1987

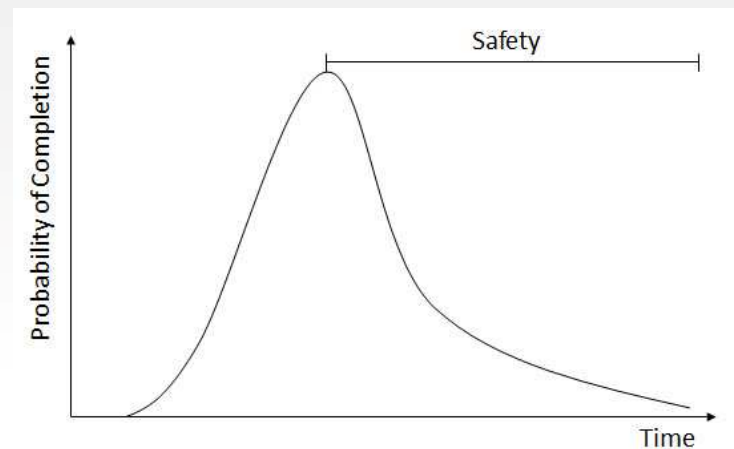


- **Improve predictability and coordination**
 - Define all tasks and efforts upfront
 - Provide a governance (coordination and control) mechanism
 - Upfront definition of all tasks and effort estimates

Predictive Approach

Plan Driven Management

- **Initial Benefits in Manufacturing**
 - Mass production
 - Huge expansion of manufacturing
 - Transformation of world economy

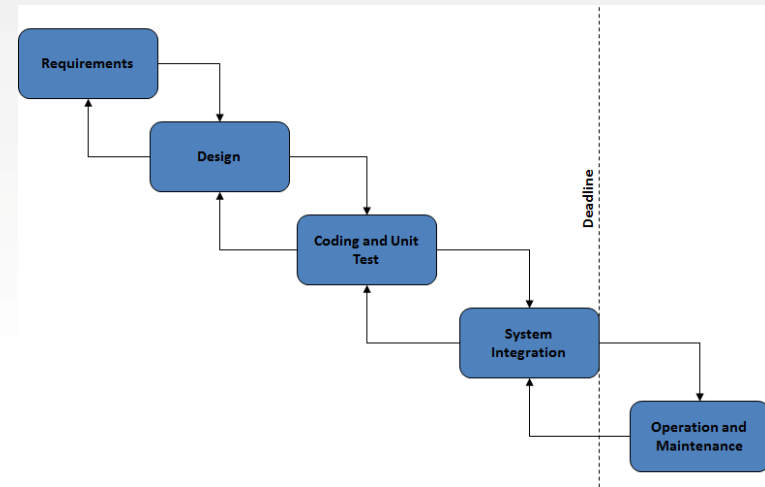


- **Result of Plan Driven Approach in Knowledge Work**
 - Gains are lost and losses accumulate
 - Delays in delivery
 - Lack of flexibility
 - Over production of work
 - Stifling of innovation

Predictive Approach

Waterfall

Documented by Winston Royce in 1970



Reduce cost of change

- Only proceed to the next phase when the prior phase is complete
- Early identification of defects
- Protect the organization from changes in personnel through detailed documentation
- Protect downstream capacity from flawed product upstream

Agenda

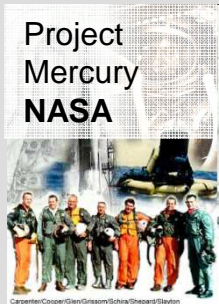
- Roots of Agile
- Agile Manifesto

Some had been having better success

Timeline

2001 Agile Manifesto

1960



Gerald Weinberg
Incremental and Iterative Development

- Half-day iterations
- Test driven development
- IBM Federal Systems Division:
 - Incremental & iterative
 - Feedback-driven requirements
 - Evolving design & architecture

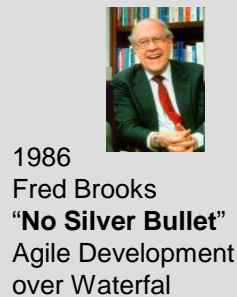
FIRST GENERATION

1970



1985 - Takeuchi & Nonaka
The New New Product Development Game
- Cross-functional team
- Self-organizing team
- Legitimate power
- Sense of mission

1980



1990



1990 - Sutherland & Schwaber
Scrum PM Framework
Time-boxed iterations (30 days)
Small and co-located, Inspect & adapt



1995 – Booch, Rumbaugh & Jacobson
Rational Unified Process
Architecture Focus



1996 - Beck, Cunningham & Jeffries
Extreme Programming
Engineering Practices

1994

DSCM
CONSORTIUM



1997 - Jeff de Luca
Feature Driven Development
Deliver tangible, working software repeatedly in a timely manner

Dynamic System Development Method
Formalization of RAD



1998 - Alistair Cockburn
Crystal Family
People & Communications, Design Principles, Domains, Bare Sufficiency

SECOND GENERATION



2000 – Robert Charette
Lean Development
Strategic Focus, Lean Production, Risk Entrepreneurship, Stretch Goals

With the help of Luiz Cláudio Parzianello.

Strategically Aligned • Throughput Focused • Human Powered

What did they have in common?



17 software development thought leaders

XP, Scrum, DSDM, Adaptive Software Development, Crystal, FDD, and Pragmatic Programming

Common Obstacles

- A focus on process and tools
- Comprehensive documentation
- Detailed upfront definition and strong change control
- Rigorous adherence to a detailed plan
- *The more projects struggle to more these items are emphasized*

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 process 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.

More Recent Developments

- Automation to support continuous integration and automated testing and deployment
- Agile Project Management Tools
- Instant Messaging and Web Conferencing
- Kanban for Software Development
- DevOps (Automating configuration management, environment management, test data management)

Agenda

- Roots of Agile
- Agile Manifesto
- Agile Fundamental Concepts

Agile Going Mainstream

- SEI publishes Agile and CMMI
- Forrester declares Agile has gone mainstream
- Over half of Fortune 500 companies are using Agile methods to deliver some of their software
- PMI has launched an Agile Certification – *PMI-ACP*[®] (Agile Certified Professional)
- IIBA is releasing an Agile extension to the BABOK draft at Agile 2011

Agile Fundamental Concepts

1. Value Driven Delivery

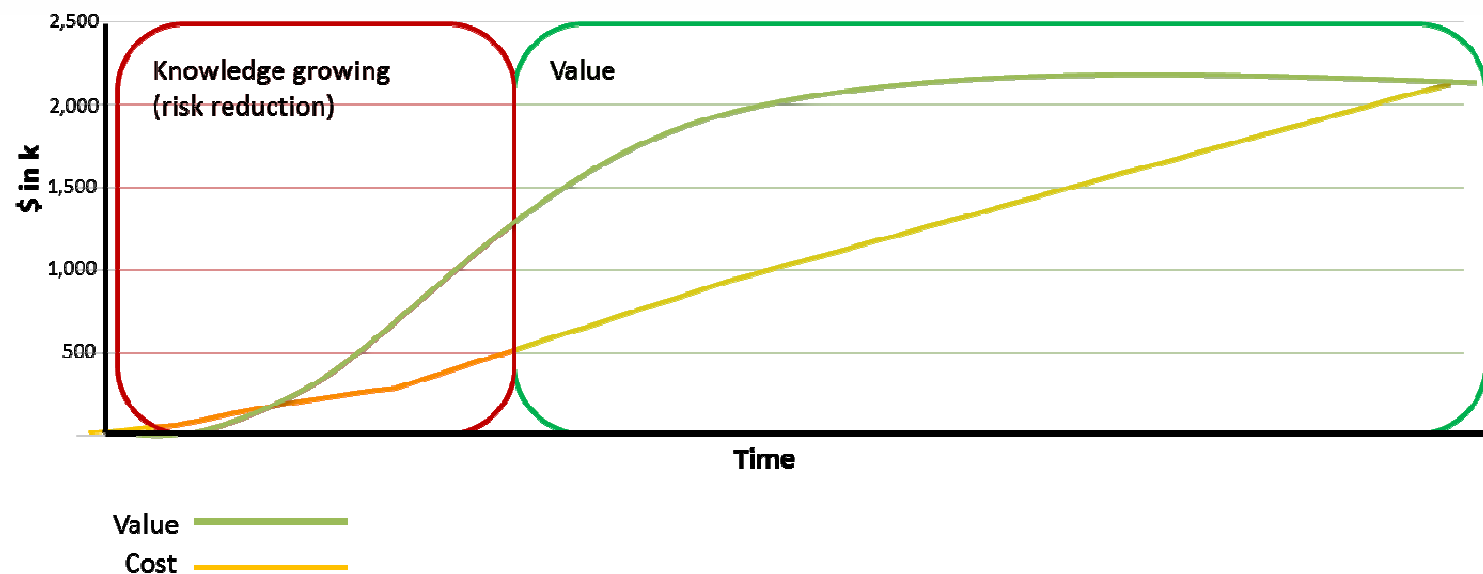
Deliver value by understanding and prioritizing what is important to the customer and the business, providing quality results incrementally, and obtaining feedback to improve the result delivered.



Agile Fundamental Concepts

1. Value Driven Delivery

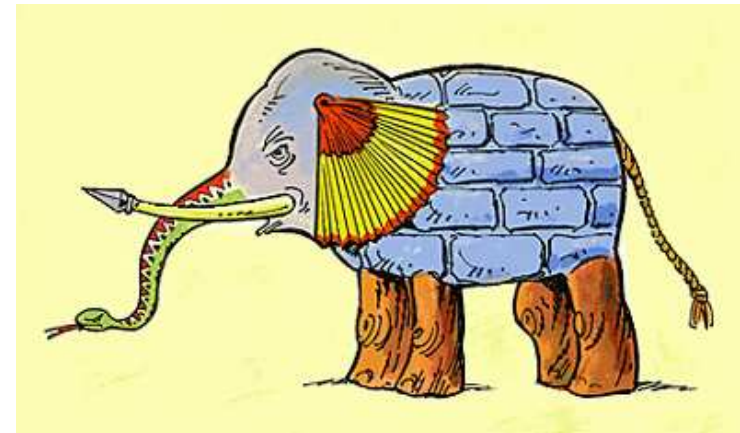
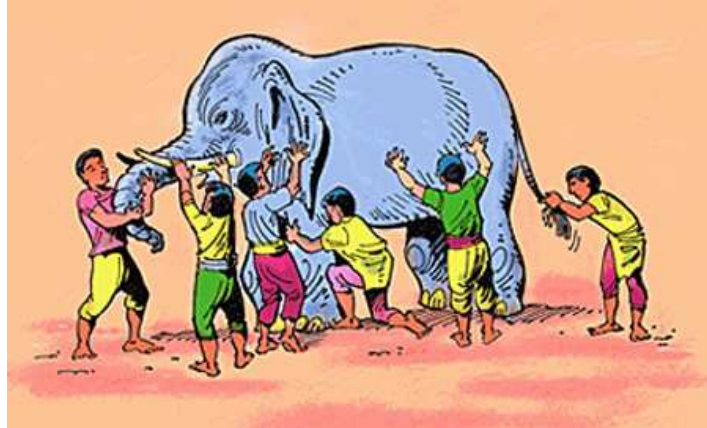
Prioritize work to address risk early and deliver the highest value items first. Continual delivery of value allows trimming the tail.



Agile Fundamental Concepts

2. Stakeholder Engagement

Establish and maintain mechanisms that ensure that all current and future interested parties are appropriately participating throughout the lifecycle of the project and enhance shared understanding amongst all team members.



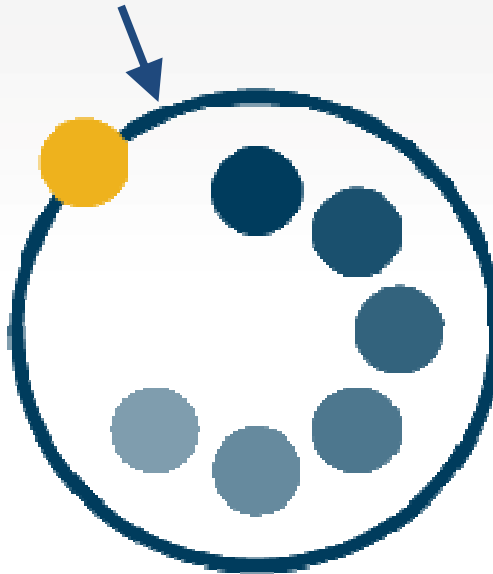
Agile Fundamental Concepts

3. Boost Team Performance

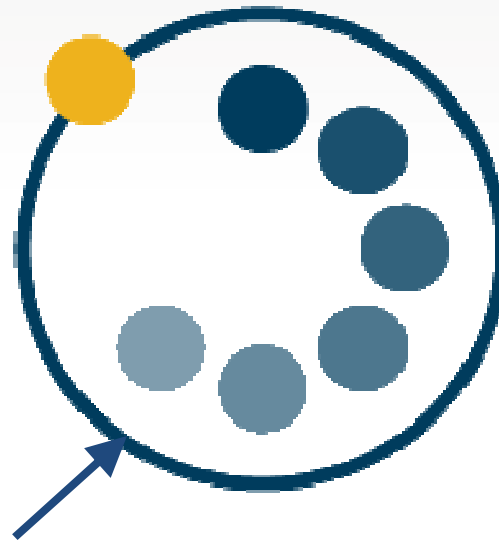
Establish stable teams and bring projects to teams. Create an environment for collaboration and feedback. Reliably make and keep commitments.

Delivery Teams

Delivery Team

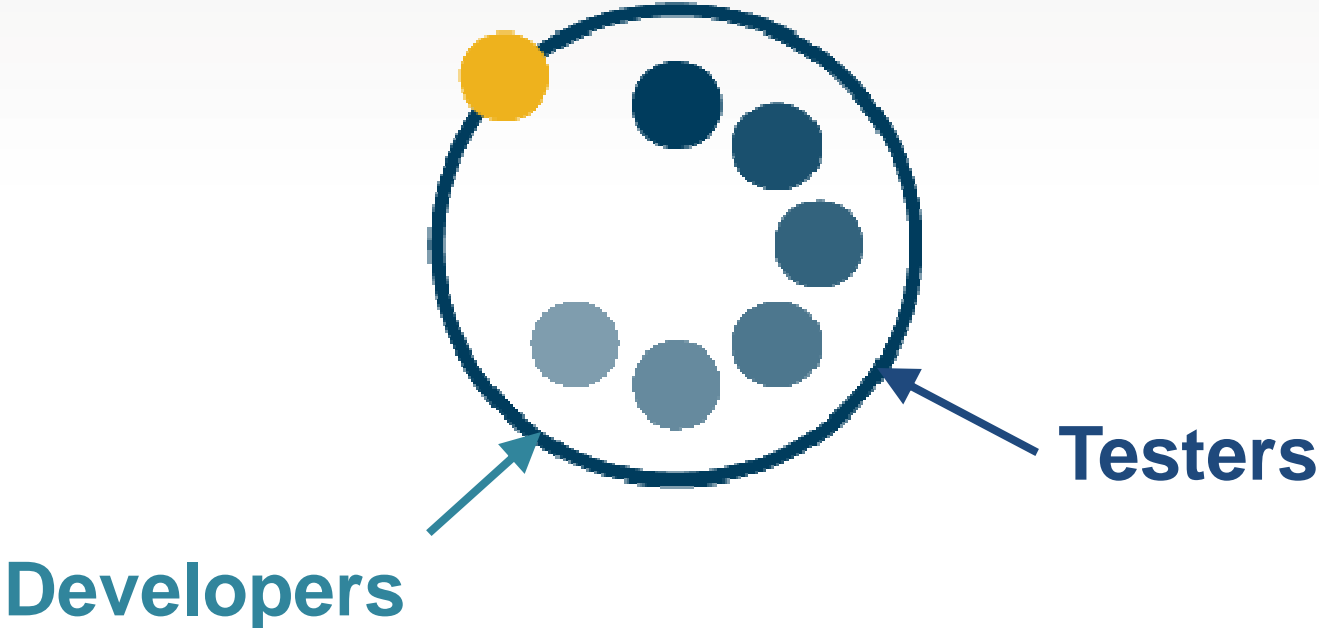


Delivery Teams

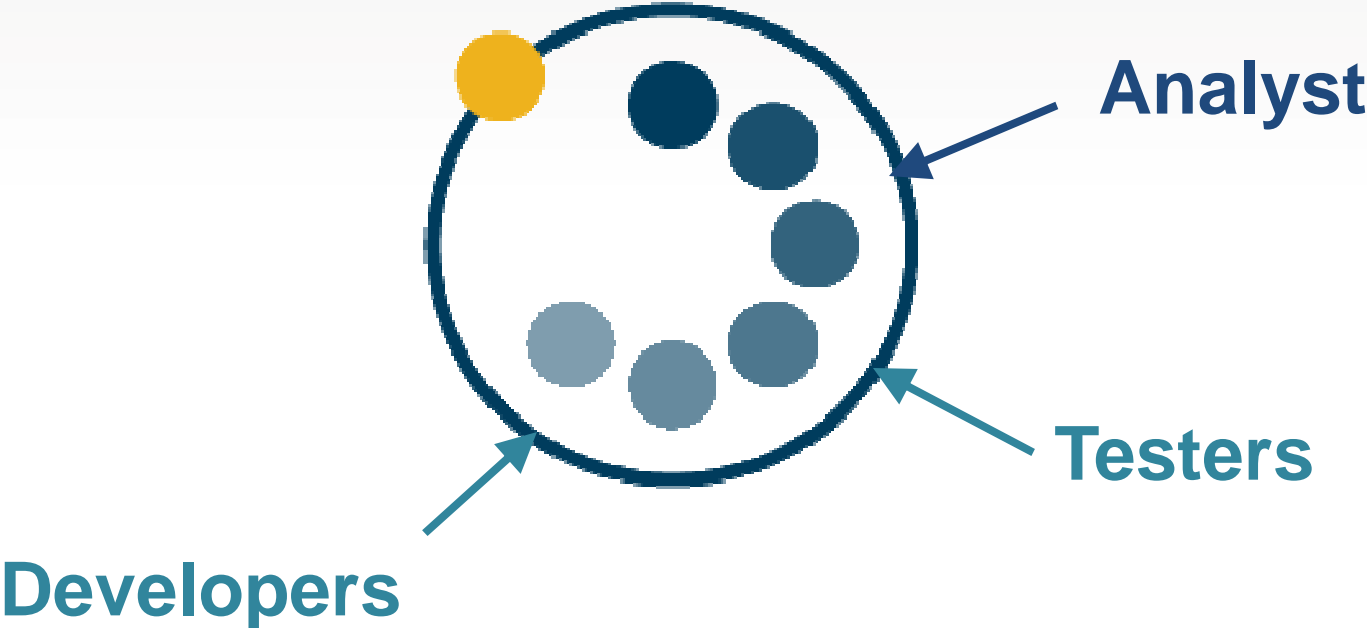


Developers

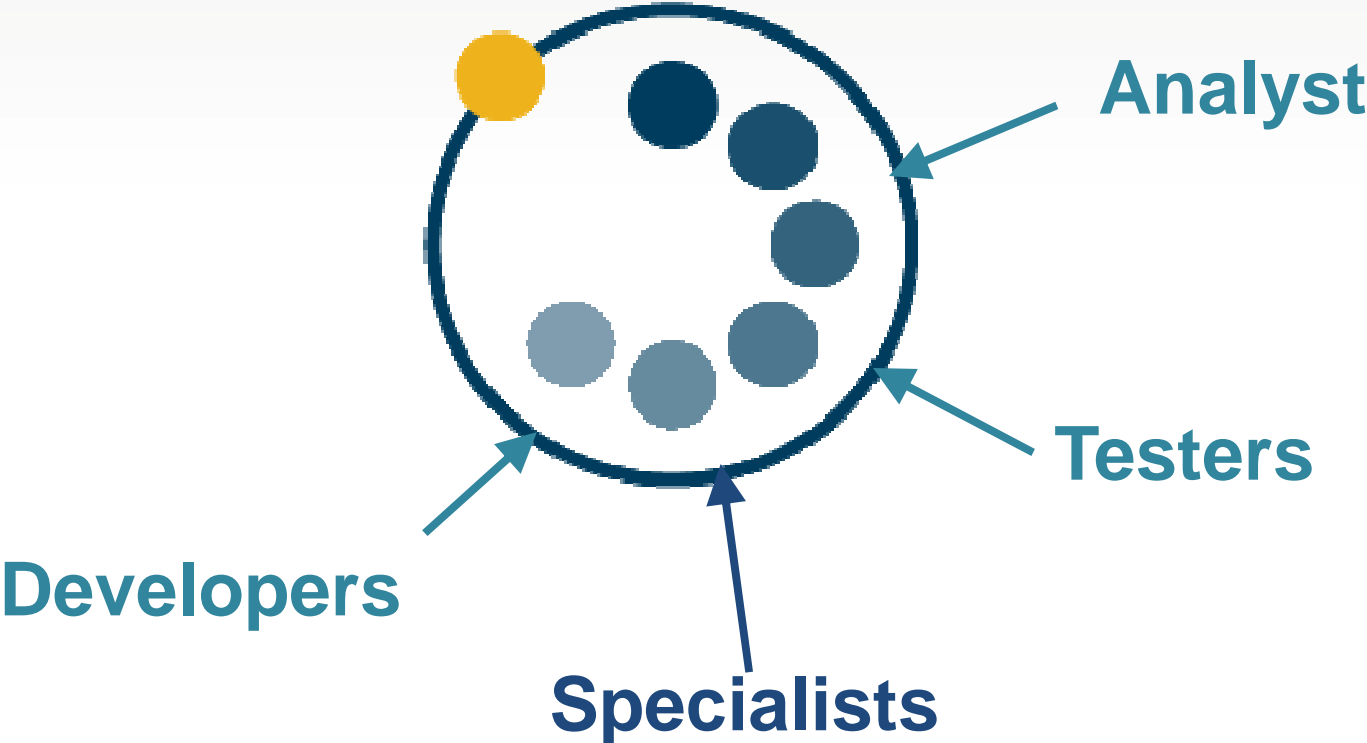
Delivery Teams



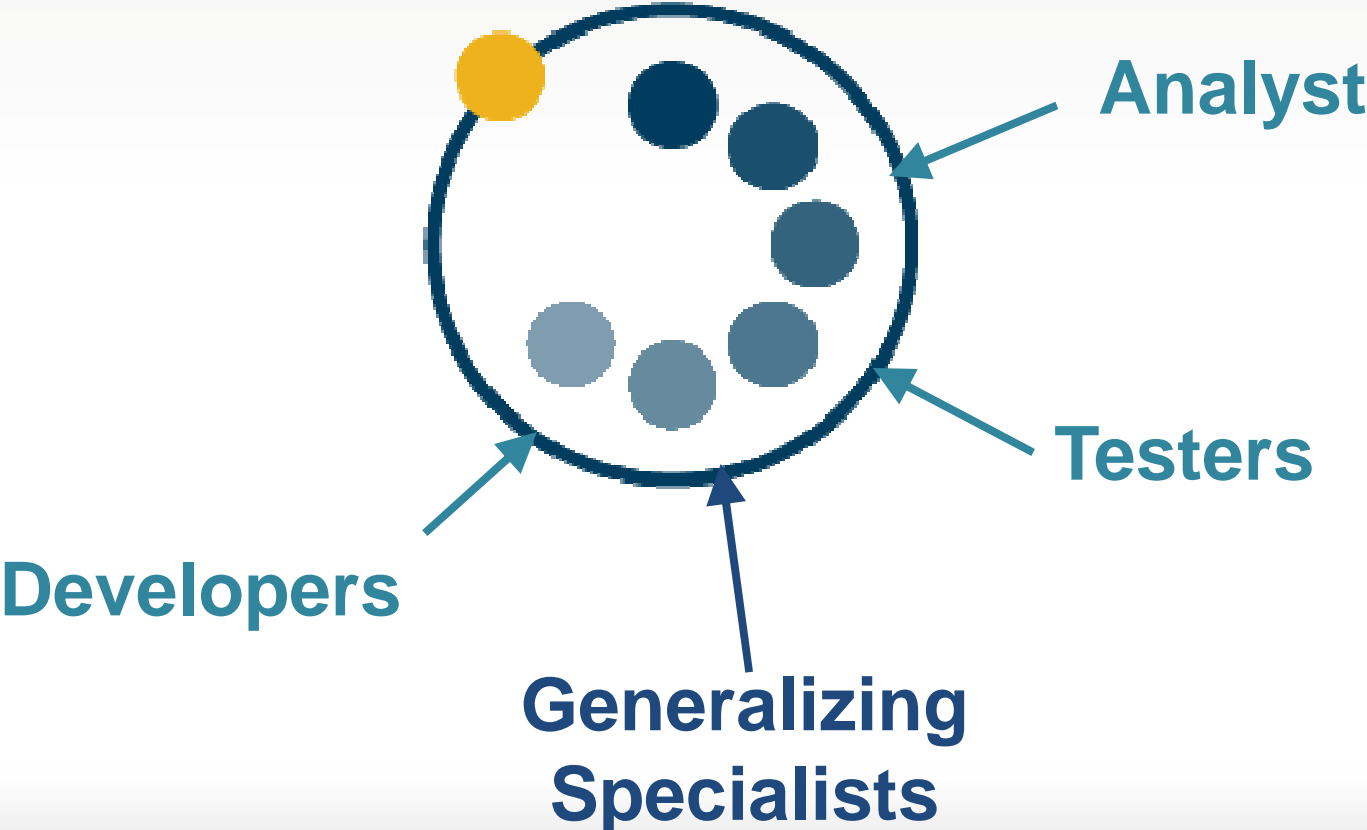
Delivery Teams



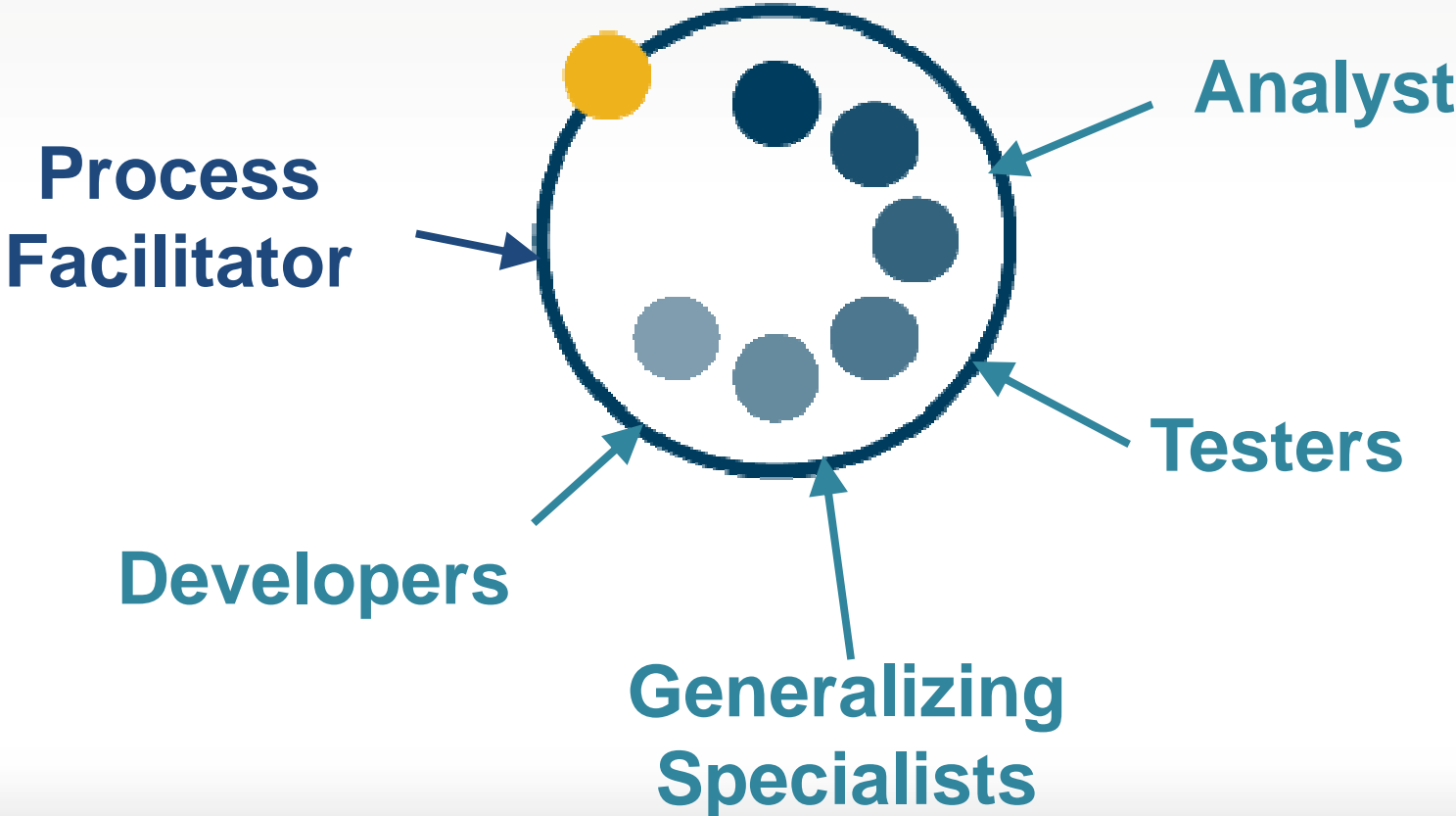
Delivery Teams



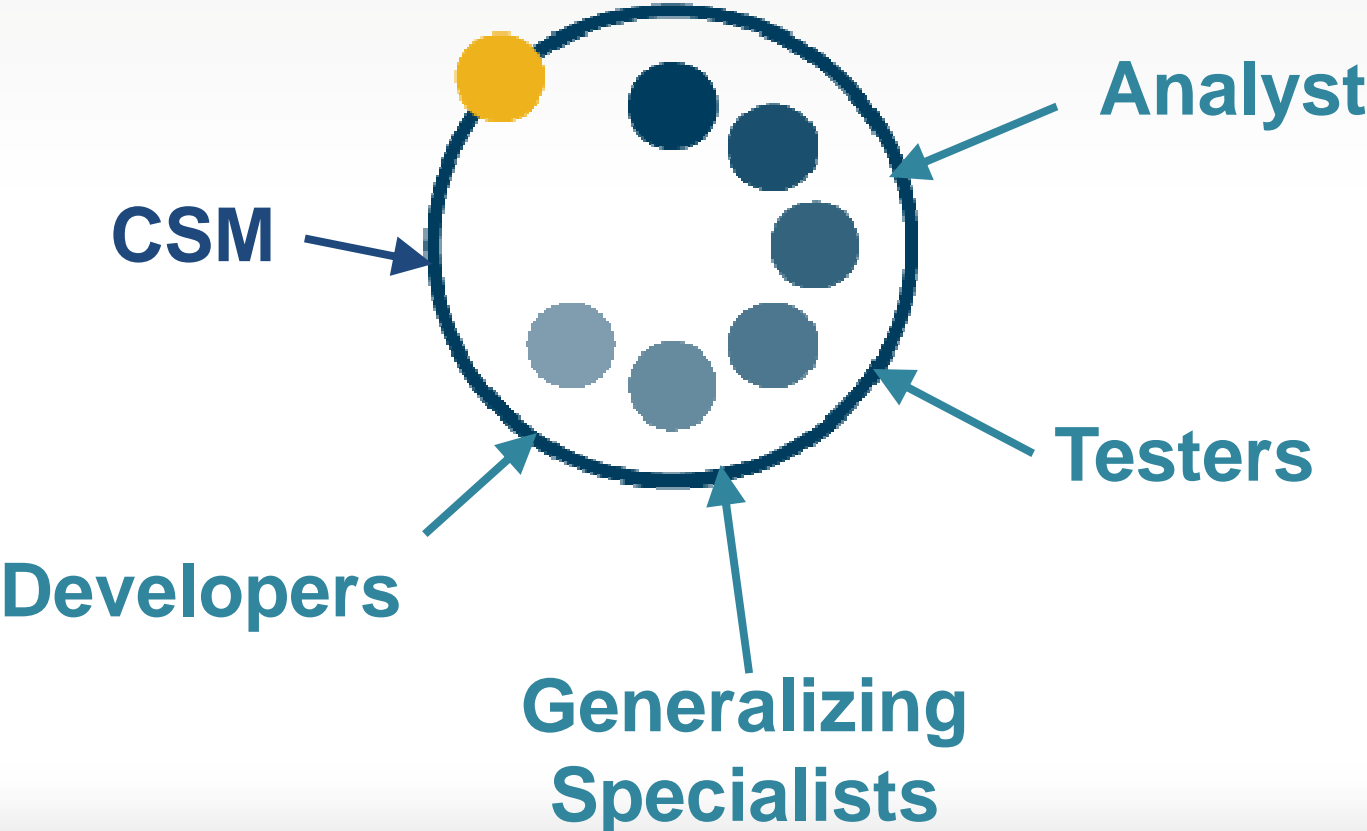
Delivery Teams



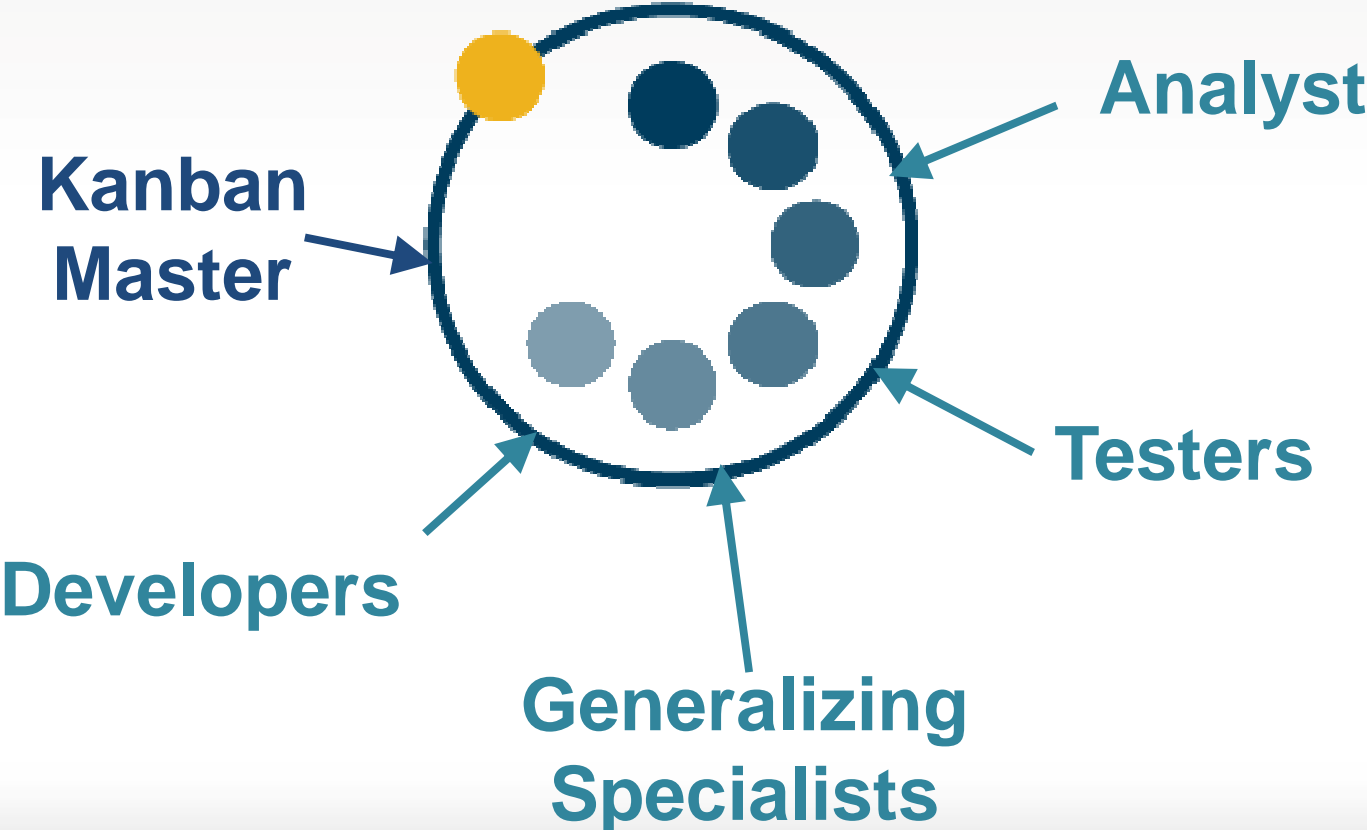
Delivery Teams



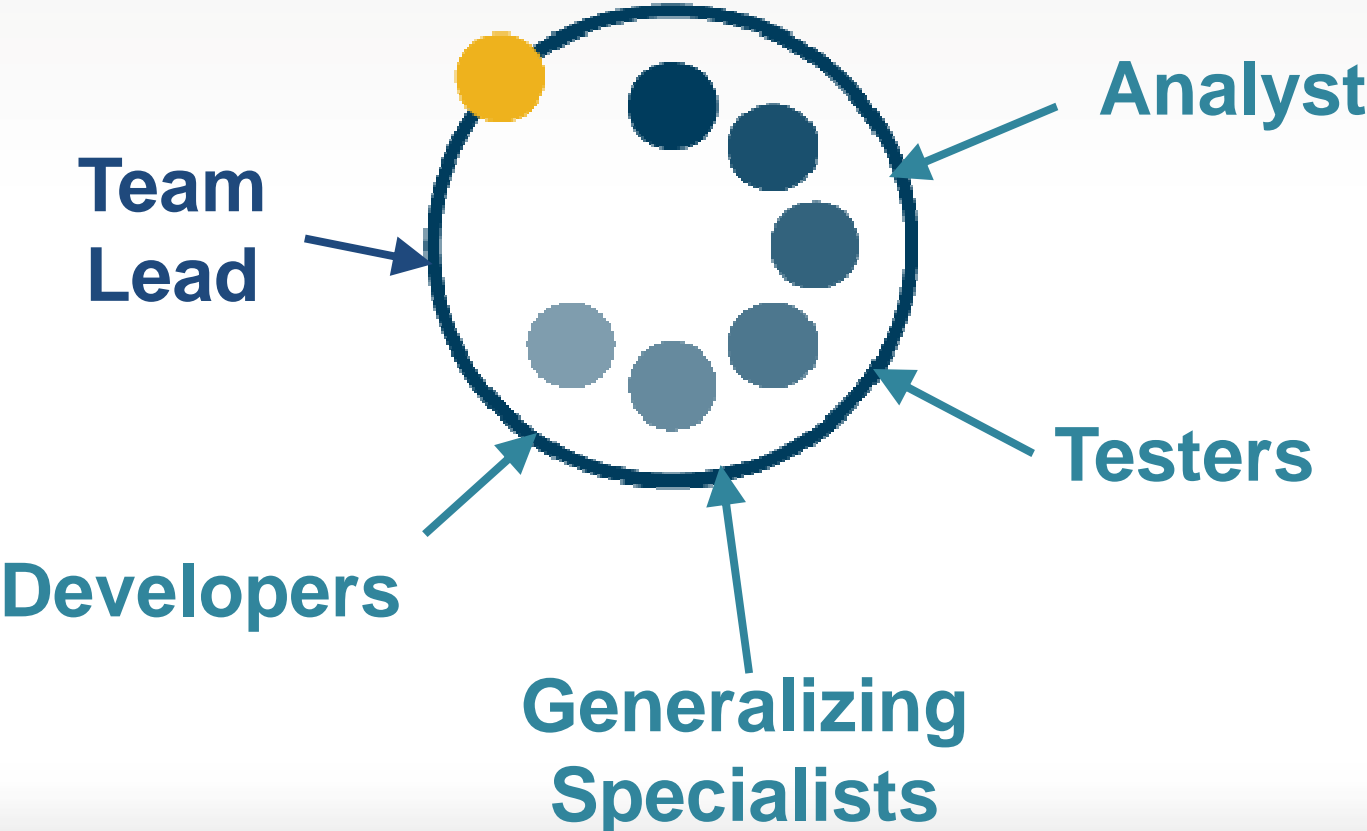
Delivery Teams



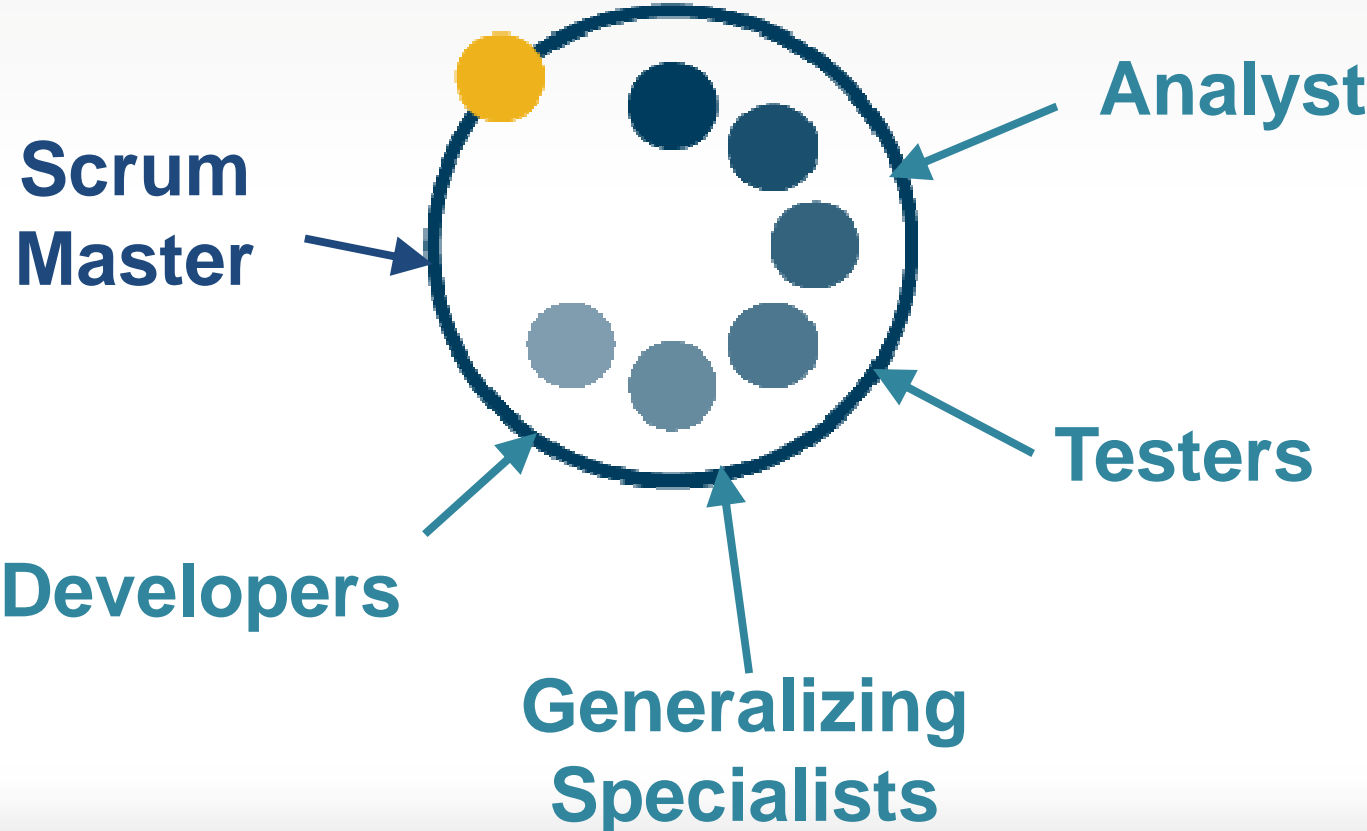
Delivery Teams



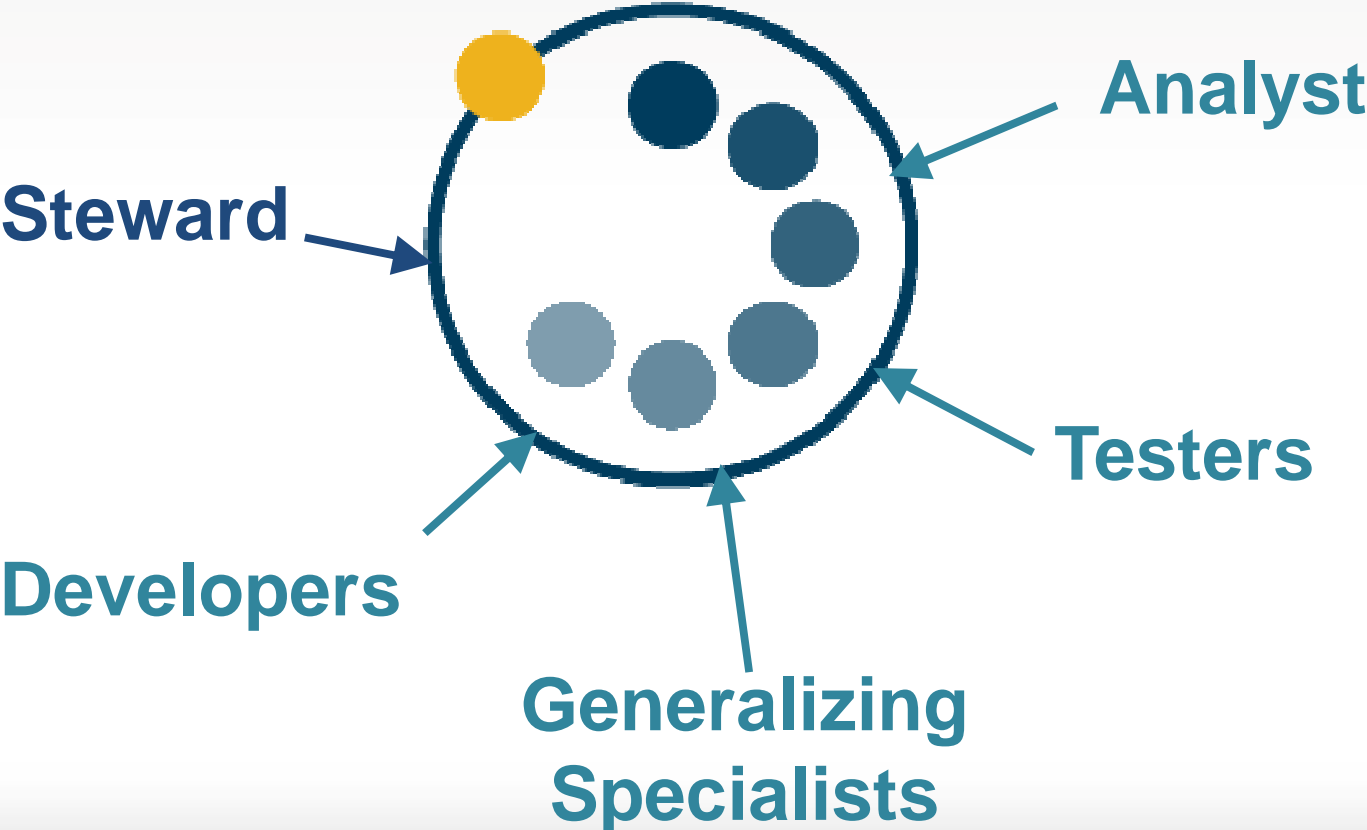
Delivery Teams



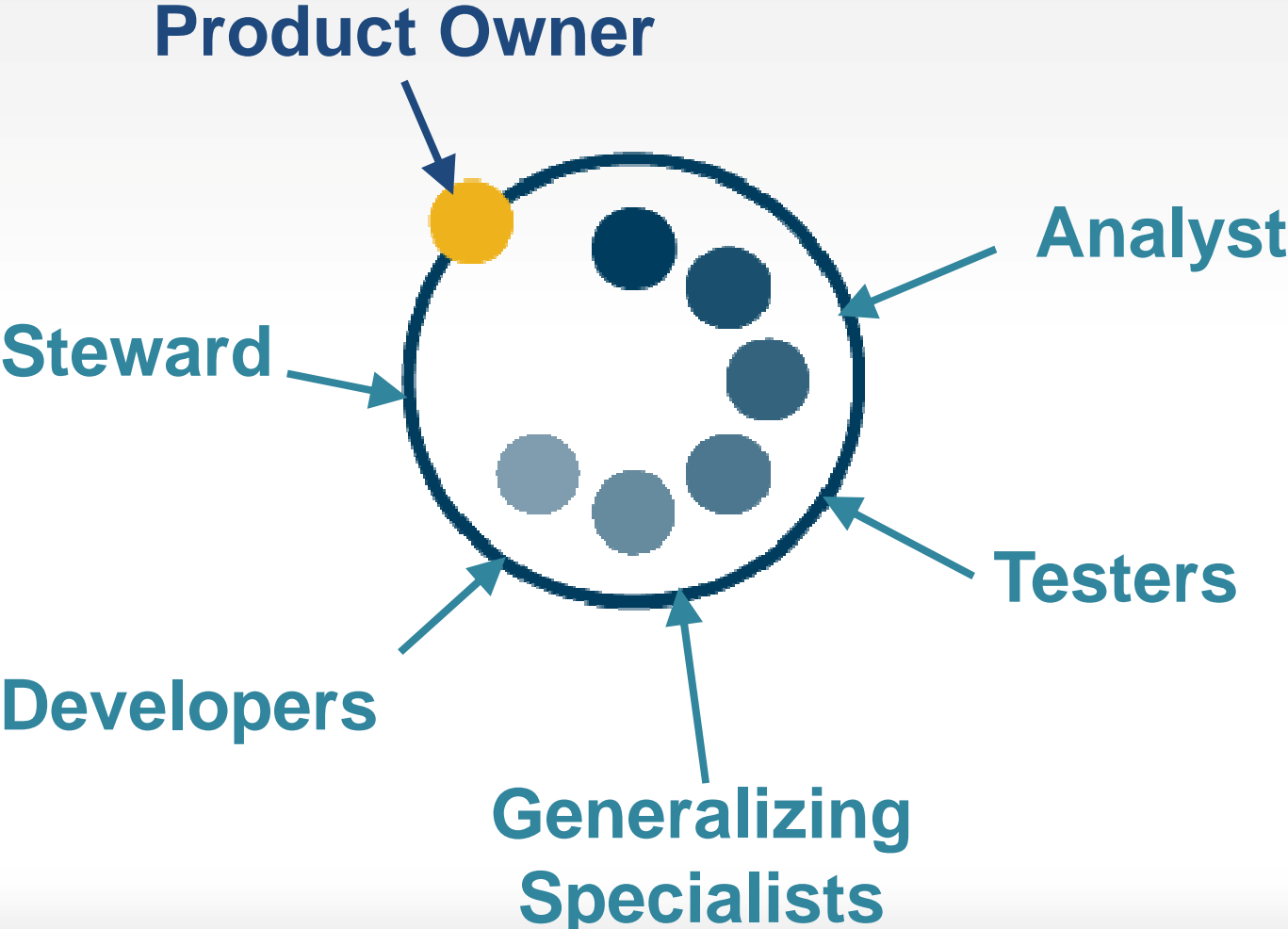
Delivery Teams



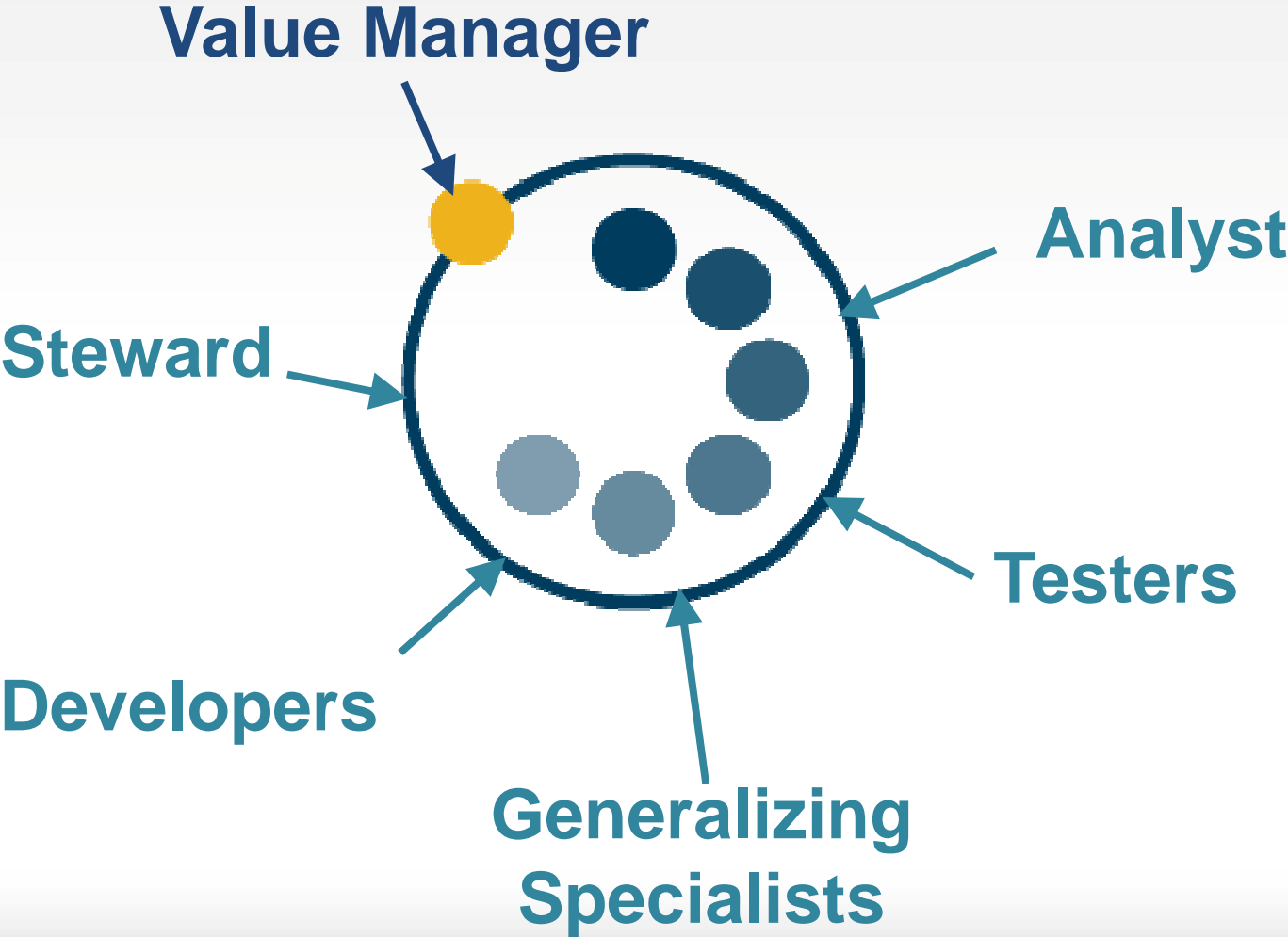
Delivery Teams



Delivery Teams



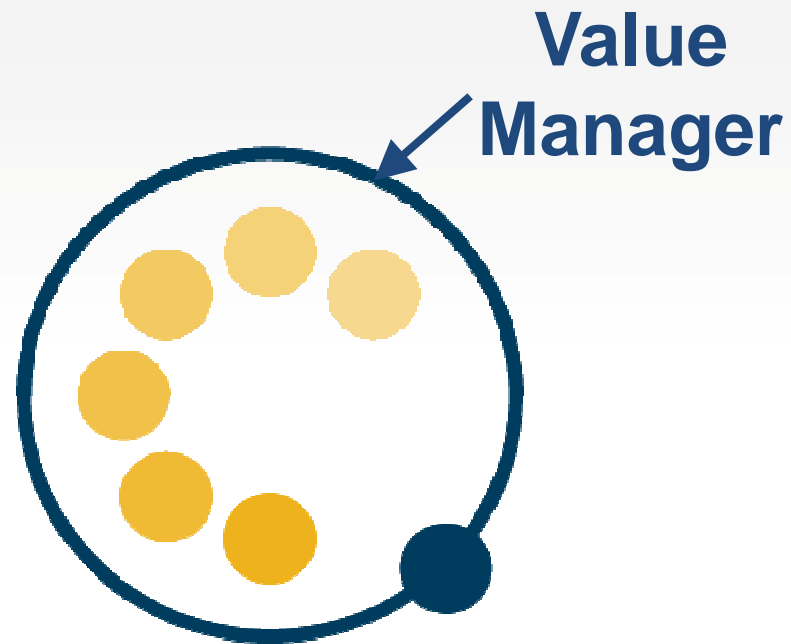
Delivery Teams



Delivery Teams

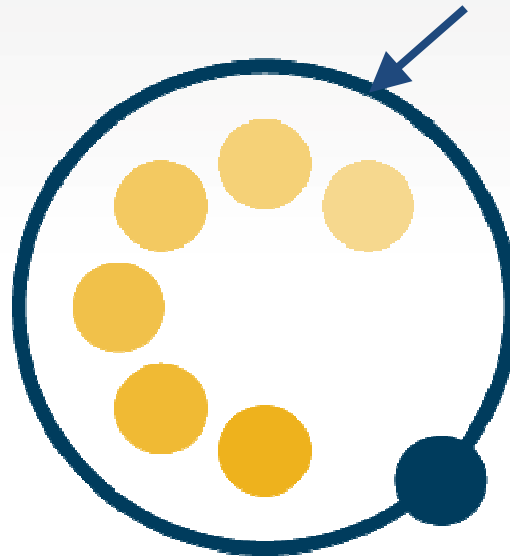
- Have everything they need to do deliver an increment of potentially shippable software
- Deliver working, tested software every iteration

Value Management Team

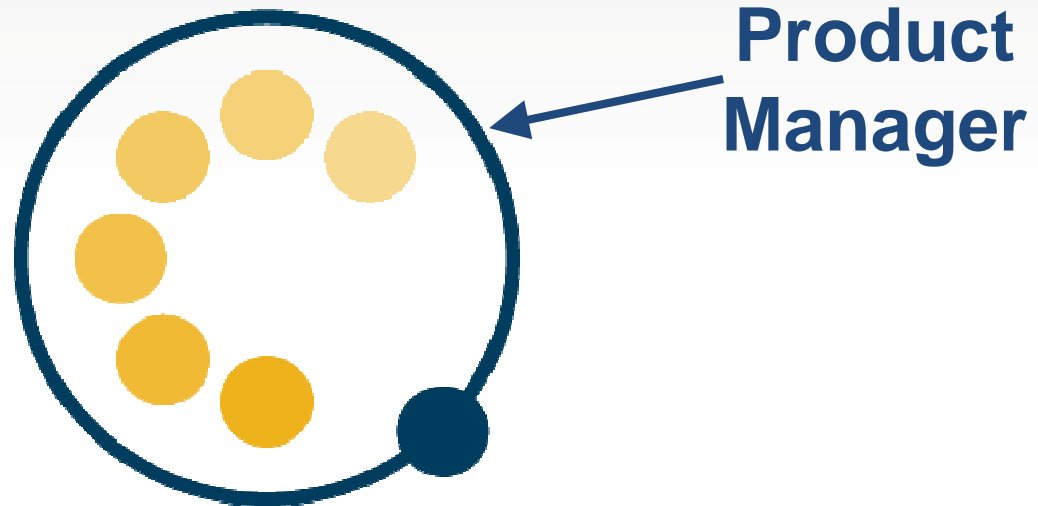


Value Management Team

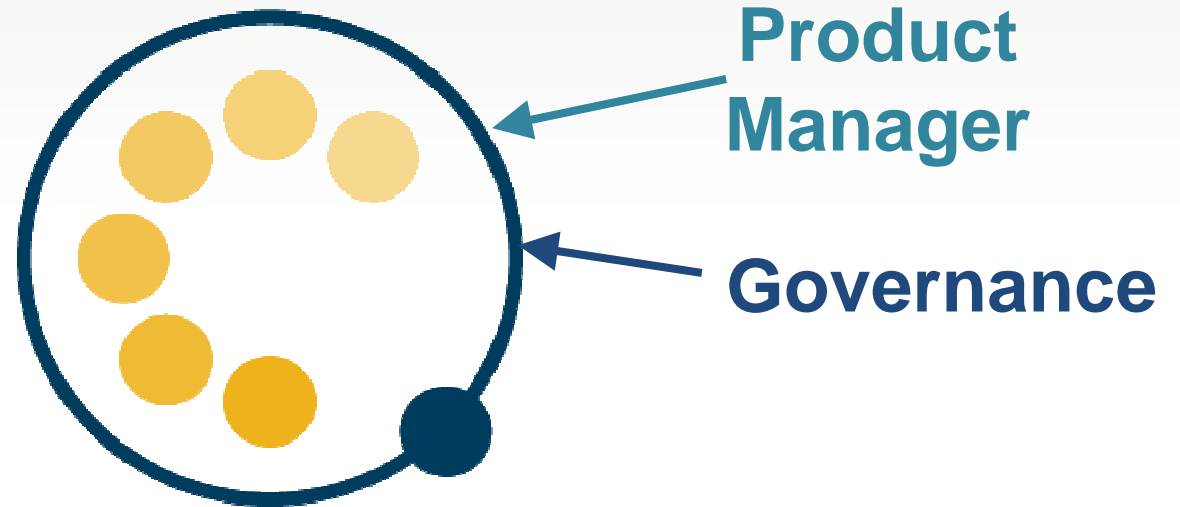
Value Manager
Team



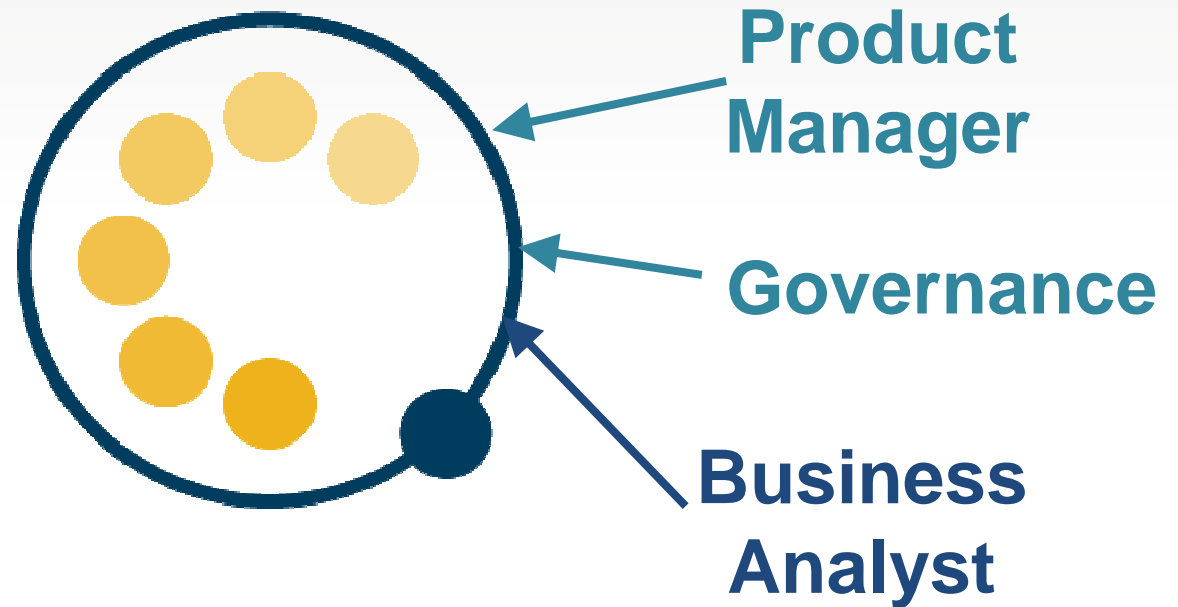
Value Management Team



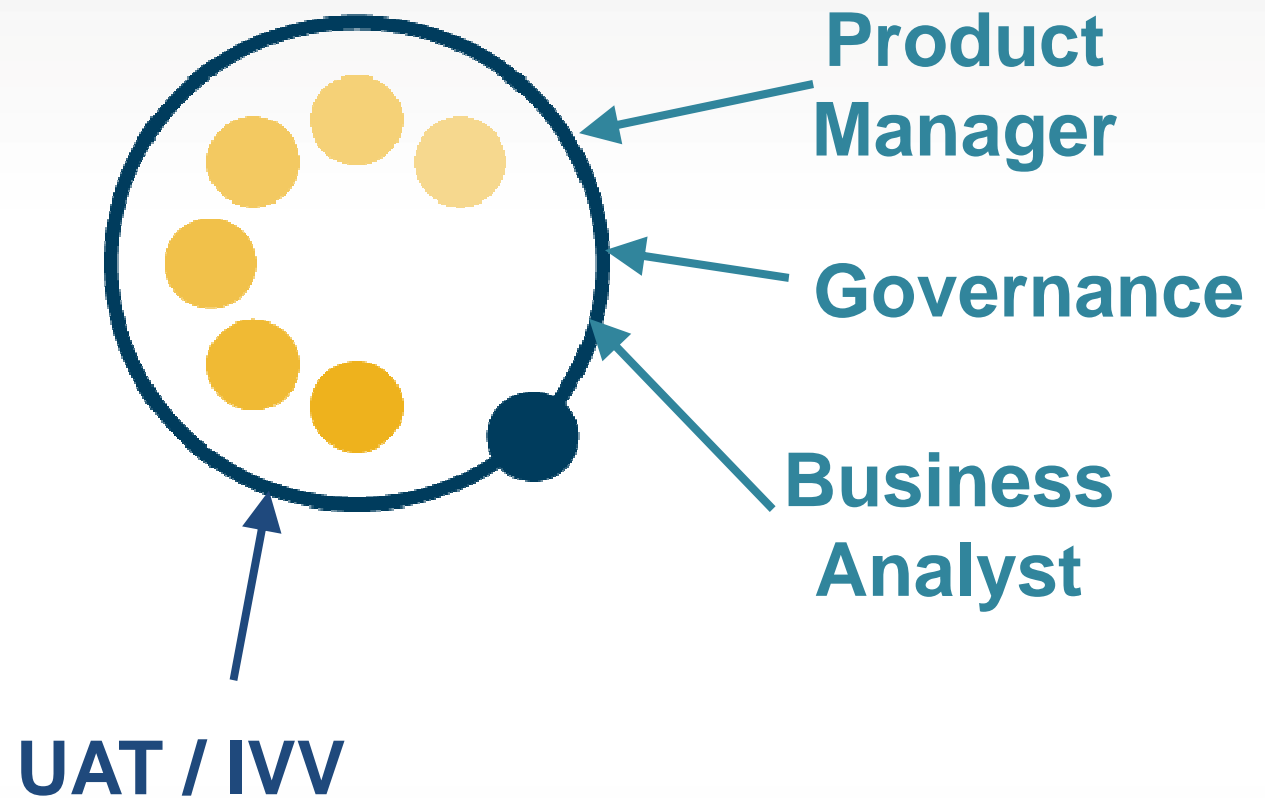
Value Management Team



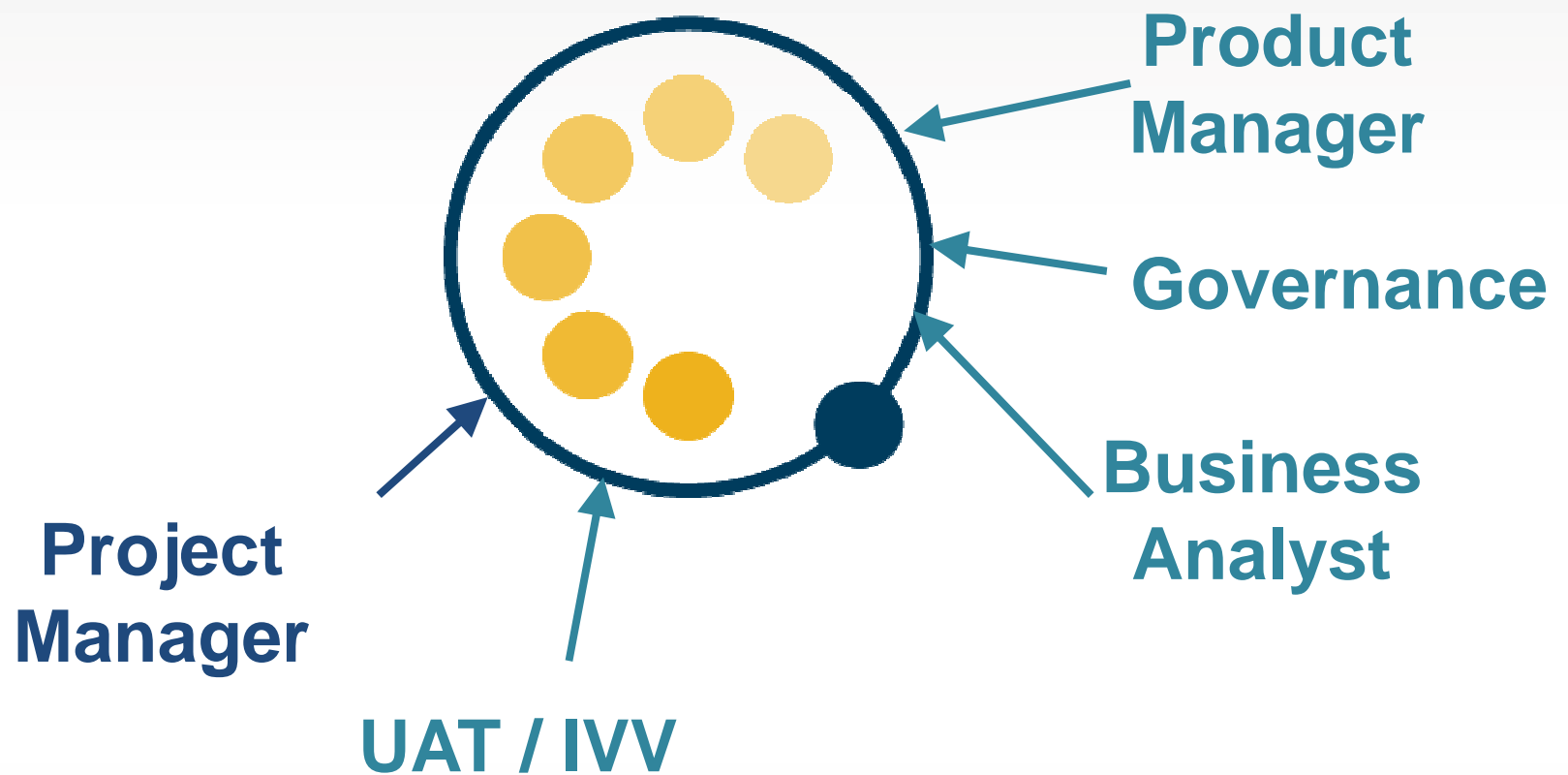
Value Management Team



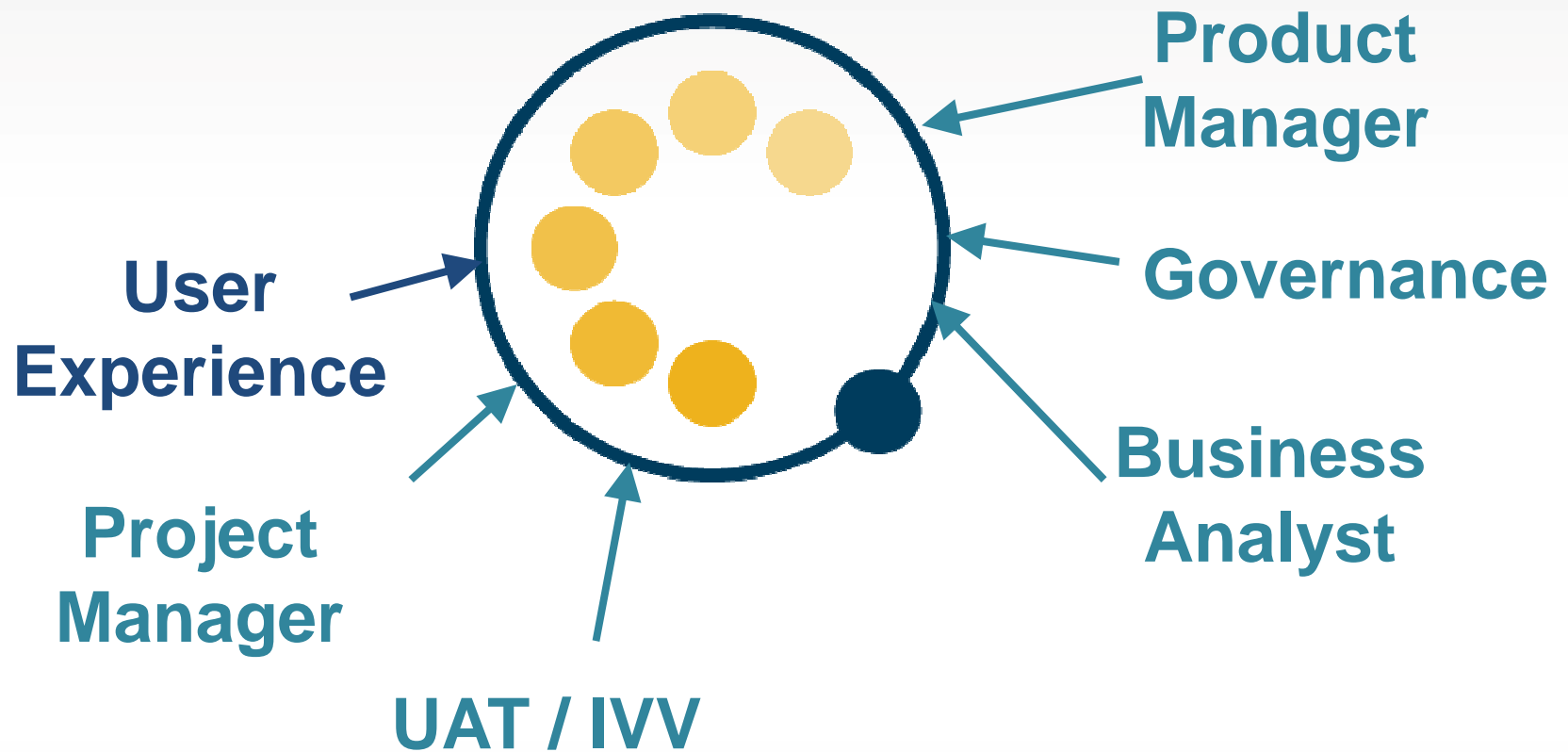
Value Management Team



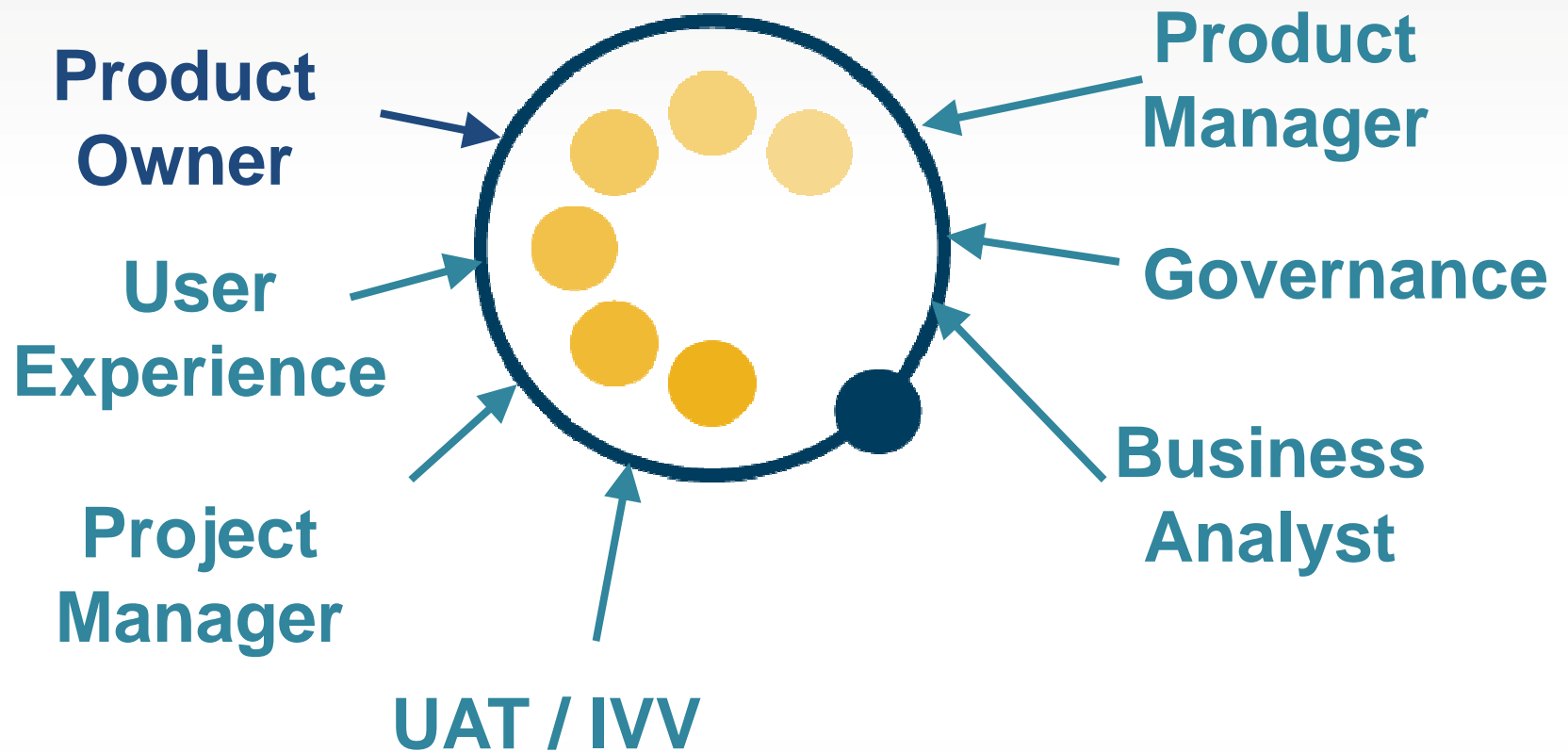
Value Management Team



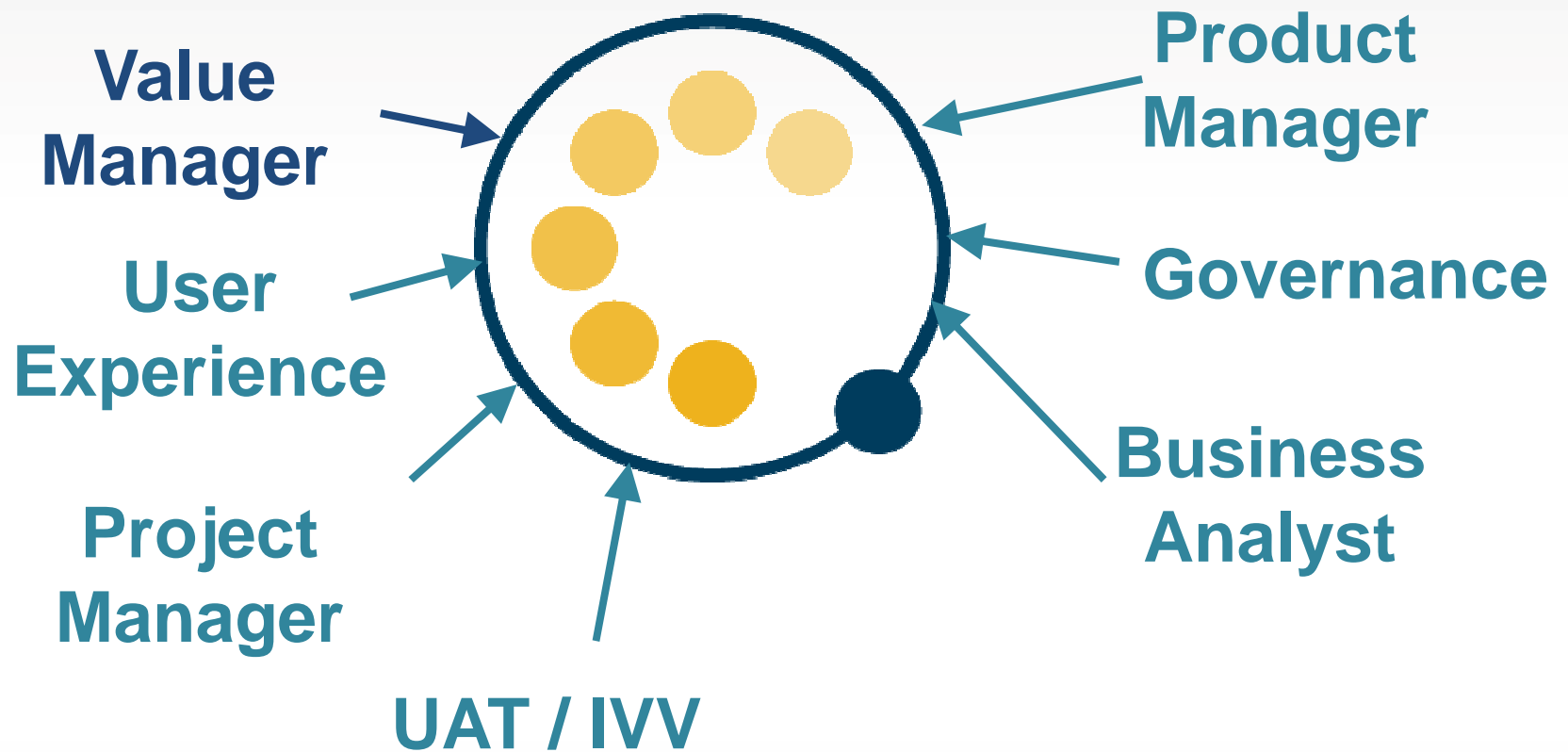
Value Management Team



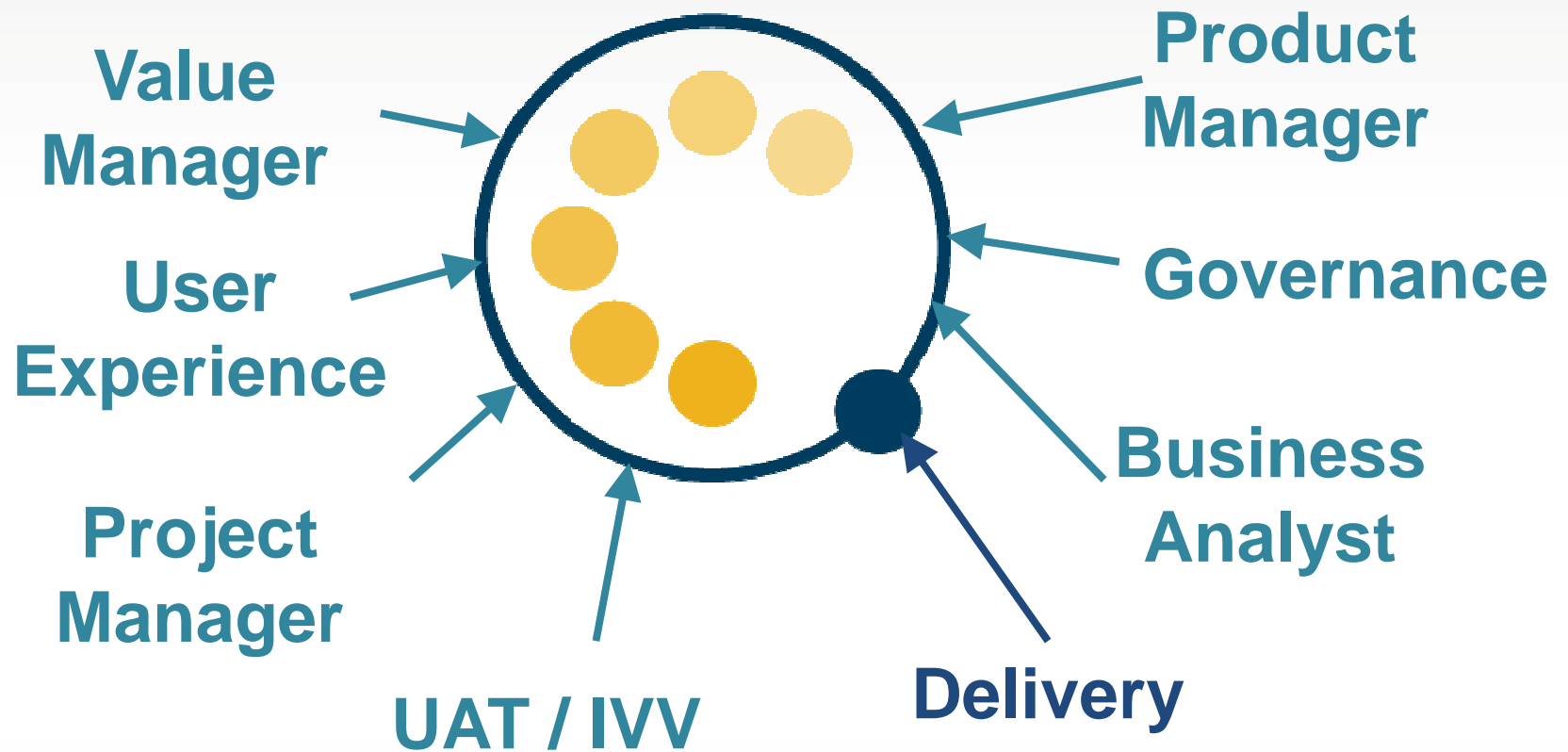
Value Management Team



Value Management Team



Value Management Team



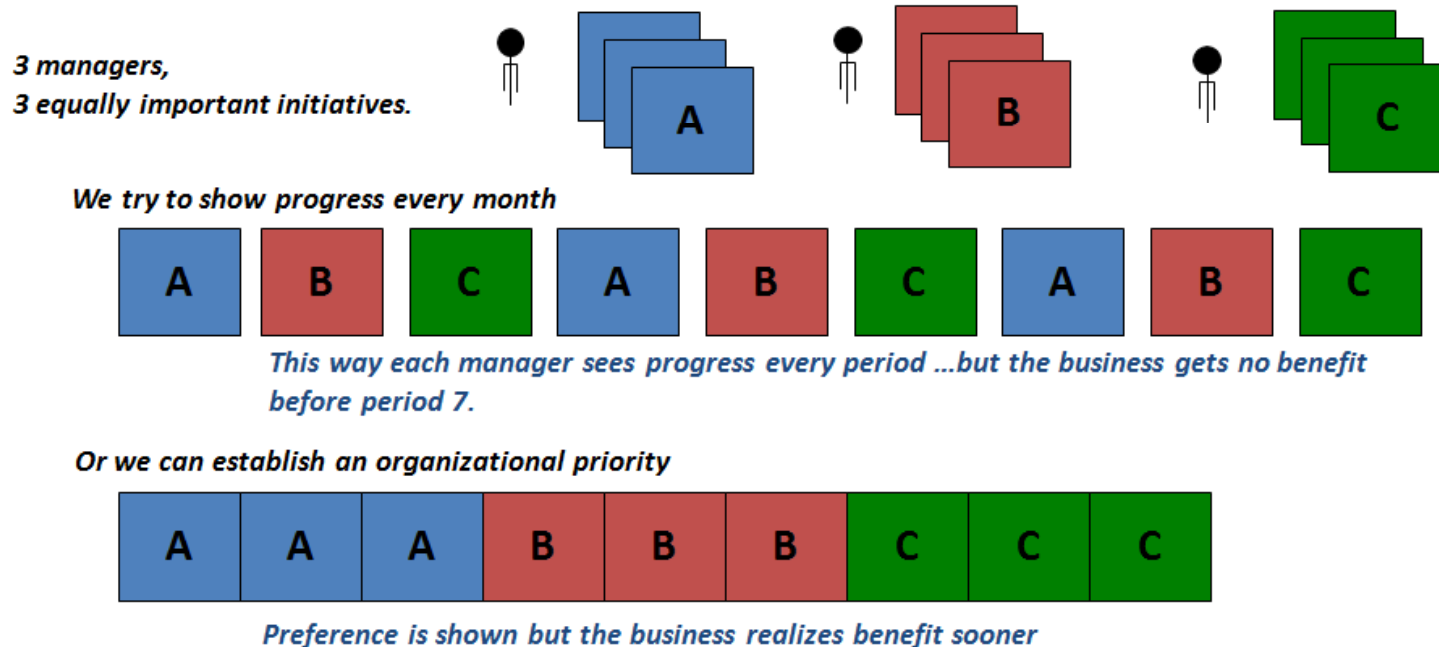
Value Management Teams

- Maintain the focus on delivering value
- Establish the constraints the delivery team works within
- Provide business direction and customer feedback

Agile Fundamental Concepts

4. Adaptive Planning

Work with the team and the stakeholders to produce and maintain an evolving plan from initiation to close based on goals, business values, risks, constraints, and stakeholder feedback.

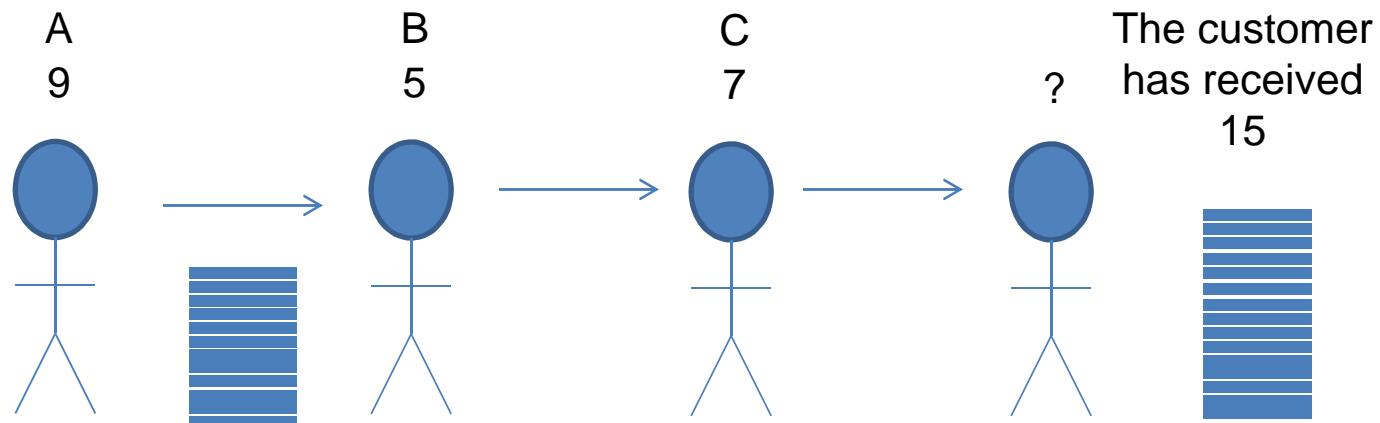


Agile Fundamental Concepts

4. Adaptive Planning

Reduce WIP to increase responsiveness of the system

How many will get to the customer?

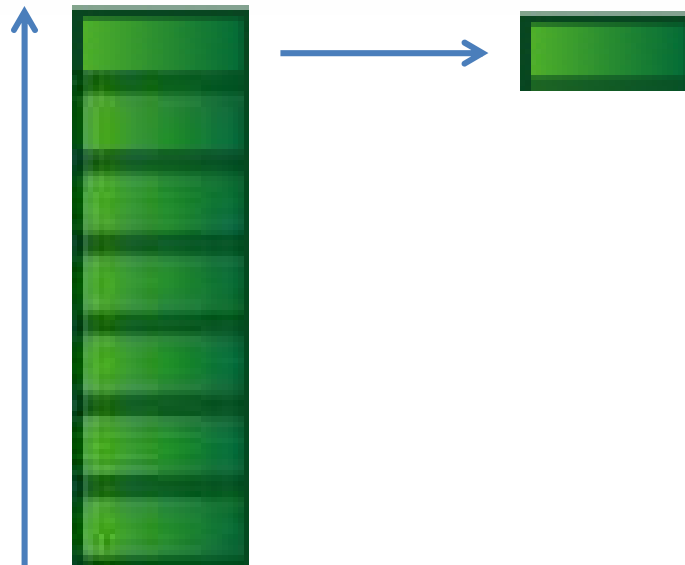


The next one started will take four periods to get to the customer. This increases in an unbounded fashion.

Agile Fundamental Concepts

4. Adaptive Planning

Work is represented in a backlog. The Backlog is prioritized with the next most important work at the top. We pull work from the top to ensure we are always working on the next most important thing.



Agile Fundamental Concepts

5. Problem Detection and Resolution

Identify problems, impediments, and risks; determine strategies for dealing with them; and execute the strategy.



Agile Fundamental Concepts

6. *Continuous Improvement*

Reflect on performance and improve the quality, effectiveness, and flexibility of the product, process and team and influence the organization in order to better deliver value now and in the future.



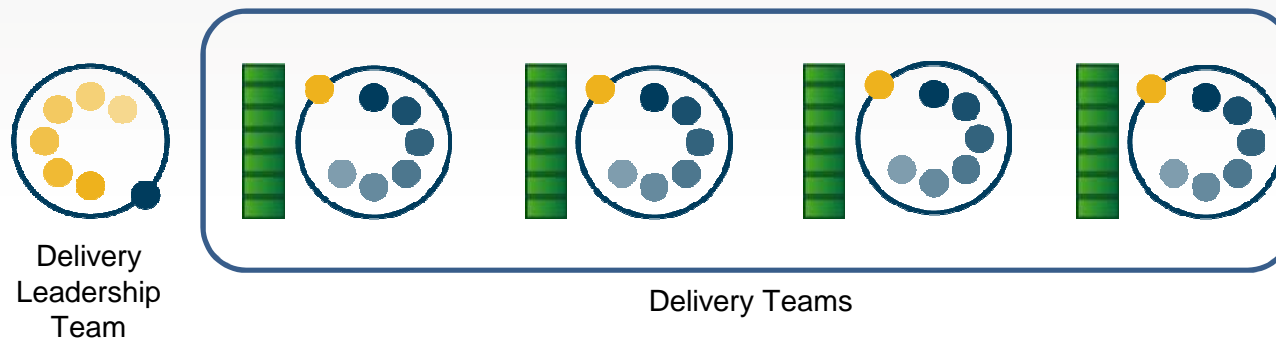
Agenda

- Roots of Agile
- Agile Manifesto
- Agile Fundamental Ideas
- Scaling Agile

Phase 1: Pilot a delivery team

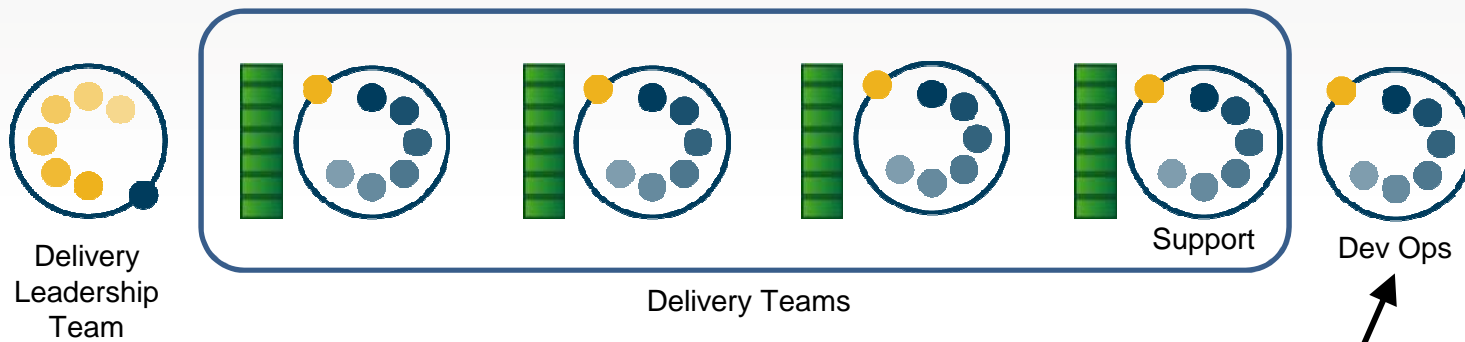


Phase 2: Multiple Teams



- Organizational leadership
- Protect team capacity
- Mentoring and coaching
- Communities of Excellence

Phase 2: Multiple Teams

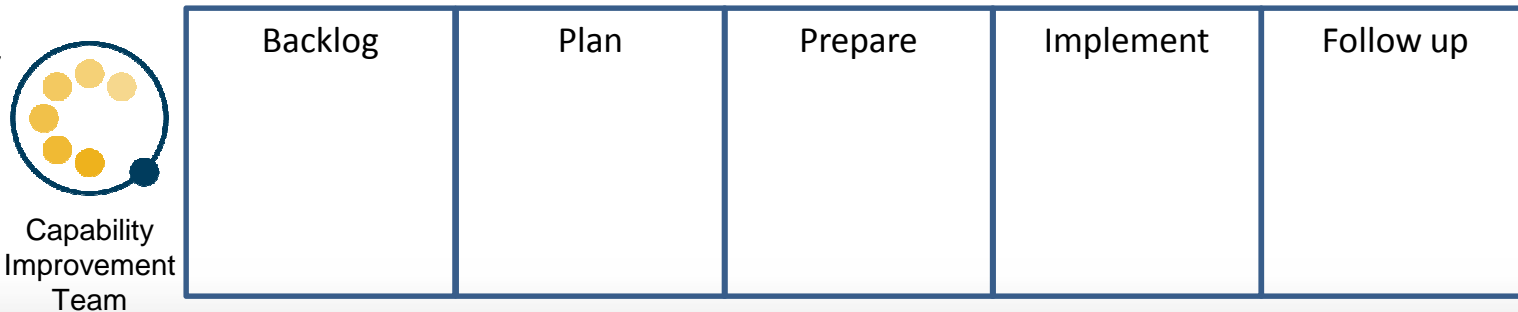
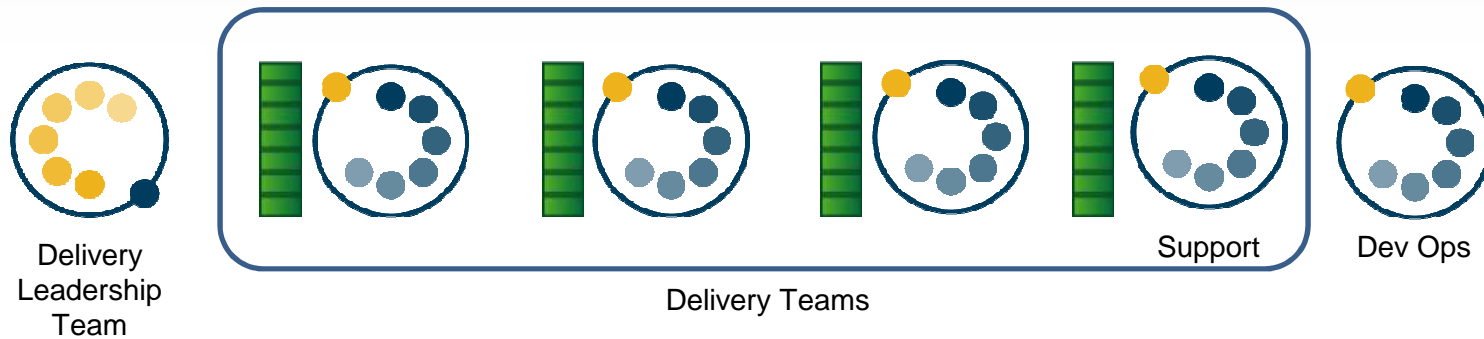


Rapid environment management

- Environment control
- Continuous integration
- Automated deployment
- Test data management

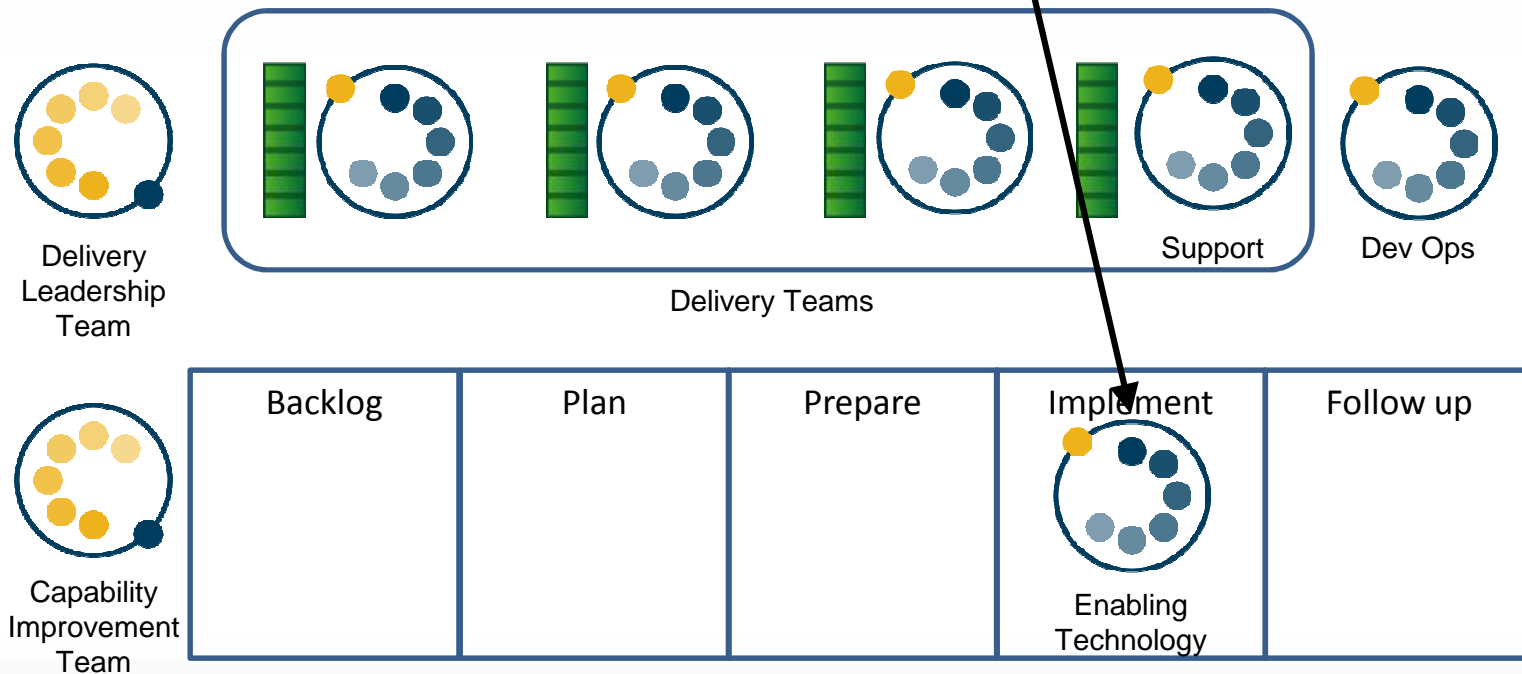
Phase 3: Capability Improvement

- Use data to focus improvements
- Cross functional change
- Align improvements to achieve flow



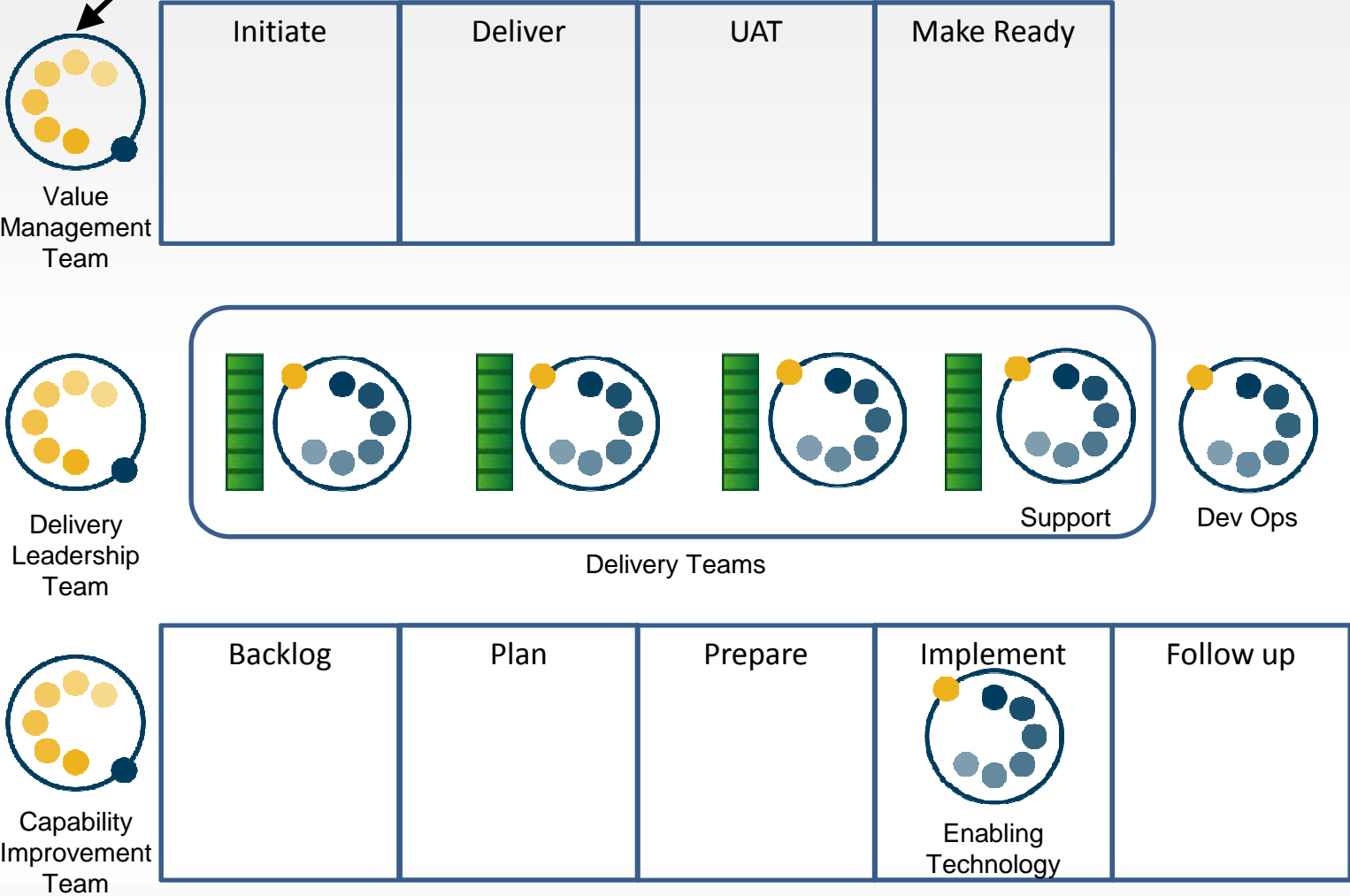
Phase 3: Enabling Technology

- A dedicated team for establishing enabling technology and architectural prototyping



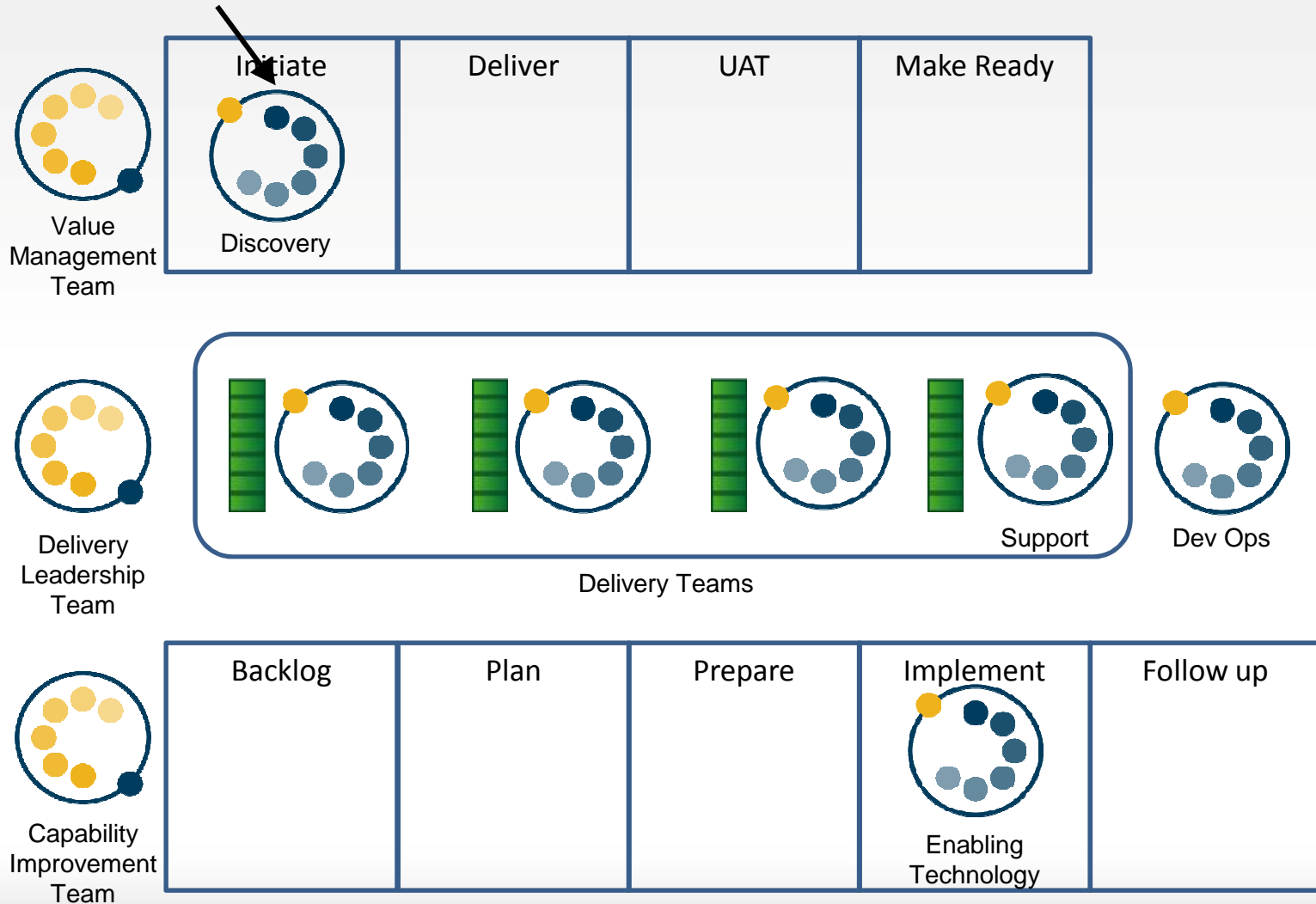
Own value from initiate to support. Make projects flow.

Phase 3: Value focus



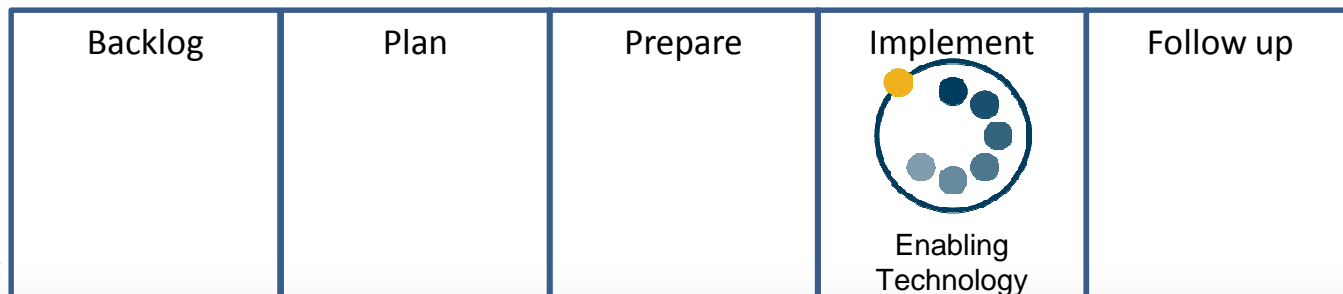
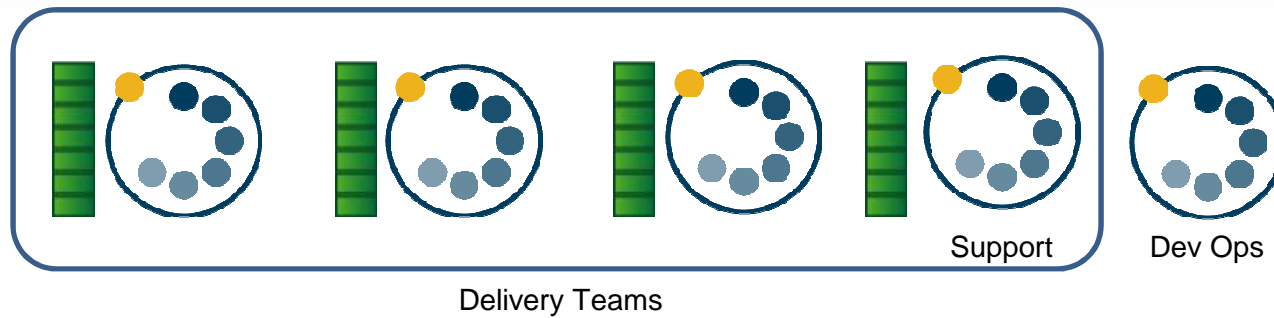
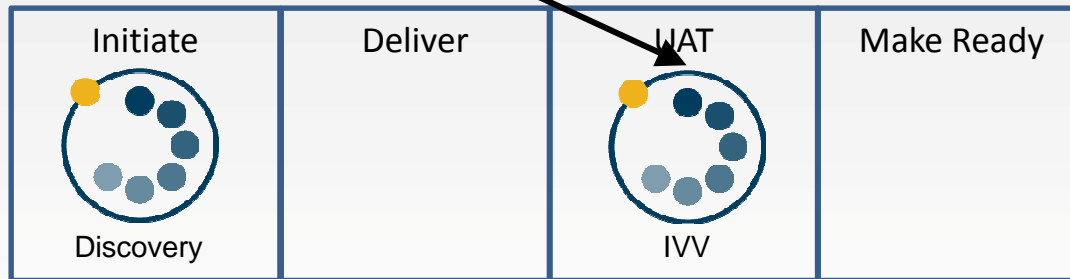
Phase 3: Value focus

Do minimal discovery and triage (smallest thing that might work)

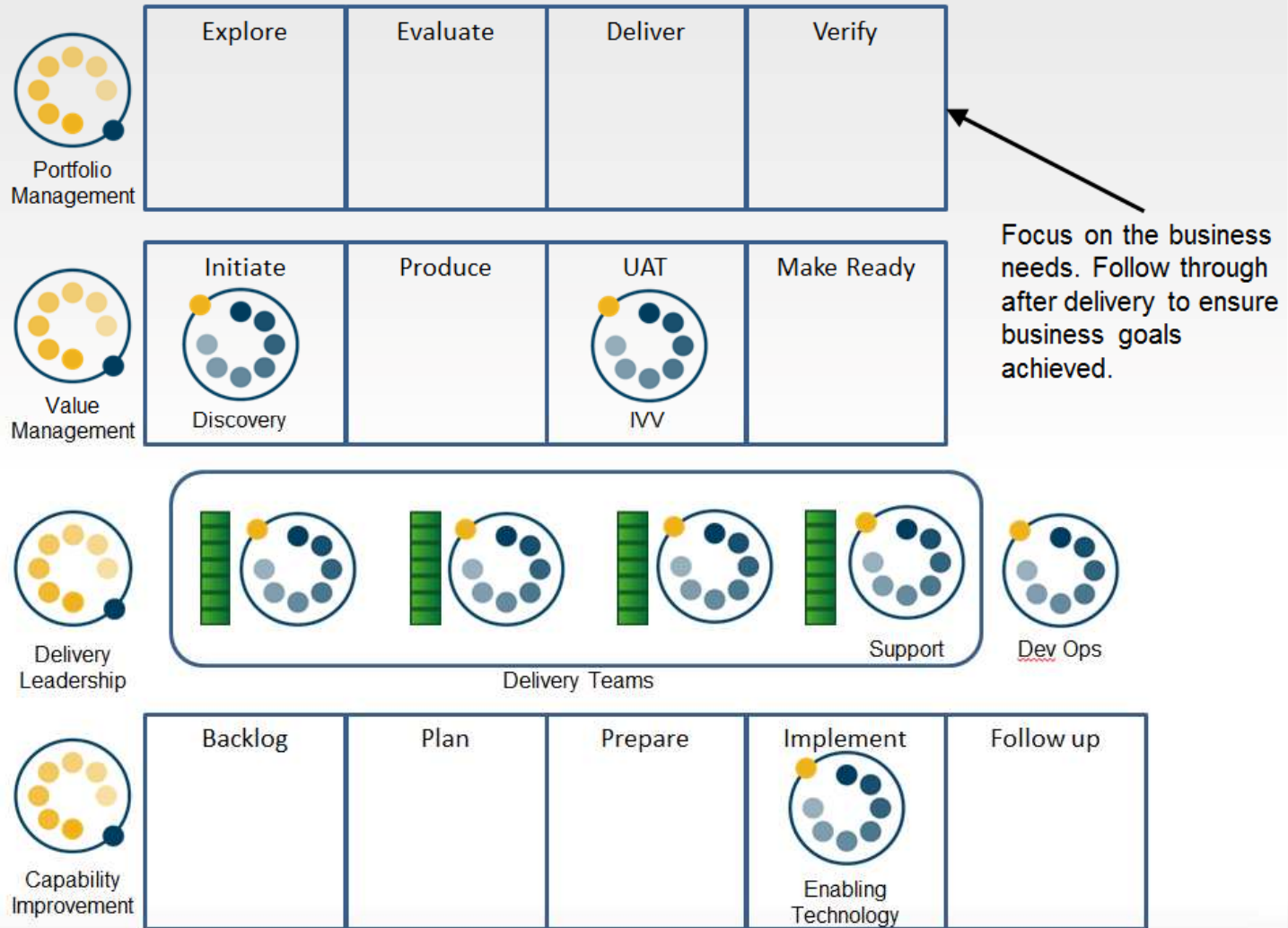


Phase 3: Value focus

Coordinate rapid UAT and testing



Phase 4: Align with Strategy



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PMI Agile LIG

- To participate in the Atlanta Agile Community
 - PMI Atlanta Chapter Agile LIG
<http://www.pmiatlanta.org>
 - Scrum Meet-up
<http://www.meetup.com/agile-38/>
 - Agile Atlanta
<http://www.agileatlanta.org>
- Participate in the Agile PMI Virtual Community
<http://www.agile.vc.pmi.org>
- Information about certification including reference books
<http://www.pmi.org/Agile>

Q&A

What questions do you have about Agile?