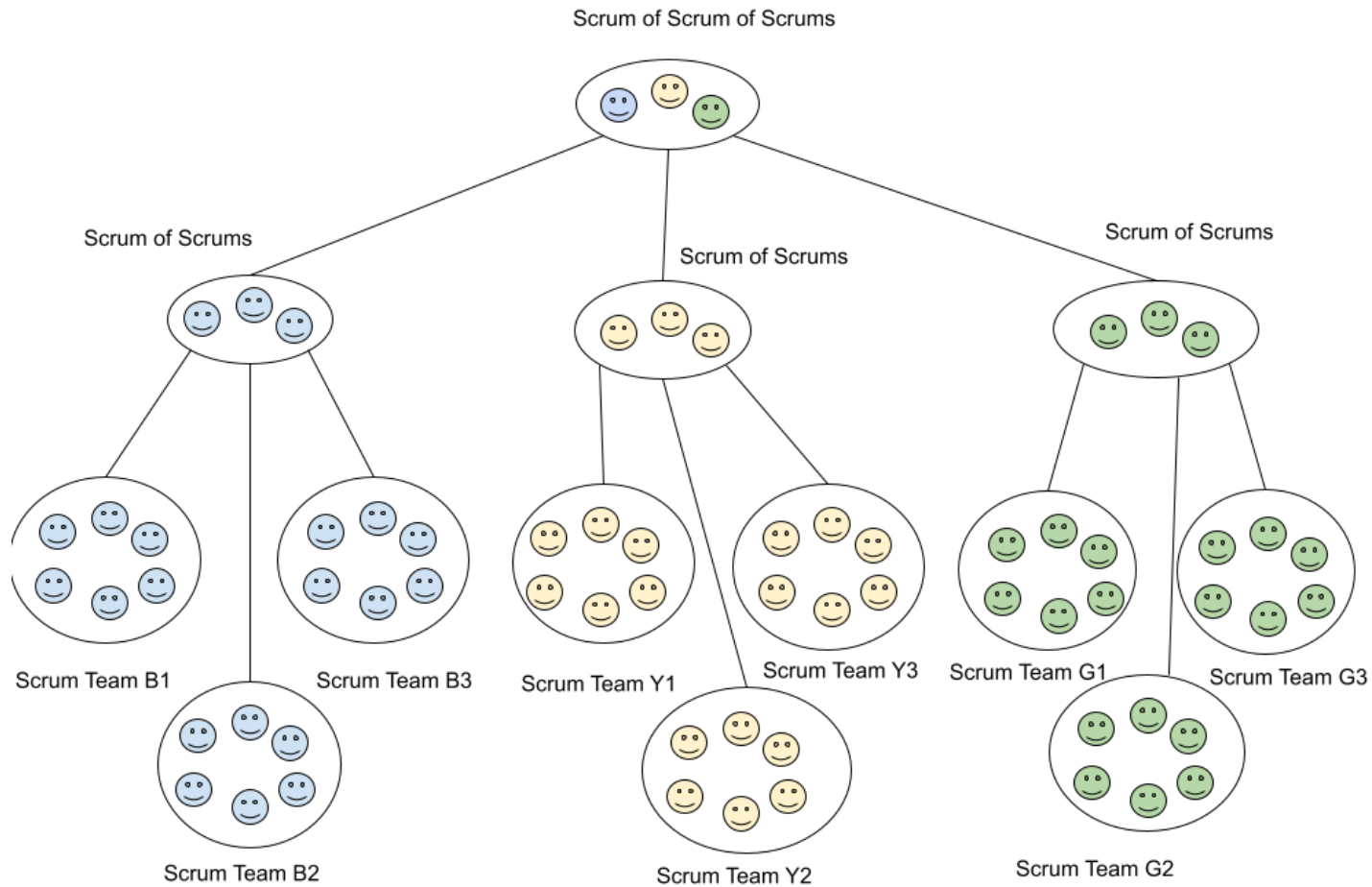# CSC 171 – Module 9

# SCALING AGILE

# Scrum of Scrums

# Scrum of Scrums - Cont.

- A technique to scale Scrum to large groups
- Scrum of Scrums team
  - At least one "ambassador" from each sub-team
  - The "ambassador" can be a technical contributor, the Scrum Master, the product owner, or the team manager.
  - Backlog tracks risks, impediments, dependencies, and assumptions (RIDAs) that have been identified.
- Scrum of Scrums meeting
  - Ambassadors reporting completions, next steps and impediments on behalf of the teams they represent.
  - Focuses on how teams are collectively working to resolve, mitigate, or accept RIDAs.
- Optional roles
  - Chief Product Owner
    - Oversees the product owner team, guides the overarching product vision
  - Scrum of Scrum Master
    - Manages RIDA backlogs, facilitates prioritization, removal of impediments, and continuous improving the effectiveness of Scrum of Scrums

# Spotify



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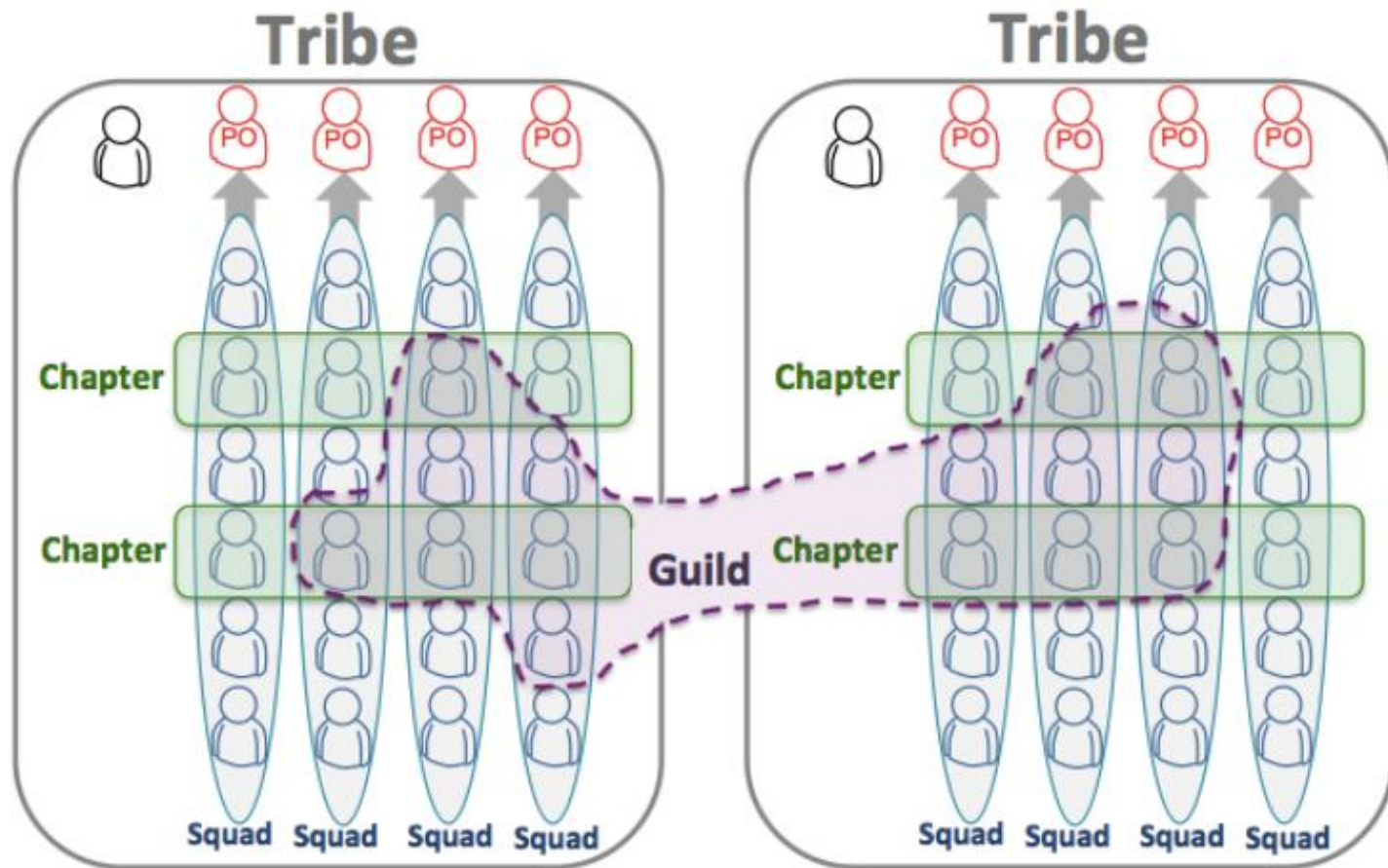
# Spotify – Cont.

- Squad
  - Self-organizing, cross-function agile team
  - Product owner, agile coach, team members
  - No formally appointed squad leader
  - Sit together, has a long-term mission
- Tribe
  - A collection of squads working in the related areas
  - Less than 100 people
  - Tribe lead
  - Squads in a tribe all sit in the same office, normally next to each other
  - Has gatherings on regular basis to share knowledge
- Squad dependencies
  - The goal is to minimize or eliminate dependencies, which often leads to reprioritization, reorganization, architectural changes or technical solutions
  - Scrum of scrums happens on demand to sync or resolve dependencies

# Spotify – Cont.

- Chapter
  - A small group of people having similar skills and working within the same general competency area, within the same tribe.
  - Meets regularly to discuss their area of expertise and their specific challenges
  - Chapter lead
    - Part of a squad
    - Responsibilities include developing people, setting salaries, etc.
- Guild
  - A group of people that want to share knowledge, tools, code, and practices, across tribes
  - Guild coordinator
- Architecture
  - Service-oriented, has over 100 distinct systems, each of them can be maintained and deployed independently
  - Each system has a system owner or a pair of system owners
  - A system owner is the "go to" person for any technical or architectural issues related to that system.
- Chief architect
  - Coordinates work on high-level architectural issues that cut across multiple systems
  - The feedback from the chief architect is just suggestions and input, the decision for the final design of the system still lies with the squad building it.

# PMO, PROJECT OVERSIGHT, ASSESSMENT PROCESSES & TOOLS

# Project Management Office

- Project Management Office (PMO)
  - Many large organizations have one
  - Serves as the centralized decision-making body for all the organization's projects
  - Responsible for continued support of consistent project selection criteria, standards, processes; the training of and assistance to project manager, and continued improvement and use of best practices, etc.
- Traditional project management responsibilities are distributed among agile product manager, product owner and the team, what is the role for an PMO in agile projects?
- An agile PMO can contribute to
  - People
    - Develop training programs, provide coaching, select and train coaches, challenge existing behaviors, …
  - Project
    - Assist with reporting and compliance needs, manage the inflow of projects, …
  - Process
    - Assist in establishing and collecting metrics, reduce waste, help establish and support communities of practice, build agile culture, …

# Governance of Agile Projects

- Project governance (oversight) is to guide and improve the management of projects
- Key challenges with governance of agile projects
  - Traditionally it requires all kinds of documentation
  - Traditionally it is satisfied by upfront analysis and agreement on outputs
- It might require modifying some of the traditional approaches to project governance to accommodate agile methodologies
- Stage-gate process example
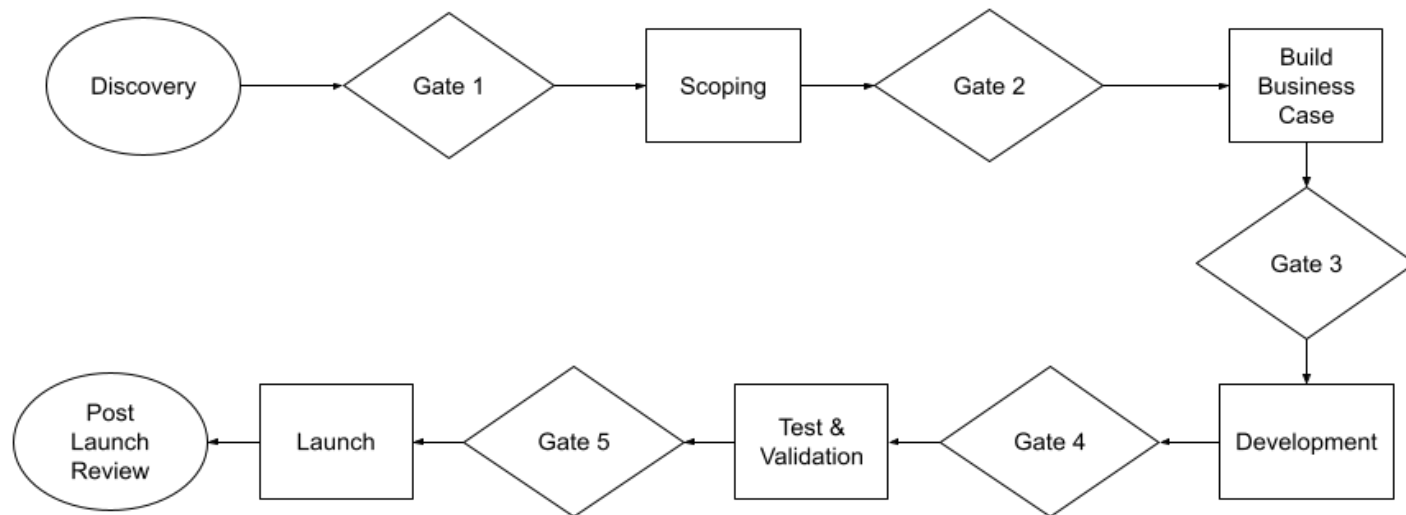
# Governance of Agile Projects – Cont.

- Governance and compliance requirements
  - Business needs alignment
    - At the start of any agile project, business objectives and strategic alignment should be addressed in project vision and roadmap documentation
  - Defining business value
    - Addressed in project vision and roadmap documentation
    - Report back on incremental value on regular basis
  - Clear outputs of the project in terms of time, cost, and scope
    - Traditional approach: comprehensive documentation
    - Agile approach: less requirement documentation, clear outputs and expectations via various plans
  - Project monitoring
    - Any Agile-based methodology is perfectly positioned to give project transparency to oversight entities
  - Managing project risks
    - Iterative-design risks
    - Agile competency risks
  - Complying with regulation
    - Output regulatory required documentation

# Capability Maturity Model Integration

- Capability Maturity Model Integration (CMMI)
  - A process level improvement training and appraisal program
- Characteristics of the maturity levels
  - Initial
    - Processes unpredictable, poorly controlled, reactive
  - Managed
    - Processes characterized for projects, often reactive
  - Defined
    - Processes characterized for the organization, proactive
  - Quantitatively managed
    - Processes measured and controlled
  - Optimizing
    - Focus on process improvement
- Appraisal often conducted for one or more of these reasons
  - To compare an organization's processes with CMMI best practices, to identify improvement areas
  - To inform external customers and suppliers of how well the organization's processes compare to CMMI best practices
  - To meet the contractual requirements

# MEETINGS AND MANAGERS

# Organizing Meetings

- Recommendations
  - Apply "how little" thinking to meetings
  - Timebox every meeting
  - Create meetings for learning
    - Organization and customers, processes, technologies
  - Create meetings for problem solving
  - When in doubt, consider measuring value from meetings
- Example for iteration-based agile approach
  - Start an iteration with iteration planning meeting
  - Conduct daily standup during the iteration
  - Conduct a backlog refinement meeting during the iteration
  - Provide product demonstration on the last day of the iteration
  - End the iteration with a retrospective meeting after the product demonstration
- Example for flow-based agile approach
  - "Walk the board" daily as a team
  - Create a cadence for backlog refinement
  - Create a cadence for retrospectives
  - Decide about product demonstration as part of its working agreements
    - The team might demonstrate every story as it's completed
    - The team might demonstrate the product on a cadence

# Planning What to Work on & Refining the Backlog

- Planning what to work on
  - Product owner identifies the candidate product backlog items and their relative priorities, and the team select and refine what to work on
  - In a flow-based approach, the team moves selected items to its board
  - With Scrum, the team moves the selected items to sprint backlog during sprint planning meeting at the beginning of each sprint
- Refining the backlog
  - Activities
    - Creating and removing user stories
    - Merging and splitting user stories
    - Ranking stories
    - Assigning and correcting estimates to stories
    - …
  - The Three Amigos approach
    - Three perspectives
    - One developer, one tester, and one product owner / business analyst discuss the possible user story together
  - With scrum, it is conducted during backlog grooming meeting

# Walking the Board & Standups

- To understand what work has been done, what work remains, and if any work is stuck
  - It is more about status updates than problem solving
  - Issues that are raised are taken offline and usually dealt with by the relevant subgroup immediately after the meeting
- Flow-based agile approach
  - Walk the board on frequent, if not a daily, basis
- Iteration-based agile approach
  - Daily standup
    - Typically held in the same location and at the same time each day, inside a 15-minute timebox
    - Common format: Each team member answers the following three questions, from the perspective of the work item, rather than the person
      - What did you do yesterday?
      - What will you do today?
      - Are there any impediments in your way?
    - A team can use other formats, such as walking the board
    - If a team swarms or mobs on every story, that team doesn't need a standup
- Anti-patterns
  - Blaming certain people for not finishing "their" work
  - Allowing people to take other people's work while it was in progress
  - The standup taking longer than 15 minutes
  - Standups become serials status meetings

# Demonstrating Products

- Entire team plus interested stakeholders attend
- Provide opportunity to inspect and adapt
- With flow-bases agile approach, the team decides when to demonstrate
  - It might demonstrate every story as it's completed
  - It might demonstrate the product on a cadence
- With scrum, the product is demonstrated during sprint review meetings, common meeting components include
  - Overview of the product increment
  - Demonstrate the product increment
  - Discuss what team members observed during the sprint
  - Discuss the state of the product backlog
  - Discuss possible updates of the product backlog

# Retrospective Meetings

- The team works for any period of time then examines its results (the work product) and its process
  - An action-item list can be used
  - Retrospective encourages double-loop learning
- Example format
  - Each team member is asked to identify specific things that the team should
    - Start doing
    - Stop doing
    - Continue doing
- When to retrospect?
  - At a one- or two-week cadence, regardless of whether the team uses iterations
  - Every time the team releases to the customer
  - At the start of the project
  - At the end of the project
- With scrum, sprint retrospective it conducted at the end of each sprint

Double-Loop Learning

Assumptions

Plan

Check

Adjust
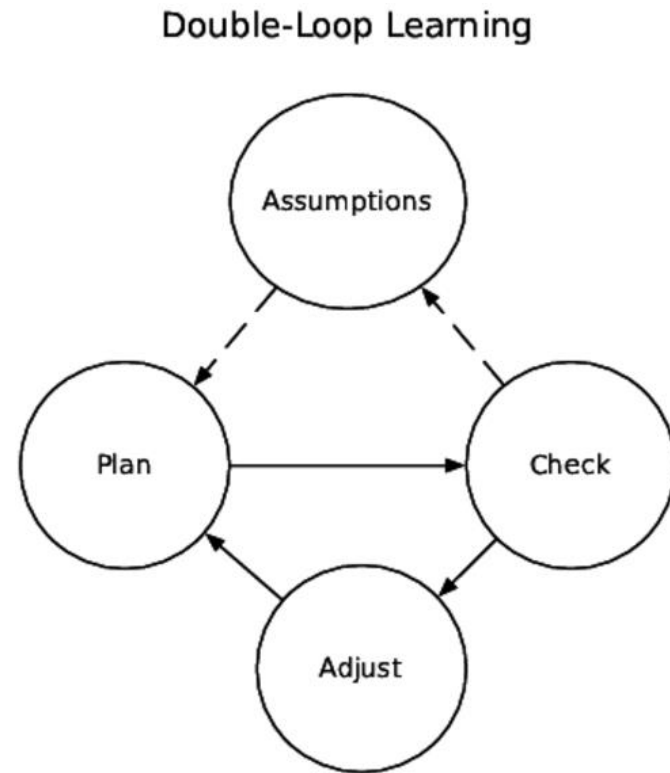
# Measuring the Value from Meetings

- Measure the return on time invested (ROTI)
- Steps
  - Using a five-point scale ask people to report how much value they received for the time they invested in the meeting
    - 0. No benefit received for time invested
    - 1. Some benefit, but not commensurate with the time invested
    - 2. Value received equal to time invested
    - 3. A little better than even return
    - 4. High benefit
  - Create a histogram that shows the results
  - Ask for information about what made the meeting worthwhile or not worthwhile
    - Ask the people who rated the meeting 2 or above what they received for investing their time in the meeting
    - Ask people who voted 1 or 0 what they wanted but didn't receive for their investment
    - Ask what to keep, drop, and add for the next similar meeting.
  - If majority of the participants rate the meeting 2 or above the meeting is valuable
  - If majority of the participants rate the meeting below 2, ask more questions

ROTI Histogram

| | |
|---|---|
| 4 | I I |
| 3 | I I |
| 2 | I |
| 1 | I |
| 0 | |
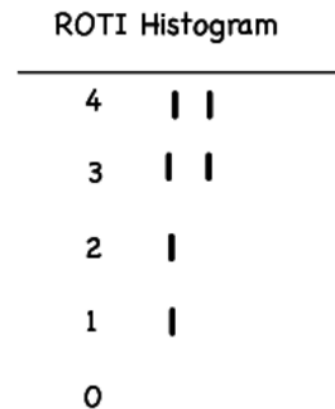
# Managers can Help Agile Teams

- Managers
  - Technical leaders, managers, directors, vice presidents, …
- Managers hold the key to creating an agile culture
  - "If no one can help the managers see the value in agile approaches, the teams won't be able to sustain an agile culture."
- Managers can help
  - Resolve problems the team can't, especially systemic organizational problems
    - e.g., budget, resource, training, cross organization issues
  - Create team workspaces
    - e.g., team room
  - Manage the project portfolio
    - To eliminate multitasking
    - To staff and retain stable cross-functional teams
    - To look for throughput measures instead of utilization measures
  - Start the transition to a team-based recognition and reward structure
    - Ranking people against each other does not encourage collaborative work.

Provide an example that an agile team needs managers to resolve an issue.

# Start Somewhere

- The goal
  - To deliver value faster, to work with the customer or business-people, and to welcome change
- Try these
  - Limit the work in progress
    - Iteration-based agile approaches limit WIP by timeboxing the work
    - Flow-based agile approaches create explicit WIP limits
  - Ask people to work as cross-functional team
  - Start with yourself
    - Be transparent with your work
    - Collaborate with the team and others
    - Exhibit the growth mindset

# References

- [1] Create Your Successful Agile Project, Johanna Rothman, Pragmatic Programmers LLC, 2017. ISBN:9781680502602

- [2] Agile Estimating and Planning 1st Edition; Author: Mike Cohn; ISBN-13: 978-0131479418; ISBN-10: 9780131479418