

# 5 : Scrum Roles

IT 4406 – Agile Software Development

**Level II - Semester 4**

# Overview

- In this lesson, Scrum Roles in the Agile Software Development are discussed in detail.
- This lesson covers the role of Product Manager, Scrum Master, Development Team and Scrum Team Structures.

# Intended Learning Outcomes

At the end of this lesson, you will be able to;

- Explain product owner's roles and his responsibilities.
- Identify the correct product owner for different projects.
- Describe Product owner teams.
- Describe the purpose of Scrum Master.
- Explain the principal responsibilities and characteristics of a Scrum Master.
- Describe the development team role.
- Describe principal responsibilities and characteristics of team role.

## Intended Learning Outcomes Cont...

At the end of this lesson, you will be able to;

- Discuss different methods of structuring Scrum teams.
- Discuss distinction between a feature team and a component team.
- Explain issues of coordinating multiple, collaborating Scrum teams.
- Discuss the responsibilities of functional-area managers.
- Discuss the project manager role in Scrum.

# List of subtopics

5.1 Product Owner

5.2 Scrum Master

5.3 Development Team in Scrum

5.4 Scrum Team Structures

5.5 Managers

# SCRUM RULES

- Teams
  - 7 - 9 members Cross - functional
- Time-boxes
- Feedback and learning through frequent delivery
- Predictability
- Collective and Adaptive planning to build the right product
- Productivity and Quality
  - Via Reduction of waste
  - Through team and time-boxed focus

# SCRUM ROLES

- Product Owner
- SCRUM Master
- Development Team

# 5.1 Product Owner

5.1.1 Introduction

5.1.2 Principal Responsibilities

5.1.3 Characteristics/Skills

5.1.4 A Day in the Life

5.1.5 Who Should Be a Product Owner?

5.1.6 Product Owner Combined with Other Roles

5.1.7 Product Owner Team



# Product Owner

- Share the product vision/goals with the team
- Identify the requirements
- Prioritize the requirement
- Be the “GO TO” person for requirement clarifications
- Provide feedback
- Negotiate with stakeholders

# Product Owner

- The product owner must understand the needs and priorities of the stakeholders to act as their representative.
- Product owner acts as
  - Product Manager
  - Business Analyst
  - Part Tester

# Product Owner - Responsibilities

- Manage economics
- Groom the product backlog
- Participate in planning
- Collaborate with the development team
- Collaborate with the stakeholders
- Define acceptance criteria and verify that they are met

# Product Owner - Manage Economics

- Release-Level Economics
- Sprint-Level Economics
- Product Backlog Economics

# Product Owner - Participate in Planning

- Portfolio Planning
  - Position the product correctly in the portfolio backlog
  - Determine when to start and end product development
- Product Planning
  - Works with the stakeholders to envision the product
- Release Planning
  - Define the content of the next release
- Sprint Planning
  - Define a sprint goal

# Product Owner - Groom the Product Backlog

- Creating and refining
- Estimating
- Prioritizing

When he/she is not doing these personally, he/she is responsible for making sure that the grooming activities take place

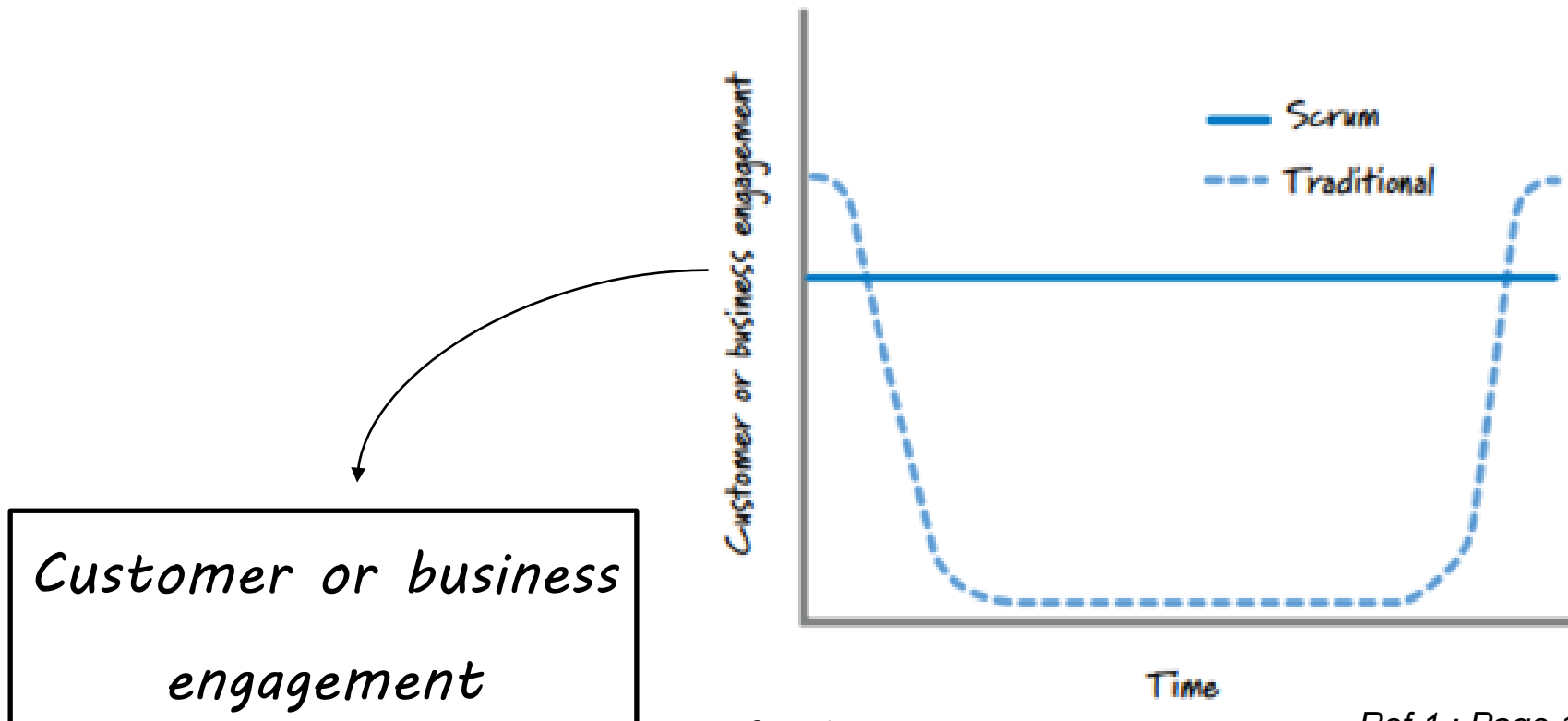
# Product Owner - Define Acceptance Criteria and Verify that they are met

- Defining the acceptance criteria for each product backlog item
- The product owner may also write acceptance tests corresponding to the acceptance criteria

The product owner must ensure that the acceptance tests are run prior to the review

# Product Owner - Collaborate with the Development Team

- Must closely collaborate with the development team on a frequent basis.
- An engaged, committed, everyday role.





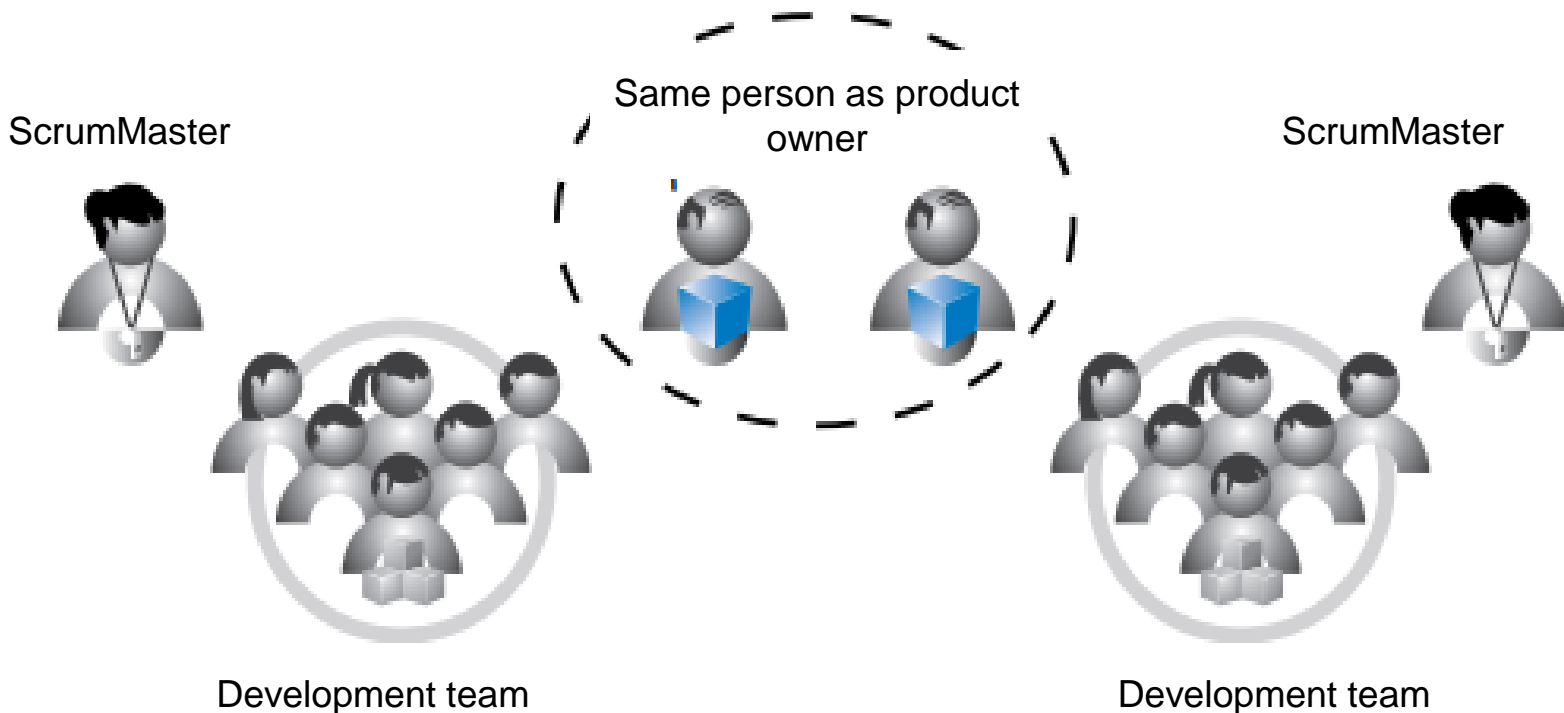
# Product Owner - Collaborate with the Stakeholders

- Internal Stakeholders
  - Business systems owner
  - Executive management
  - Program management
  - Marketing and sales
- External Stakeholders
  - Customers
  - Users
  - Partners
  - Regulatory bodies

The product owner must work closely with the entire stakeholder community to gather input and guide product development.

# Product Owner - Multiple Roles

- Product owner and a member of the development team
- Product owner and the Scrum Master



# Product Owner - Product Owner Team

- Every Scrum team **MUST** have a single person who is identified as the product owner.
- Should we allow a team of people to perform the product owner role?

Why a “product owner team” ?

The workload of being a product owner might be greater than any one full-time person can reasonably perform. If so, the product owner can delegate some product owner responsibilities to other people as long as there is one person on the team who is the decision maker.

# Product Owner - Product Owner Team

- Product Owner Proxy
- Chief Product Owner
- Product line owner
- Feature product owner

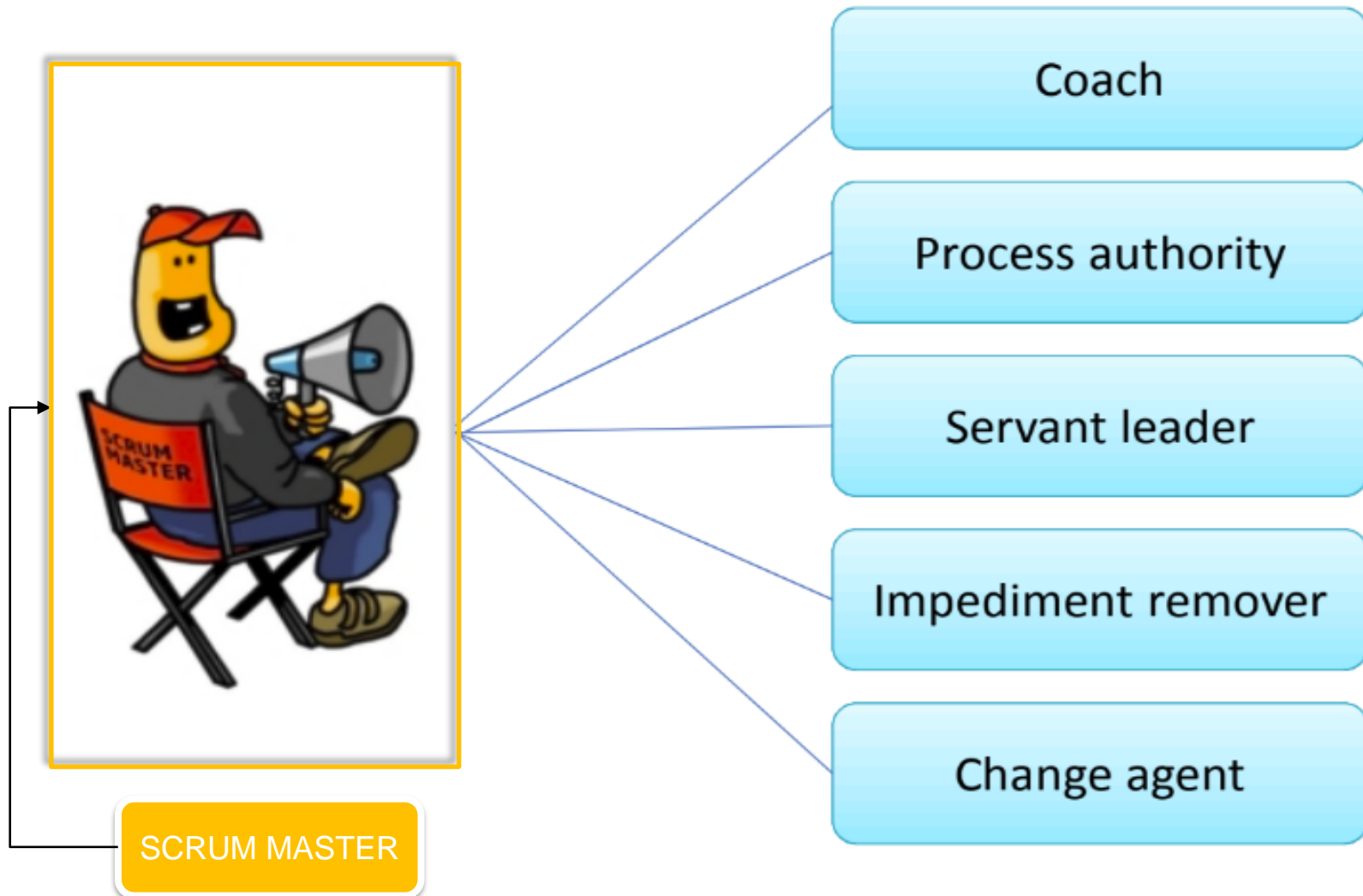
## 5.2 Scrum Master

- 5.2.1 Introduction
- 5.2.2 Principal Responsibilities
- 5.2.3 Characteristics/Skills
- 5.2.4 A Day in the Life
- 5.2.5 Fulfilling the Role

# Scrum Master

- Be a facilitator
  - Focused on helping everyone understand and embrace the Scrum values, principles, and practices.
- Remove obstacles faced by the team
- Assist the team in achieving the iteration goals
- Coach the team on SCRUM principles
  - Acts as a coach to both the development team and the product owner

# Scrum Master - Responsibilities



# Scrum Master - Coach

- Coach both the development team and the product owner
  - Can remove barriers between the roles and enable the product owner to directly drive the development.
- Observes how the team is using Scrum and does anything possible to help it get to the next level of performance.

“ I’m not here to solve your problems for you; instead, I’m here to help you solve your own problems.”



# Scrum Master - Servant Leader

- The Scrum Master is a servant to the Scrum team.

Asks,

- What can I do today to help you and the team be more effective?

Instead,

- What are you going to do for me today?

# Scrum Master - Process Authority

- Ensure that the Scrum team adheres to the Scrum values, principles etc.
- Not the same type of authority that a project manager would have,
  - The Scrum Master doesn't hire and fire.
  - Cannot dictate to the team what tasks to do or how to do them.
  - Not responsible for making sure the work gets done.

# Scrum Master - Interference Shield

- Protects the development team from outside interference
  - Remain focused on delivering business value every sprint
- Acts as an interceptor.

# Scrum Master - Impediment Remover

- Responsible for removing impediments/ obstructions that inhibit the team's productivity.

## Eg:

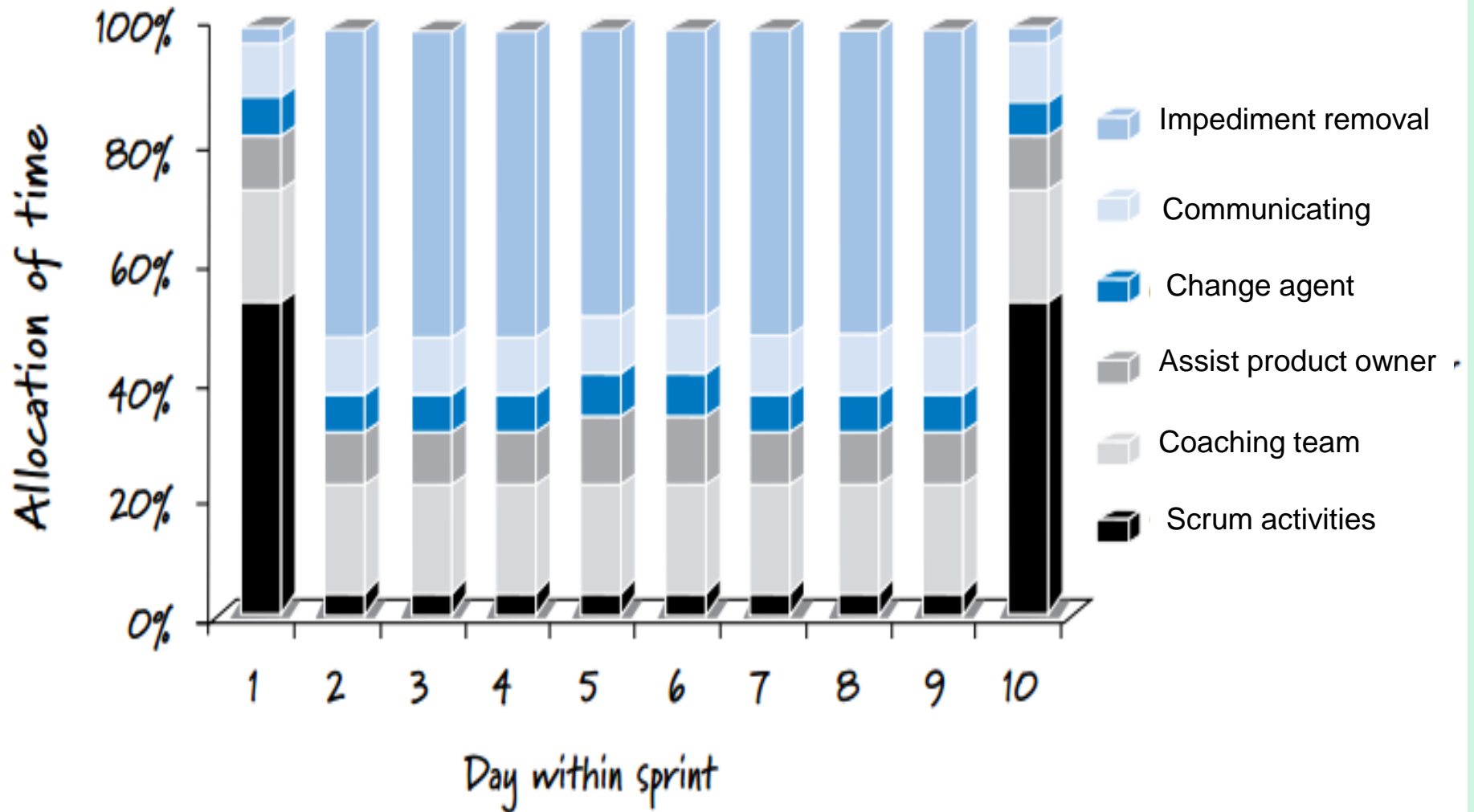
A Scrum team that consistently fails to meet its sprint goals.

Impediment can be an unstable production server that the team uses during the testing.

# Scrum Master - Change Agent

- The Scrum Master not only helps changing or fixing technical issues, but changes minds too.
- Helps others understand the need for change, the impacts of Scrum outside of the Scrum team, and the broad-reaching benefits Scrum can help achieve.

# Scrum Master - Spending the day



# Scrum Master - Characteristics/Skills

- Knowledgeable
- Questioning
- Patient
- Collaborative
- Protective
- Transparent

# Scrum Master - Combined with Other Roles

- If talented enough, one can work both as a development team member and a Scrum Master.
  - Could suffer from a conflict of interest
- Can be the Scrum Master for more than one team.
- Same person serve as both Scrum Master and Product Owner is highly discouraged.



## 5.3 Development Team in Scrum

- 5.3.1 Introduction
- 5.3.2 Role-Specific Teams
- 5.3.3 Principal Responsibilities
- 5.3.4 Characteristics/Skills

# Development Team

- Traditional Software Development approaches define various job types
  - Architect
  - Programmer
  - Tester
  - Database Administrator etc...
- Scrum defines the role of a development team, which is a cross-functional collection of these types of people.

**The development team must do all the work to produce one or more vertical slices of working product functionality.**

# Development Team : Responsibilities

- Perform Sprint Execution
- Inspect and Adapt Each Day
- Groom the Product Backlog
- Inspect and Adapt the Product and Process

# Development Team : Characteristics

- Self-organizing
- T-shaped skills
- Cross-functionally diverse and sufficient
- Long-lived
- High-bandwidth communications
- Musketeer attitude
- Right-sized
- Transparent Communication
- Works at sustainable pace
- Focused and committed

## 5.4 Scrum Team Structures

- 5.4.1 Introduction
- 5.4.2 Feature Teams versus Component Teams
- 5.4.3 Multiple-Team Coordination

# Feature Teams Vs Component Teams

- Feature team is a cross-functional and cross-component team that can pull end customer features from the product backlog and complete them.
- A component team focuses on the development of a component that can be used to create only part of an end-customer feature.

Scrum favors feature teams. Unfortunately, many organizations prefer component teams.

# Combined Feature Team and Component Teams

- A member of a component team can be assigned to be a member of a feature team.
  - Better promote shared code ownership within the feature teams (Pollinator)
  - Collect changes that the feature teams need to make within component areas and discuss those changes with their colleagues on the component teams (Harvester)

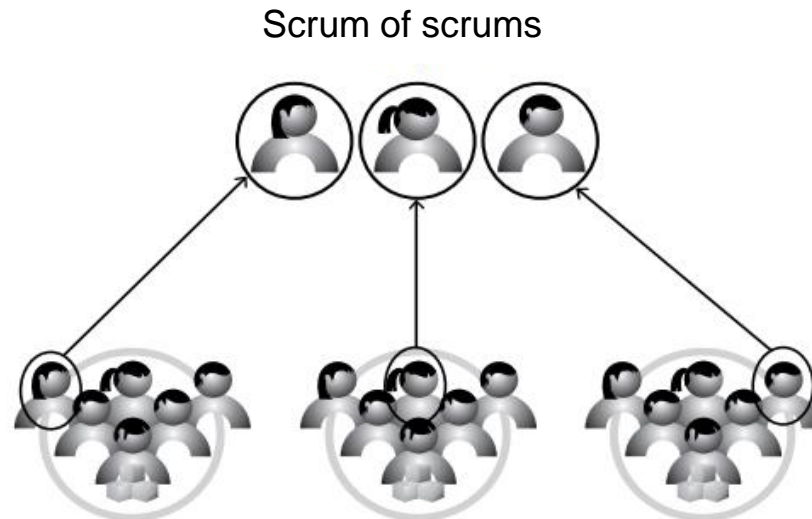
# Multiple - Team Coordination

- Scrum scales by having multiple right-sized Scrum teams
- How to coordinate those teams?
  - Scrum of scrums
  - Release train



# Team Coordination : Scrum of Scrums

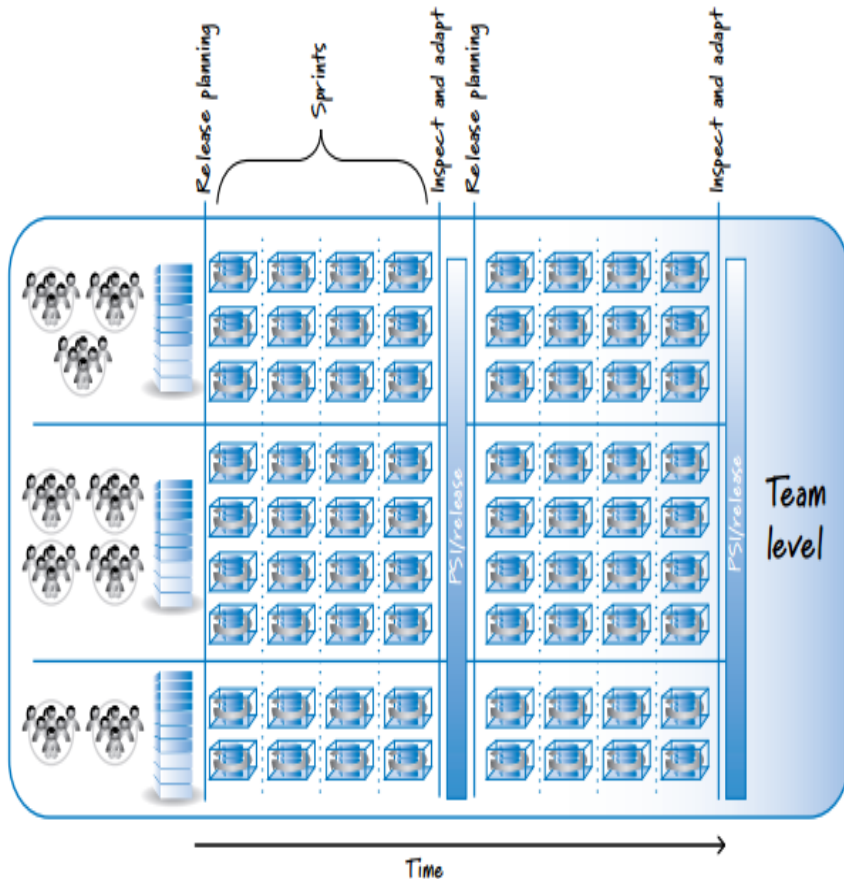
- Allows multiple teams to coordinate their inter-teamwork
- Individual members of the various development teams participate
  - Development team determines based on who can best speak to the inter-term dependency issues.



# Team Coordination : Release Train

- Cross-team synchronization.
- Focuses on fast, flexible flow at the level of a larger product.
- The train metaphor is used.
  - Features will “leave the station.”
  - Need to get their “cargo” onto the train at the appointed time.
  - The release train always “departs” on time and “waits” for no one.
  - If a team misses the train, there will be another train departing at a known time in the future.

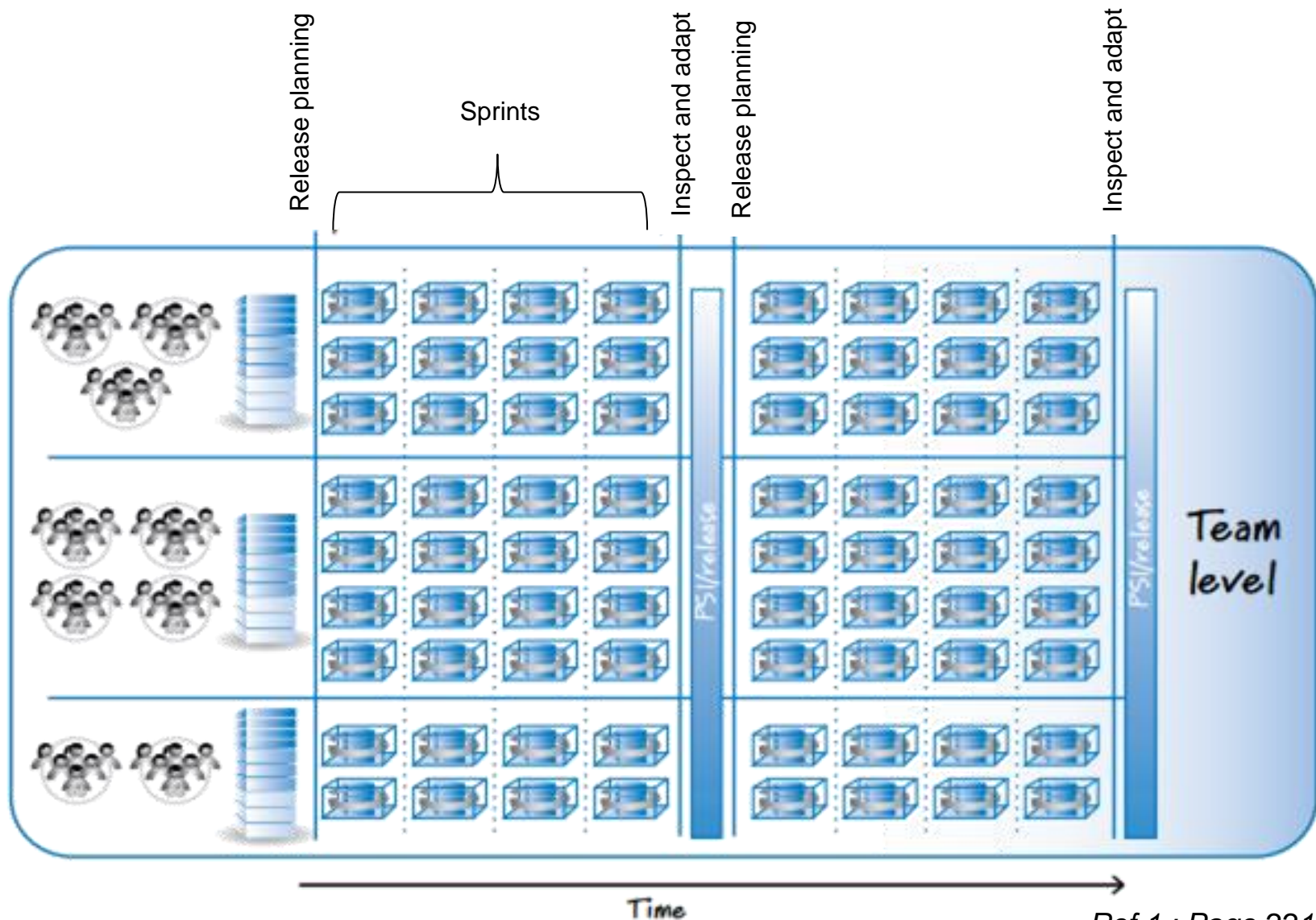
# Team Coordination : Release Train



- Nine teams clustered into three feature areas.
- Each team within a feature area performs its own sprint.
- Using a technique like Scrum of Scrums, all the teams within a feature area coordinate their work.

Ref 1 : Page 221

# Team Coordination : Release Train



Ref 1 : Page 221

# 5.5 Managers

- 5.5.1 Introduction
- 5.5.2 Principal Responsibilities
  - 5.5.2.1 Fashioning Teams
  - 5.5.2.2 Nurturing Teams
  - 5.5.2.3 Aligning and adapting the environment
  - 5.5.2.4 Managing value-creation flow

# Managers

- Even Though the SCRUM framework does not specifically mention the manager role, managers still play an important part in an agile organization.
- Functional Managers in a SCRUM organization are responsible for fashioning teams, nurturing teams, aligning and adapting environment, and managing the value-creation flow.

# Functional Manager : Responsibilities

## 1. Fashioning Teams

- Define Boundaries
- Provide a clear elevating goal
- Form teams
- Change team composition
- Empower teams

## 2. Nurturing Teams

- Energize People
- Develop Competence
- Provide functional-area leadership
- maintain team integrity

# Functional Manager : Responsibilities

## 3.Aligning and adapting the environment

- Promote agile values
- Remove organizational impediments
- Align internal groups
- Align partners

## 4.Managing value-creation flow

- Take a systems perspective
- Manage economics
- Measure and report

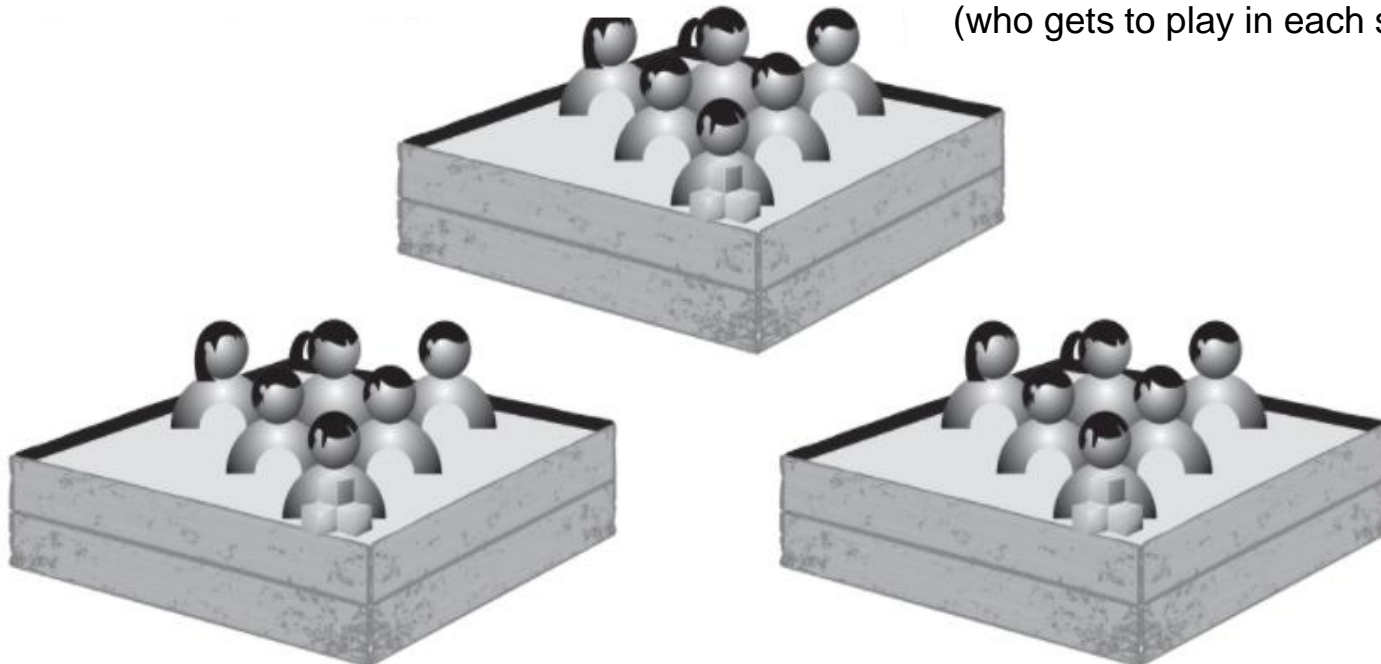


# Functional Manager : Fashioning Teams

- Managers get to define the the sandboxes or boundaries within which a team is permitted to self-organize.

Managers define products/projects (sandboxes)

Managers decide on the team composition  
(who gets to play in each sandbox)



Teams self-manage within their sandboxes

# Functional Manager : Fashioning Teams

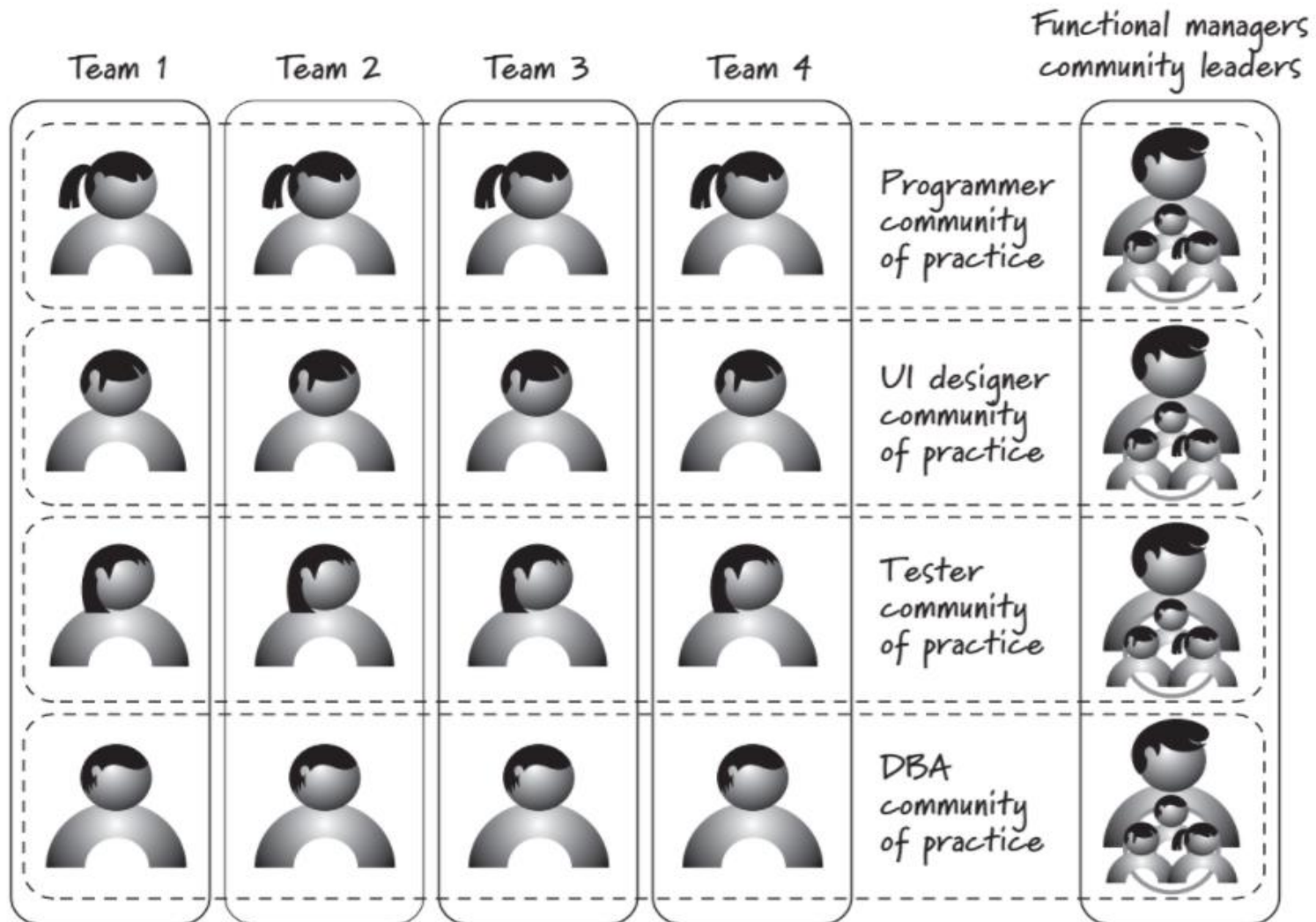
- Managers also provide a clear elevating goal to each team. This goal gives purpose and direction to the team.
- Teams do not typically form themselves. Managers compose team while balancing business needs and constraints.
- In a SCRUM environment, functional managers representing different disciplines or communities of practice work with one another to select members of cross-functional SCRUM teams.

# Functional Manager : Fashioning Teams

- Managers have the obligation to change a team's composition if they believe that doing so will improve the overall health and performance of the team and the organization.

# Functional Manager : Fashioning Teams

Functional managers collectively creating SCRUM teams.



# Functional Manager : Nurturing Teams

- Managers should energize team members by providing a clear elevating goal.
- Within Scrum organizations, each team member still reports to a functional or a resource manager who is typically not the Scrum Master or the Product Owner.
- Managers need to foster an environment where people are constantly learning and adding to their skill sets.
- Managers must also provide frequent feedback to people and individuals.

# Functional Manager : Nurturing Teams

- Functional Managers in a Scrum organization continue to provide leadership specific to their functional area.

## **Functional Manager : Aligning and Adapting the Environment**

- Managers are responsible for aligning and adapting the environment by promoting agile values, removing organizational impediments, aligning internal groups, and by aligning partners.

## **Functional Manager : Managing Value-Creation Flow**

- Managers in a Scrum environment are responsible for setting strategic direction and for ensuring that organizational resources are being used in an economically sensible way to achieve strategic goals.

# SUMMARY

## Product Owner

Understands the needs and priorities of the stakeholders to act as their representative and shares the products goals with the development team.

## Scrum Master

A facilitator who helps everyone understand and embrace the Scrum values, principles, and practices

## Development Team in Scrum

Produces one or more vertical slices of working product functionality.

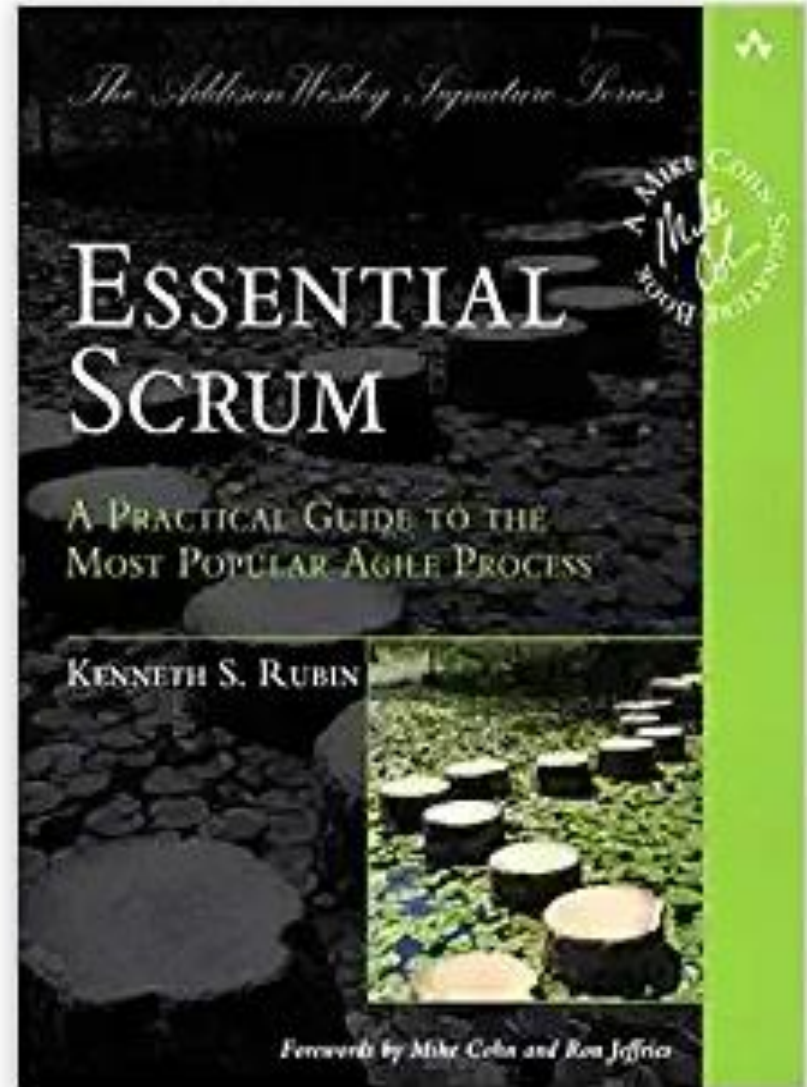
## Scrum Team Structures

Scrum favours feature teams. Multiple-team coordinations can be accomplished through Scrum of Scrums and Release Trains.



# Reference

- Ref 1: [Addison-Wesley Signature Series (Cohn)] Kenneth S. Rubin - Essential Scrum\_ A Practical Guide to the Most Popular Agile Process (2012, Addison-Wesley Professional)



# Reference

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