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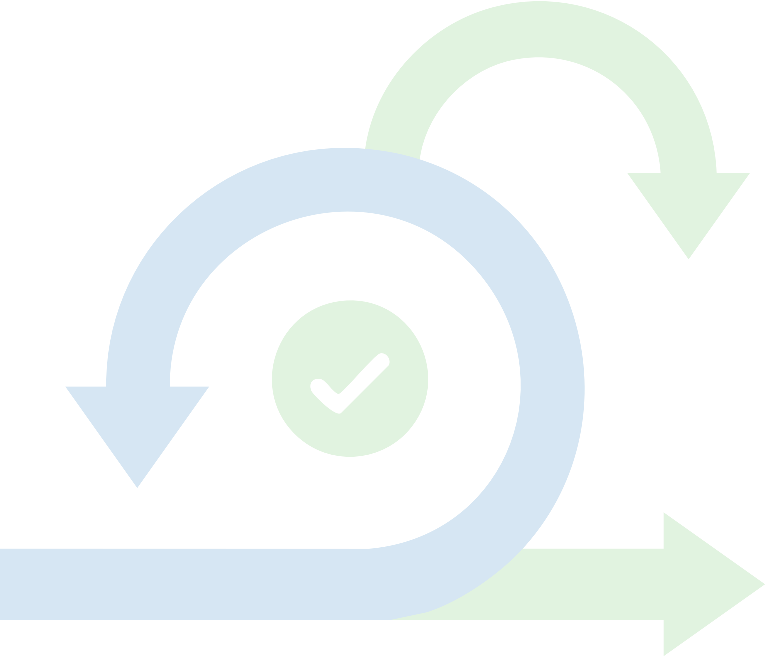


A Guide to the

SCRUM BODY OF KNOWLEDGE

(SBOK® Guide)

3 . ORGANIZATION

A Comprehensive Guide to Implementing and Scaling Scrum, with Practical Examples

(Includes insights into how Artificial Intelligence can enhance Scrum processes)

3. ORGANIZATION

3.1 Introduction

In this section, the various facets of a Scrum project organization are discussed, as well as core and non-core roles and how to form high performance Scrum Teams. *Organization*, as defined in *A Guide to the Scrum Body of Knowledge (SBOK® Guide)*, is applicable to the following:

- Portfolios, programs, and/or projects in *any* industry
- Products, services, or any other results to be delivered to business stakeholders
- Projects of any size or complexity

The term "product" in the *SBOK® Guide* may refer to a product, service, or other deliverable. Scrum can be applied effectively to any project in any industry—from small projects or teams with as few as six team members to large, complex projects with up to several hundred members in several teams. This chapter is divided into the following sections:

3.1.1 Roles Guide—This section identifies which section or subsection is important for a Product Owner, Scrum Master, and Scrum Team.

3.2 Scrum Project Roles—This section covers all the key core and non-core roles associated with a Scrum project.

3.3 Product Owner—This section highlights the key responsibilities of the Product Owner in relation to a Scrum project, program, and portfolio.

3.4 Scrum Master—This section focuses on the key responsibilities of the Scrum Master in the context of a Scrum project, program, and portfolio.

3.5 Scrum Team—This section emphasizes the key responsibilities of the Scrum Team in the context of a Scrum project.

3.6 Scrum in Projects, Programs, and Portfolios—This section focuses on how the Scrum framework can be tailored and used in the different contexts of programs and portfolios. It also highlights the specific responsibilities of the Scrum Team members in relation to communication, integration, and working with the corporate and program management teams.

3.7 Responsibilities—This section describes the responsibilities relevant to the Organization theme, for everyone working on a project, based on their roles.

3.8 Scrum vs. Traditional Project Management—This section explains the key differences and advantages of the Scrum model in relation to the traditional Waterfall model of project management.

3.9 Popular HR Theories and their Relevance to Scrum—This section contains some of the most popular HR theories useful for all the members in the Scrum Core Team.

3.1.1 Roles Guide

1. Product Owner—It is imperative for Product Owners to read the entire chapter.
2. Scrum Master—The Scrum Master should be familiar with this entire chapter with primary focus on sections 3.3, 3.5, 3.6, 3.8, and 3.9.4.
3. Scrum Team— The Scrum Team should focus on sections 3.3, 3.6, and 3.8.

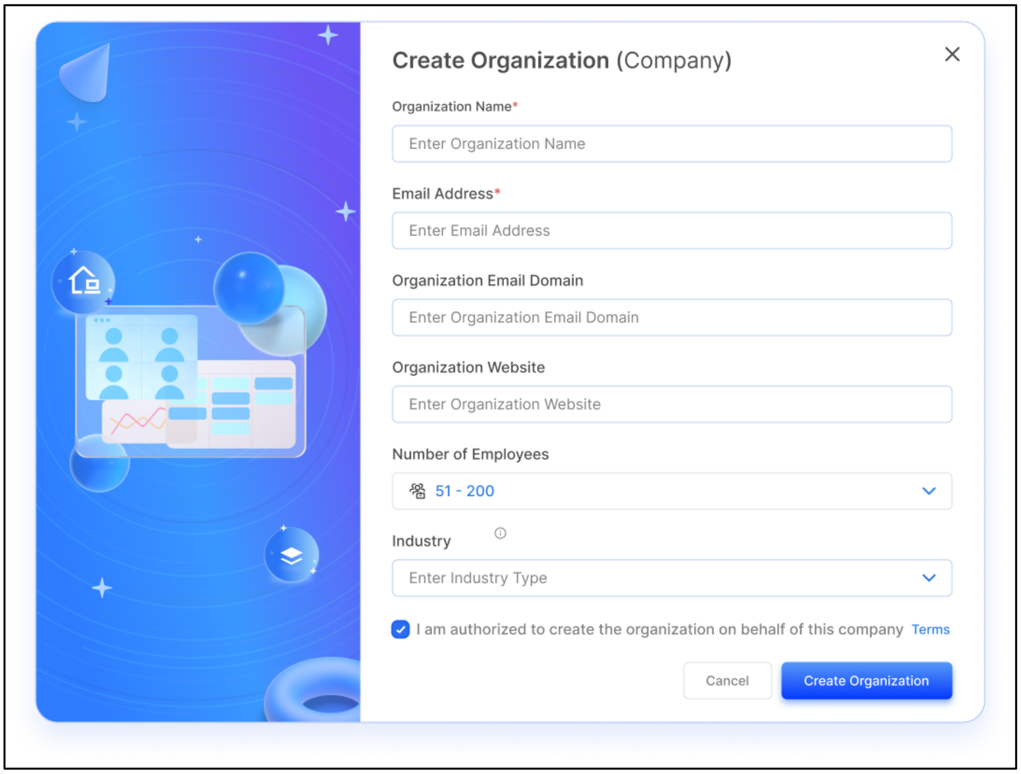
3.2 Scrum Project Roles

Understanding defined roles and responsibilities is particularly important for ensuring the successful implementation of Scrum projects.

Scrum roles fall into two broad categories:

1. **Core Roles**—Core roles are those roles which are mandatorily required for producing the product of the project, are committed to the project, and ultimately are responsible for the success of each Sprint of the project and of the project as a whole.
2. **Non-core Roles**—Non-core roles are those roles which are not mandatorily required for the Scrum project. They may include team members who are interested in the project but have no formal role on the project team. These individuals may interface with the team but may not be responsible for the success of the project. The non-core roles should also be considered in any Scrum project.

Figure 3-1 shows Vabro user interface form titled "Create Organization (Company)," requiring inputs like organization name, email, domain, website, number of employees, and industry, with a "Create Organization" button.



Create Organization (Company)

Organization Name*

Enter Organization Name

Email Address*

Enter Email Address

Organization Email Domain

Enter Organization Email Domain

Organization Website

Enter Organization Website

Number of Employees

51 - 200

Industry

Enter Industry Type

☑ I am authorized to create the organization on behalf of this company Terms

Figure 3-1: Organization Setup (Source: Vabro)

3.2.1 Core Roles

There are three core roles in Scrum that are responsible for meeting the project objectives. The core roles are the Product Owner, Scrum Master, and Scrum Team. Together they are referred to as the Scrum Core Team. It is important to note that, of these three roles, no role has authority over the others.

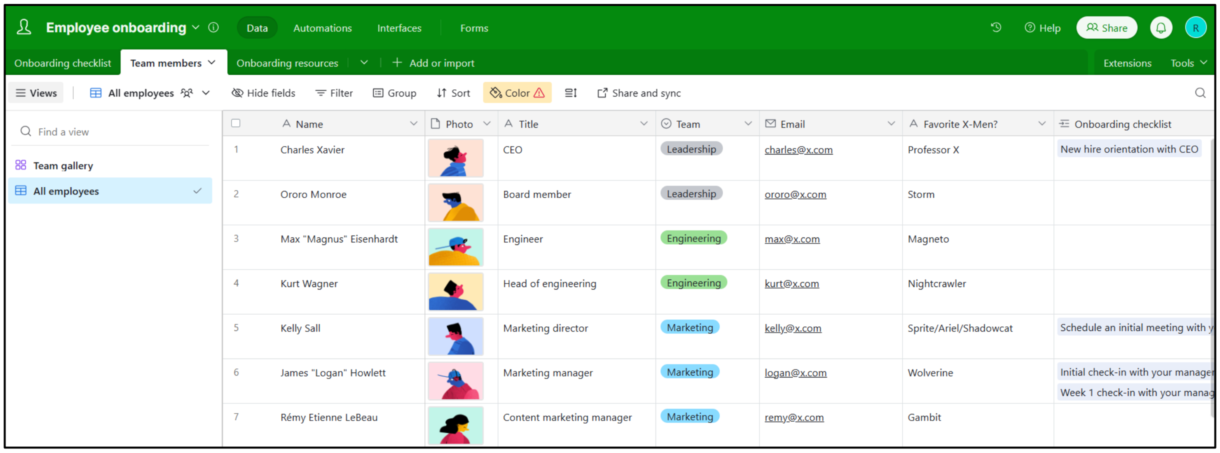
1. **Product Owner**—The Product Owner is the person responsible for maximizing business value for the project. He or she is responsible for articulating customer requirements and maintaining business justification for the project. The Product Owner represents the *Voice of the Customer*.

2. **Scrum Master**—The Scrum Master is a facilitator who ensures that the Scrum Team is provided with an environment conducive to completing the product's development successfully. The Scrum Master guides, facilitates, and teaches Scrum practices to everyone involved in the project; clears impediments for the team; and ensures that Scrum processes are being followed.

   Note that the Scrum Master role is vastly different from the role played by the Project Manager in a traditional Waterfall model of project management, in which the Project Manager works as a manager or leader for the project. The Scrum Master only works as a facilitator and he or she is at the same hierarchical level as anyone else in the Scrum Team—any person from the Scrum Team who learns how to facilitate Scrum projects can become the Scrum Master for a project or for a Sprint.

3. **Scrum Team**—The Scrum Team is a group or team of people who are responsible for understanding the business requirements specified by the Product Owner, estimating User Stories, and final creation of the project deliverables.

Figure 3-2 shows an Airtable workspace for "Employee onboarding" under the "Team members" tab. It lists employees with details like name, photo, title, team, email, and onboarding checklist tasks.



	Name	Photo	Title	Team	Email	Favorite X-Men?	Onboarding checklist
1	Charles Xavier		CEO	Leadership	charles@x.com	Professor X	New hire orientation with CEO
2	Ororo Monroe		Board member	Leadership	ororo@x.com	Storm	
3	Max "Magnus" Eisenhardt		Engineer	Engineering	max@x.com	Magneto	
4	Kurt Wagner		Head of engineering	Engineering	kurt@x.com	Nightcrawler	
5	Kelly Sall		Marketing director	Marketing	kelly@x.com	Sprite/Ariel/Shadowcat	Schedule an initial meeting with y
6	James "Logan" Howlett		Marketing manager	Marketing	logan@x.com	Wolverine	Initial check-in with your manager Week 1 check-in with your manag
7	Rémy Etienne LeBeau		Content marketing manager	Marketing	remy@x.com	Gambit	

Figure 3-2: Team Composition (Source: Airtable)

Figure 3-3 provides an overview of the core Scrum team roles, including Product Owner, Scrum Master, and Scrum Team, and explains their responsibilities.

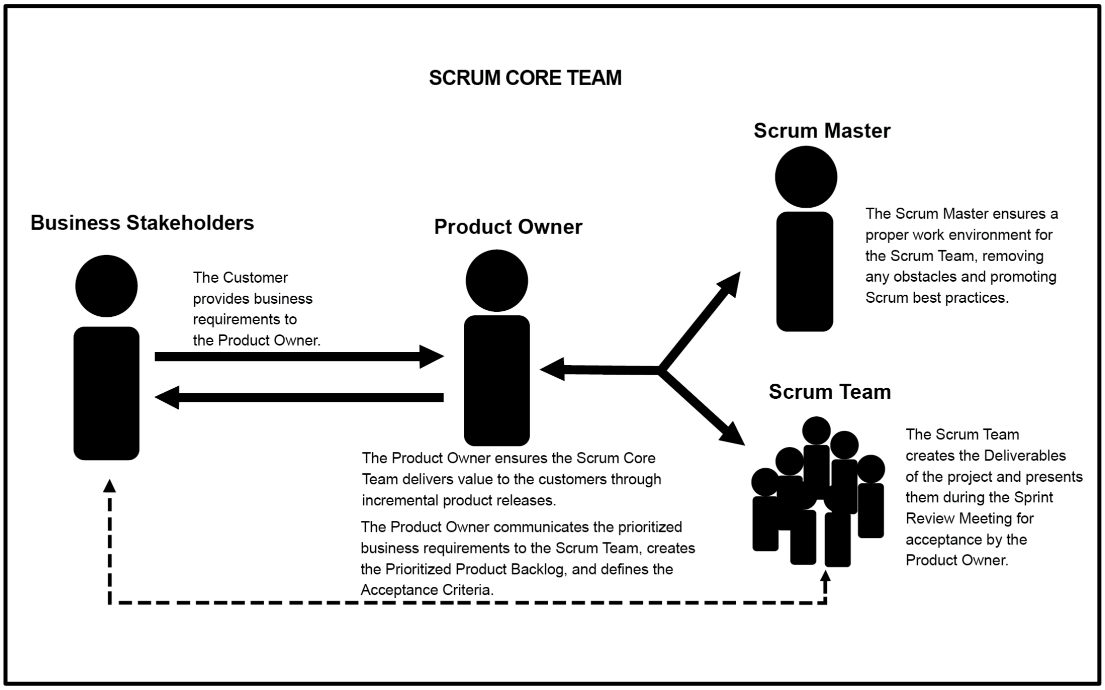

SCRUM CORE TEAM
Scrum Master
The Scrum Master ensures a proper work environment for the Scrum Team, removing any obstacles and promoting Scrum best practices.
Business Stakeholders
Product Owner
The Customer provides business requirements to the Product Owner.
Scrum Team
The Scrum Team creates the Deliverables of the project and presents them during the Sprint Review Meeting for acceptance by the Product Owner.
The Product Owner ensures the Scrum Core Team delivers value to the customers through incremental product releases.
The Product Owner communicates the prioritized business requirements to the Scrum Team, creates the Prioritized Product Backlog, and defines the Acceptance Criteria.

Figure 3-3: Scrum Roles—Overview

3.2.2 Non-core Roles

The non-core roles are those roles which are not mandatorily required for the Scrum project and may not be continuously or directly involved in the Scrum process. However, understanding non-core roles is important as these roles play a significant part in some Scrum projects.

Non-core roles include the following:

1. **Business Stakeholder(s)**—Business stakeholder(s) is a collective term that includes customers, users, and sponsor(s), who frequently interface with the Product Owner, Scrum Master, and Scrum Team to provide them with inputs and facilitate creation of the project's product, service, or other result. Business stakeholders(s) influence the project throughout the project's development. Business stakeholders may also have a role to play during the *Develop Epic(s), Create Prioritized Product Backlog, Conduct Release Planning, Retrospect Sprint*, and other important processes in Scrum. Scrum requires complete support from the project's business stakeholders.

   The responsibility for keeping business stakeholders engaged lies with the Product Owner. The following are actions recommended for maintaining stakeholder engagement and support:

   - Ensure effective collaboration and business stakeholder involvement in the project
   - Continually assess the business impact
   - Maintain regular communication with business stakeholders
   - Manage business stakeholders' expectations

At times, the same person or organization will have multiple business stakeholder roles; for example, the sponsor and the customer may be the same.

The following defines the roles of the relevant business stakeholders on a Scrum project:

- **Customer**—The customer is the individual, organization, or group of individuals acquiring the project's product, service, or other result. For any organization, depending on the project, there can be either internal customers (i.e., within the same organization) or external customers (i.e., outside of the organization).

- **Users**—Users are the individual, organization, or group of individuals that directly uses the project's product, service, or other result. Like customers, for any organization, there can be both internal and external users. Also, in some industries and on some projects, customers and users may be the same individuals.

- **Sponsor**—The sponsor is the individual or the organization that provides funding, support, and other resources for the project. The sponsor is also the business stakeholder to whom team members are accountable.

  The sponsor should understand the financial bottom line related to a product or service and is typically more concerned with final outcomes rather than with individual tasks. It is important that the sponsor (or sponsors) who are funding the project have clarity on the following considerations:

  - Benefits of applying Scrum practices on the project
  - Target deadlines and estimated costs of the Scrum project
  - Overall risks involved in the Scrum project and the steps to mitigate or avoid them
  - Expected release dates and final deliverables

2. **Supporting Services**—Supporting services are internal or external groups that support or are impacted by the Scrum project, for example, training, logistics, marketing, finance, infrastructure, and so on.

3. **Vendors**—Vendors include external individuals or organizations that provide products and services that are not within the core competencies of the project organization.

4. **Scrum Guidance Body**—The Scrum Guidance Body (SGB) is an optional role but highly recommended to formalize organizational practices related to Scrum. The Scrum Guidance Body consists of a group of documents and/or a group of experts who are typically involved with defining objectives related to quality, government regulations, security, and other key organizational parameters. These objectives guide the work carried out by the Product Owner, Scrum Master, and Scrum Team.
   The Scrum Guidance Body also helps capture the best practices that should be used across all Scrum projects in the organization.

   The Scrum Guidance Body does not make decisions related to the project. Instead, it acts as a consulting or guidance structure for all the hierarchy levels in the project organization—the portfolio, program, and project. Scrum Teams have the option of asking the Scrum Guidance Body for advice as required.

3.3 Product Owner

The Product Owner represents the interests of the stakeholder community. The Product Owner is responsible for ensuring clear communication of product or service functionality requirements to the Scrum Team, defining the Acceptance Criteria, and ensuring those criteria are met. In other words, the Product Owner is responsible for ensuring that the Scrum Team delivers value. The Product Owner must always maintain a dual view. He or she must understand and support the needs and interests of all business stakeholders, while also understanding the needs and workings of the Scrum Team. Because the Product Owner must understand the needs and priorities of the business stakeholders, including customers and users, this role is commonly referred to as the Voice of the Customer.

Table 3-1 summarizes the Product Owner's responsibilities in the various Scrum processes.

Process	Product Owner Responsibilities
8.1 Create Project Vision	• Defines the Project Vision • Helps create the Project Charter and project budget
8.2 Identify Scrum Master and Business Stakeholder(s)	• Helps finalize Scrum Master for the project • Identifies Business Stakeholder(s)
8.3 Form Scrum Team	• Helps determine Scrum Team members • Helps develop a Collaboration Plan • Helps develop the Team Building Plan with Scrum Master(s)
8.4 Develop Epic(s)	• Creates Epic(s) and Personas
8.5 Create Prioritized Product Backlog	• Prioritizes items in the Prioritized Product Backlog • Defines Done Criteria and meets the Definition of Ready
8.6 Conduct Release Planning	• Creates Release Planning Schedule • Helps determine Length of Sprint
9.1 Create User Stories	• Accountable for creation of User Stories • Defines Acceptance Criteria for every User Story
9.2 Estimate User Stories	• Clarifies User Stories
9.3 Commit User Stories	• Works with Scrum Team to commit User Stories
9.4 Identify Tasks	• Explains User Stories to the Scrum Team while creating the Task List
9.5 Estimate Tasks	• Provides guidance and clarification to the Scrum Team in estimating effort for tasks
9.6 Update Sprint Backlog	• Clarifies requirements for the Scrum Team while the team is creating the Sprint Backlog
10.1 Create Deliverables	• Clarifies business requirements to the Scrum Team
10.3 Refine Prioritized Product Backlog	• Refines Prioritized Product Backlog
11.1 Demonstrate and Validate Sprints	• Accepts/rejects deliverables • Provides necessary feedback to Scrum Master and Scrum Teams

	• Updates Release Plan and Prioritized Product Backlog
12.1 Ship Deliverables	• Helps deploy Product Releases and coordinate this with the customer
12.2 Retrospect Release	• May participate in Retrospect Release Meetings

Table 3-1: Responsibilities of the Product Owner in Scrum Processes

The other responsibilities of a Product Owner are:

- Determining the project's initial overall requirements and kicking off project activities; this may involve interaction with the Program Product Owner and the Portfolio Product Owner to ensure that the project aligns with the direction provided by senior management.
- Representing user(s) of the product or service with a thorough understanding of the user community
- Securing the initial and ongoing financial resources for the project.
- Focusing on value creation and overall Return on Investment (ROI).
- Assessing the viability and ensuring the delivery of the product or service.

The Product Owner may not always represent an external customer or business. For example, in an IT project, requirements, such as improving performance, scalability, testability, reliability, information security, and compliance may be owned by the technology groups inside the organization. Product Owners in such cases could also have roles such as technical architects, technical leads, etc.

3.3.1 Voice of the Customer (VOC)

As the representative of the customer and other business stakeholders, the Product Owner is said to be the Voice of the Customer. The Product Owner ensures that the explicit and implicit needs of the customer are translated into User Stories in the Prioritized Product Backlog and later on used to create project deliverables for the customer.

3.4 Scrum Master

The Scrum Master is the “supporting leader” of the Scrum Team who moderates and facilitates team interactions as team coach and motivator. The Scrum Master is responsible for ensuring that the team has a productive work environment by guarding the team from external influences, removing any obstacles, and enforcing Scrum principles, aspects, and processes.

Table 3-2 summarizes the Scrum Master’s responsibilities in the various Scrum processes.

Processes	Scrum Master Responsibilities
8.2 Identify Scrum Master and Business Stakeholder(s)	• Helps identify business stakeholders(s) for the project
8.3 Form Scrum Team	• Facilitates selection of members to the Scrum Team(s) • Facilitates creation of the Collaboration Plan and the Team Building Plan • Ensures back-up resources are available
8.4 Develop Epic(s)	• Facilitates creation of Epic(s) and Personas
8.5 Create Prioritized Product Backlog	• Helps Product Owner in creation of the Prioritized Product Backlog and in definition of the Done Criteria and meeting the Definition of Ready
8.6 Conduct Release Planning	• Coordinates creation of Release Planning Schedule • Helps Product Owner and Scrum Team to determine Length of Sprint
9.1 Create User Stories	• Facilitates creation of User Stories and their Acceptance Criteria
9.2 Estimate User Stories	• Facilitates meetings of the Scrum Team to estimate User Stories
9.3 Commit User Stories	• Facilitates meetings of the Scrum Team to commit User Stories
9.4 Identify Tasks	• Facilitates the Scrum Team in creating the Sprint Task List
9.5 Estimate Tasks	• Assists Scrum Team in estimating the effort required to complete the tasks agreed to for the Sprint
9.6 Update Sprint Backlog	• Assists Scrum Team in developing the Sprint Backlog and the Sprint Burndown Chart
10.1 Create Deliverables	• Supports Scrum Team in creating the deliverables agreed to for the Sprint • Helps update the Scrumboard and the Impediment Log
10.2 Conduct Daily Standup	• Ensures that the Scrumboard and the Impediment Log remain updated
10.3 Refine Prioritized Product Backlog	• Facilitates Prioritized Product Backlog Review Meetings
11.1 Demonstrate and Validate Sprints	• Facilitates presentation of completed deliverables by the Scrum Team for the Product Owner’s approval
11.2 Retrospect Sprint	• Ensures that ideal project environment exists for the Scrum Team in the succeeding Sprints
12.2 Retrospect Release	• Represents the Scrum Core Team to provide lessons from the current release

Table 3-2: Responsibilities of the Scrum Master in Scrum Processes

3.5 Scrum Team

The Scrum Team is sometimes referred to as the Development Team as they are responsible for developing the product, service, or any other result. It consists of a group of self-organized individuals who work on the User Stories in the Sprint Backlog to create the deliverables for the project. Table 3-3 summarizes the Scrum Team's responsibilities in the various Scrum processes.

Processes	Scrum Team Responsibilities
8.3 Form Scrum Team	• Provides inputs for creation of the Collaboration Plan and the Team Building Plan
8.4 Develop Epic(s)	• Ensures a clear understanding of Epics and personas
8.5 Prioritized Product Backlog	• Understands the Epics and User Stories in the Prioritized Product Backlog
8.6 Conduct Release Planning	• Agrees with other Scrum Core Team members on the Length of Sprint • Seeks clarification on new products or changes in the existing products in the refined Prioritized Product Backlog
9.1 Create User Stories	• Provides input to the Product Owner on creation of User Stories
9.2 Estimate User Stories	• Estimates User Stories approved by the Product Owner
9.3 Commit User Stories	• Commits User Stories to be done in a Sprint
9.4 Identify Tasks	• Develops Task List based on agreed User Stories and dependencies
9.5 Estimate Tasks	• Estimates effort for tasks identified and updates the Task List
9.6 Update Sprint Backlog	• Defines the User Stories and tasks to be included in the Sprint Backlog and tracked on the Sprint Burndown Chart
10.1 Create Deliverables	• Creates deliverables • Identifies risks and implements risk mitigation actions • Identifies impediments to be tracked on the Impediments Log
10.2 Conduct Daily Standup	• Updates Scrumboard throughout each Sprint • Discusses issues faced by individual members and seeks solutions to motivate the team
10.3 Refine Prioritized Product Backlog	• Participates in Prioritized Product Backlog Review Meetings
11.1 Demonstrate and Validate Sprints	• Demonstrates completed deliverables to the Product Owner for approval
11.2 Retrospect Sprint	• Identifies improvement opportunities from the current Sprint and agrees on any actionable improvements for the next Sprint
12.2 Retrospect Release	• Participates in the Retrospect Release Meeting

Table 3-3: Responsibilities of the Scrum Team in Scrum Processes

3.5.1 Personnel Selection

Figure 3-4 lists desirable traits for core Scrum roles, emphasizing collaboration, decision-making, leadership, adaptability, and communication skills.

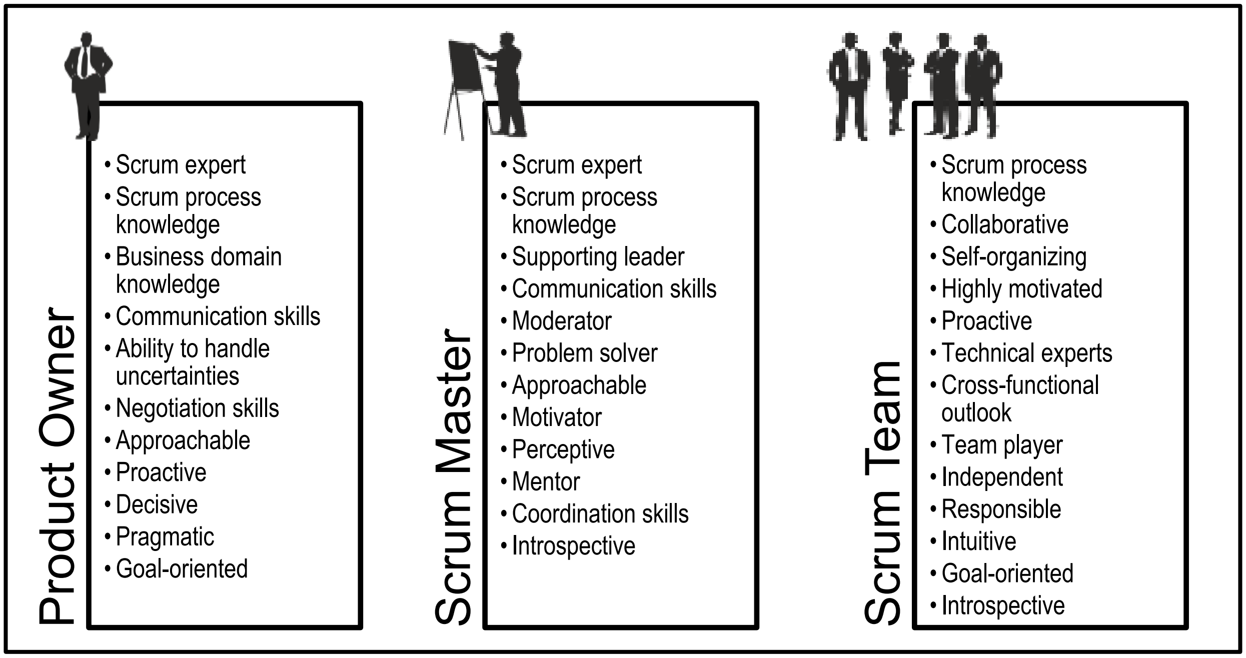


Figure 3-4: Desirable Traits for the Core Scrum Roles

3.5.2 Scrum Team Size

It is important for the Scrum Team to possess all the essential skills required to carry out the work of the project. It is also necessary to have an elevated level of collaboration to maximize productivity, so that minimal coordination is required to get things done.

The optimum size for a Scrum Team is six to ten members—large enough to ensure adequate skill sets—but small enough to collaborate easily. The goal is to have enough people on the team to get the work done but still stay small enough to have effective communication and collaboration within the team. There may be drawbacks to smaller team sizes. One potential drawback is that smaller teams are more significantly impacted by the loss of a team member than larger teams, even for a brief period of time. To address this problem, it may be possible for team members to have expert knowledge and skills outside their own specific role. However, this may be difficult and depends on the type of project, industry, and size of the organization. It is also recommended to have back-up people to replace any person who may have to leave the Scrum Team.

3.6 Scrum in Large Projects, Programs, and Portfolios

3.6.1 Making Scrum Work in a Large Project

The fundamental Scrum processes defined in chapters 8 through 12 are valid for Scrum projects with one Product Owner, one Scrum Master, and one to three Scrum Teams. These are usually considered small Scrum projects.

When dealing with large projects requiring the efforts of four or more Scrum Teams with multiple Product Owners and multiple Scrum Masters, the fundamental processes defined in chapters 8 through 12, remain valid, but some additional considerations and updates to inputs, tools, and outputs may be required. This may include additional coordination and synchronization efforts. The impacts to the fundamental Scrum processes when scaling Scrum to large projects are described in detail in chapter 13.

The definition of what constitutes a large project usually depends on the organization and/or the complexity of the projects being undertaken. A key criterion for whether a project is considered small versus large is whether the project requires multiple Scrum Masters and/or multiple Product Owners. If the project requires only one Scrum Master and one Product Owner, then these individuals can normally handle any additional communication and synchronization efforts required by the project.

Some reasons additional inputs, tools, and outputs would be needed for large projects are as follows:

Product Owners

- Need for collaboration between Product Owners when working with business stakeholders, refining the Prioritized Product Backlog, and working with multiple Scrum Teams

It is also important to note that as Scrum is scaled for large projects, additional supporting services may be needed such as architects, product managers, compliance, information security, governance bodies, and so on.

Scrum Masters

- Need for collaboration between Scrum Masters when addressing impediments and for synchronizing the work of the multiple Scrum Teams

Scrum Teams

- Increased interaction and dependencies among Scrum Teams as complexity increases for a large project
- Need to manage conflicts, resolve issues, and set priorities between the Scrum Teams
- Requirement for specialization as some Scrum Teams may require specialized resources for specific tasks (and these particular skill sets are not needed on all Scrum Teams)
- Necessity to define certain guidelines and standards that should be adhered to by all Scrum Teams (e.g., security standards within a company or legal and governmental guidelines for specific industries); these may be defined by the Scrum Guidance Body
- Requirement to set up an environment or working area for the large project, which would then be used by all Scrum Teams
- Need for coordinating the outputs from several Scrum Teams to facilitate the release of a large project

3.6.2 Additional Core Roles in a Large Project

When scaling Scrum to large projects, the following additional core roles may be needed:

3.6.2.1 Chief Product Owner

In the case of large projects with numerous Scrum Teams and multiple Product Owners, it is still necessary to have one single person who makes the day-to-day business decisions and has the role of Chief Product Owner. This role is responsible for coordinating the work of multiple Product Owners on a large Scrum project. With help from the Product Owners for each respective Scrum Team, the Chief Product Owner prepares and maintains the overall Prioritized Product Backlog and uses it to coordinate work top-down through the Product Owners of each Scrum Team. The Chief Product Owner is responsible for the final deliverables of the project, whereas the Product Owners of each team are responsible only for those deliverables being developed by their respective Scrum Teams.

In a large project, the Chief Product Owner will be tasked with prioritizing competing requests raised by the Product Owners of each Scrum Team based on their interactions with the business stakeholders. The complexity of this task increases with the increase in number of Scrum Teams and the number of Product Owners on the project. An important part of the complexity of this task is to ensure that the various components are properly integrated and at appropriate times. Therefore, it is imperative for the Chief Product Owner to develop a list of components and resources needed in common for all teams throughout the project. Although the Chief Product Owner makes the final business decisions, he or she collaborates with other Product Owners, the Chief Scrum Master, and the Scrum Masters to develop this list. The Chief Product Owner may also need to interface with a Program Product Owner to ensure alignment of the large project with the goals and objectives of the program.

Chief Product Owners should refer to the Roles Guide sections in the *SBOK® Guide* (see section 3.1.1) that define the role of the Product Owner. More detailed information about the role is presented in chapter 13, which describes Scaling Scrum for Large Projects.

3.6.2.2 Chief Scrum Master

Large projects require multiple Scrum Teams to work in parallel. Information gathered from one team may need to be appropriately communicated to other teams—the Chief Scrum Master is responsible for this activity.

The role of a Chief Scrum Master is necessary to ensure proper collaboration among the Scrum Teams. Coordination across various Scrum Teams working on a project is typically done through the Scrum of Scrums (SoS) Meeting (see section 13.3.5). There is no role hierarchy of Scrum Masters—they are all peers. The Chief Scrum Master works at a multi-team level, whereas the Scrum Masters each work at a single-team level.

Figure 3-5 is an interface from Vabro, showing a Kanban template with "Team" details. It features tabs for team selection, fields for assigning Kanban Manager and members, and a comment section with threaded replies, facilitating team collaboration and communication within a Kanban initiative.

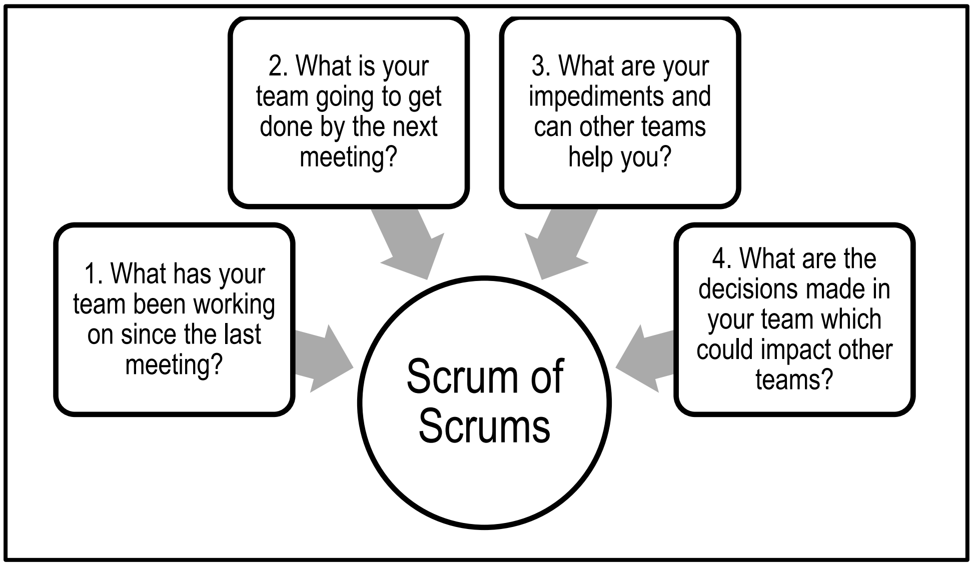

2. What is your team going to get done by the next meeting?
3. What are your impediments and can other teams help you?
1. What has your team been working on since the last meeting?
4. What are the decisions made in your team which could impact other teams?
Scrum of Scrums

Figure 3-5: Questions Asked during a Scrum of Scrums Meeting

Typically, any inter-team issues are addressed by the interested parties in a session immediately following the Scrum of Scrums Meeting. The Chief Scrum Master facilitates this session.

The Chief Scrum Master can be chosen from the Scrum Masters assigned to a Scrum Team on the large project or can be someone else. For very large projects, it is recommended to have a Chief Scrum Master who is not also a Scrum Master for an individual project because the effort required for the Chief Scrum Master’s role will prevent the Chief Scrum Master from also being able to dedicate enough time to the work with his/her Scrum Team. In either case, the Chief Scrum Master should have enough Scrum expertise to be able to foster collaboration and to help and coach others with the implementation of Scrum for a smooth delivery of the project’s products.

Apart from clearing impediments and ensuring a conducive project environment for the Scrum Teams, the Chief Scrum Master also collaborates with other Scrum Masters, the Chief Product Owner, and the Product Owners in activities such as developing the list of components and resources needed in common for all teams throughout the project. He or she facilitates everything that goes beyond the realm of a single Scrum Team.

The Chief Scrum Master also interfaces with the Program Scrum Master to ensure alignment of the large project with the goals and objectives of the program.

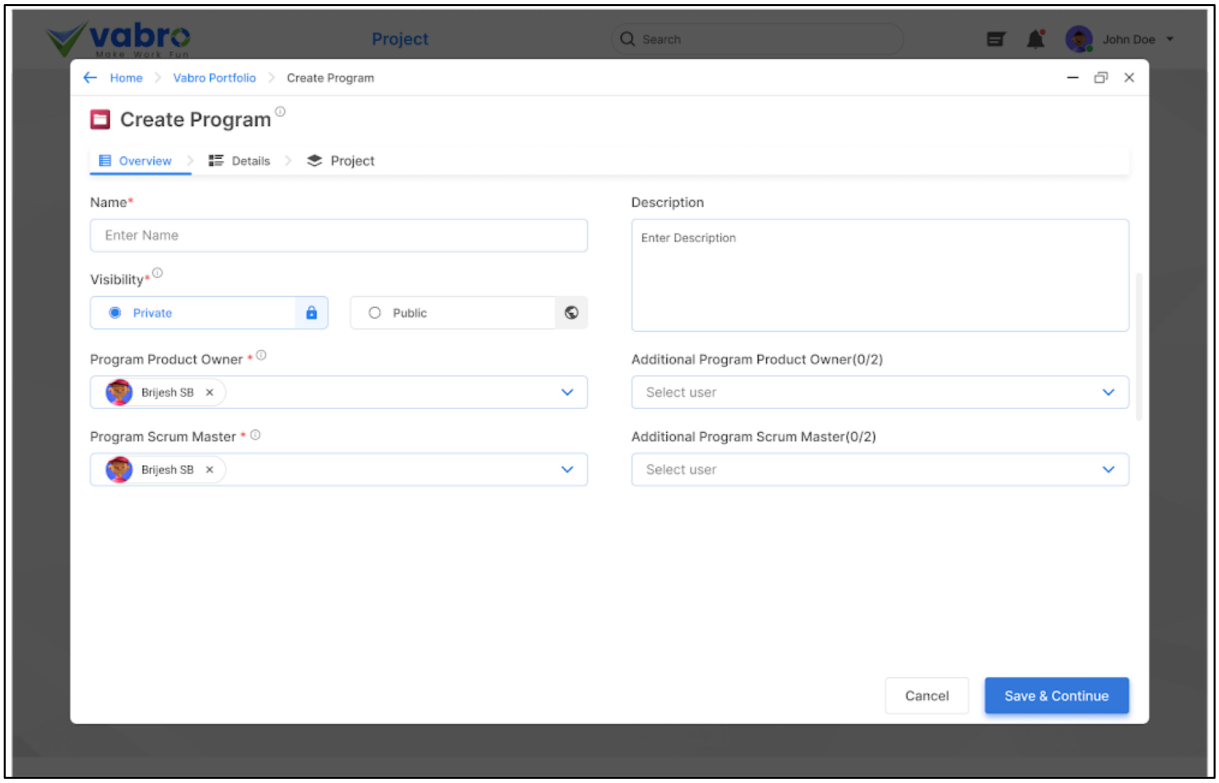
Chief Scrum Masters should refer to the Roles Guide sections of the *SBOK® Guide* (see section 3.1.1) that describe the role of the Scrum Master. More detailed information about the role is presented in chapter 13, which describes Scaling Scrum for Large Projects.

3.6.3 Making Scrum Work in an Enterprise Environment

Applying Scrum practices to projects that are part of an enterprise model involve an understanding of how an enterprise is set up and governed. This would typically be handled using programs and portfolios.

Program—A program is a group of related projects with the objective to deliver overall business outcomes as defined in the Program Vision Statement. The Prioritized Program Backlog incorporates the Prioritized Product Backlogs for all the projects in the program.

Figure 3-6 displays a "Create Program" interface in Vabro. It includes fields for program name, description, visibility (private/public), Program Product Owner, Scrum Master, and optional additional roles, with a "Save & Continue" button.



Name*
Enter Name

Description
Enter Description

Visibility*
● Private ○ Public

Program Product Owner *
Brijesh SB ×

Additional Program Product Owner(0/2)
Select user

Program Scrum Master *
Brijesh SB ×

Additional Program Scrum Master(0/2)
Select user

Figure 3-6: Create Program Interface (Source: Vabro)

Portfolio—A portfolio is a group of related programs and/or projects with the objective to deliver business outcomes as defined in the Portfolio Vision Statement. The Prioritized Portfolio Backlog incorporates the Prioritized Program Backlogs for all the programs in the portfolio and the Prioritized Product Backlog of the standalone projects that are a part of the portfolio.

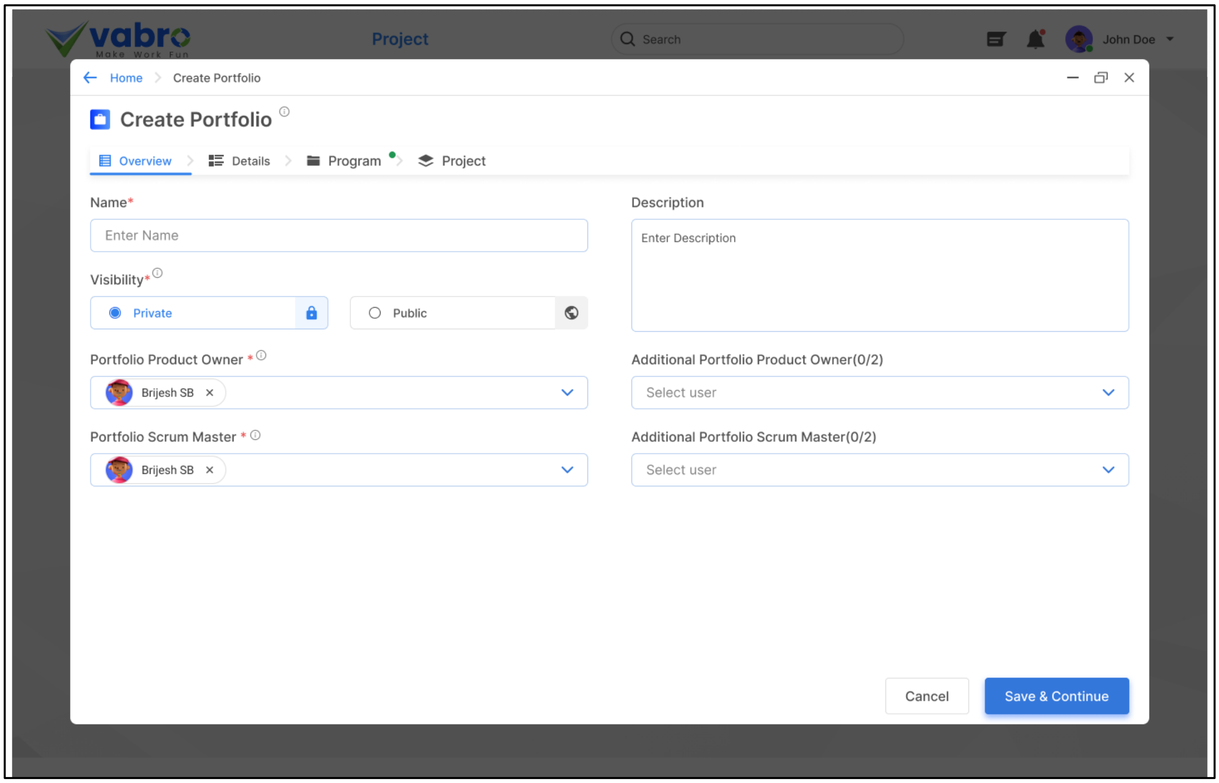
The problems and issues faced when using Scrum within a program or portfolio primarily involve coordination across numerous teams. This can lead to failure if not carefully managed. Tools used for communication need to be scaled to match the requirements of the many teams involved in a program or portfolio. Each Scrum Team must address not only internal communications, but also external communications with other teams and the relevant business stakeholders of the corresponding program or portfolio.

When applying Scrum to manage projects within the context of a program or portfolio, it is strongly recommended that the general principles of Scrum presented in this publication are adhered to. It is understood though, that in order to accommodate the overall program or portfolio activities and interdependencies, minor adjustments to the set of tools, as well as the organizational structure may be required. If the Scrum Guidance Body exists, it may be responsible to scrutinize the organization at different levels to understand and define the appropriate application of Scrum, and to act as a consulting body for everyone working on a project, program, or portfolio.

Programs and portfolios have separate teams with different sets of objectives. A program management team aims to deliver capabilities and to realize certain goals that contribute toward the achievement of the specific program objectives. In contrast, a portfolio team must balance the objectives of the various associated programs in order to achieve the strategic objectives of the organization as a whole.

It is important to note that as Scrum is scaled for the enterprise, additional supporting services may be needed such as architects, product managers, compliance, information security, governance bodies, and so on.

Figure 3-7 shows a “Create Portfolio” interface in the Vabro platform. It includes input fields for portfolio name, description, visibility (private/public), Portfolio Product Owner, Scrum Master, and optional additional users, with a “Save & Continue” button.



Create Portfolio

Name*
Enter Name

Visibility*
● Private ○ Public

Description
Enter Description

Portfolio Product Owner *
Brijesh SB ×

Additional Portfolio Product Owner(0/2)
Select user

Portfolio Scrum Master *
Brijesh SB ×

Additional Portfolio Scrum Master(0/2)
Select user

Figure 3-7: Create Portfolio Interface (Source: Vabro)

Chapter 14 presents detailed information regarding Scaling Scrum for the Enterprise.

3.6.4 Additional Core Roles in an Enterprise Environment

3.6.4.1 Program Product Owner

The Program Product Owner role is similar to that of the Product Owner role except that it aims to meet the needs of the program or business unit rather than the needs of a single Scrum Team.

The Program Product Owner defines the strategic objectives and priorities of a program. He or she is responsible for maximizing business value for the program by clearly articulating customer requirements and maintaining business justification for the program. The Program Product Owner also manages the Prioritized Program Backlog. He or she is responsible for and drives the creation and refining of deliverables at the program level, which requires coordination between the underlying projects in the program. The Program Product Owner is also responsible for coordinating with other Program Product Owners when other programs have shared dependencies and/or shared release plans.

The Program Product Owner also coordinates with the relevant Portfolio Product Owner to ensure that the program is aligned with the corresponding portfolio. The Program Product Owner interfaces with the Portfolio Product Owner to ensure alignment of the program with the goals and objectives of the portfolio. He or she is also involved with appointing Product Owners for each individual related project and ensuring that the vision, objectives, outcomes, and releases of the associated projects align with those of the program.

Program Product Owners should refer to the Roles Guide sections in the *SBOK® Guide* that define the role of the Product Owner. More detailed information about the role is presented in chapter 14, which describes Scaling Scrum for the Enterprise.

3.6.4.2 Portfolio Product Owner

The Portfolio Product Owner role is similar to the role of Product Owner and also the role of Program Product Owner except that it aims to meet the needs of the portfolio or business unit rather than the needs of a single Scrum Team or the needs of a program.

The Portfolio Product Owner makes decisions at the portfolio level. He or she will have the best perspective to help decide how to organize the enterprise to meet the vision. The Portfolio Product Owner is responsible for and drives the creation and refining of the Prioritized Portfolio Backlog.

Portfolio Product Owners should refer to the Roles Guide sections in the *SBOK® Guide* that define the role of the Product Owner. More detailed information about the role is presented in chapter 14, which describes Scaling Scrum for the Enterprise.

3.6.4.3 Program Scrum Master

The Program Scrum Master role is similar to that of the Scrum Master role except that it aims to meet the needs of the program or business unit rather than the needs of a single Scrum Team.

The Program Scrum Master is a facilitator who ensures that all project teams in the program are provided with an environment conducive to completing their projects successfully. The Program Scrum Master guides, facilitates, and teaches Scrum practices to everyone involved in the program; provides guidance to the Scrum Masters of individual projects; clears impediments for the different project teams; coordinates with the Scrum Guidance Body to define objectives related to quality, government regulations, security, and other key organizational parameters; and ensures that Scrum processes are being effectively followed throughout the program. He or she is a facilitator, solving problems, and removing impediments at the Program Level. At the same time, he or she is also responsible for the coordination between all projects in the program and for coordinating with other programs with shared dependencies or shared release plans.

The Program Scrum Master interfaces with the Portfolio Scrum Master to ensure alignment of the program with the goals and objectives of the portfolio. He or she is also involved with appointing Scrum Masters for individual projects and ensuring that the vision, objectives, outcomes, and releases of each project in the program align with those of the program.

Program Scrum Masters should refer to the Roles Guide sections in the *SBOK® Guide* that define the role of the Scrum Master. More detailed information about the role is presented in chapter 14, which describes Scaling Scrum for the Enterprise.

3.6.4.4 Portfolio Scrum Master

The Portfolio Scrum Master role is similar to the role of the Scrum Master except that it aims to meet the needs of the portfolio or business unit rather than the needs of a single Scrum Team.

Portfolio Scrum Masters should refer to the Roles Guide sections in the *SBOK® Guide* that define the role of the Scrum Master. More detailed information about the role is presented in chapter 14, which describes Scaling Scrum for the Enterprise.

3.6.5 Examples of Projects, Programs, and Portfolios

The following are examples of projects, programs, and portfolios from different industries and sectors:

Example 1: Construction Company

- Project—Construction of a house
- Program—Construction of a housing complex
- Portfolio—All the housing projects of the company

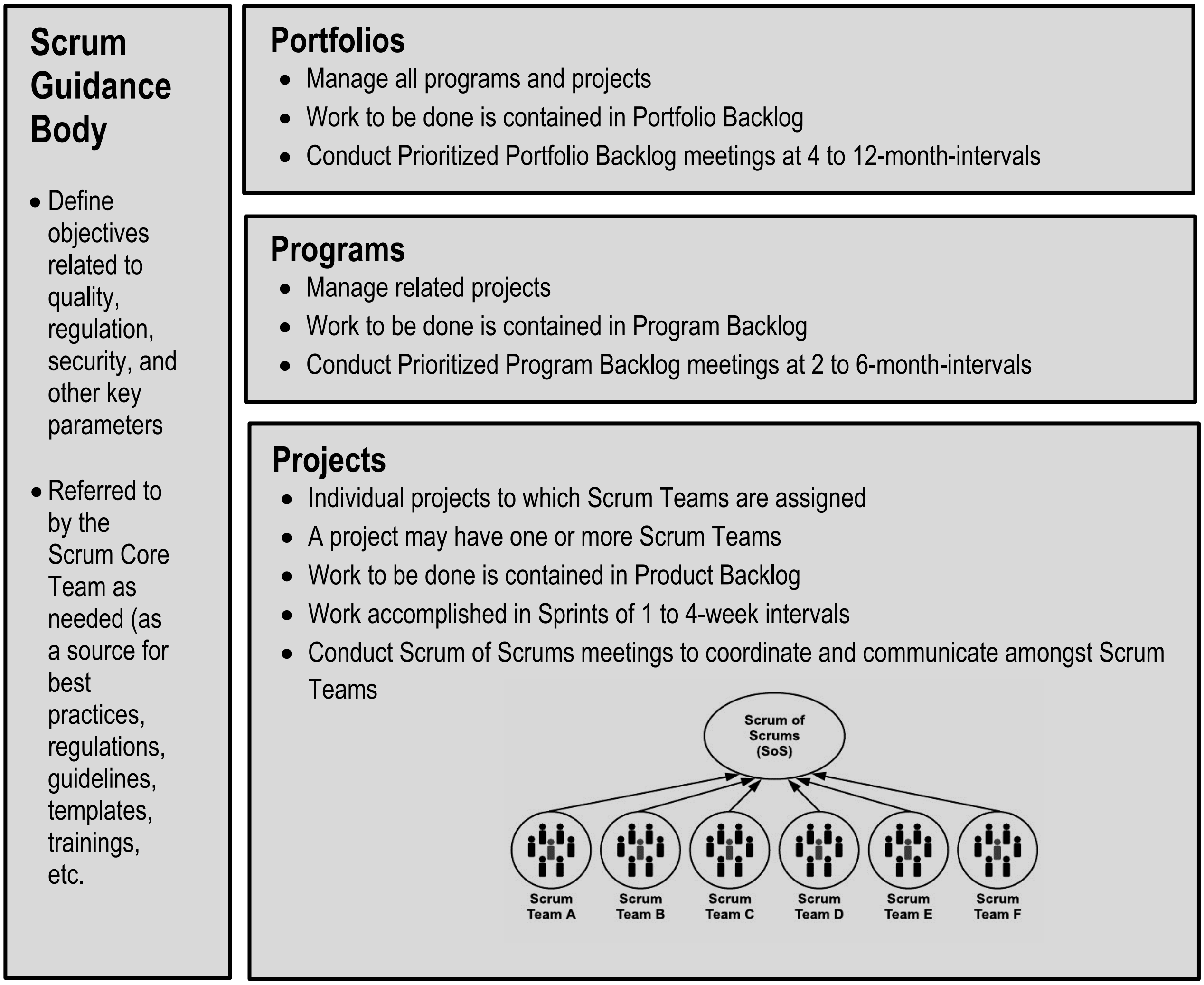
Example 2: Aerospace Organization

- Project—Building the launch vehicle
- Program—Successful launch of a satellite
- Portfolio—All the active satellite programs

Example 3: Information Technology (IT) Company

- Project—Development of the shopping cart module
- Program—Development of a fully functional ecommerce website
- Portfolio—All the websites developed by the company so far

Figure 3-8 shows questions typically asked during a Scrum of Scrums (SoS) meeting. It includes prompts related to dependencies, progress, and impediments for multi-team coordination.



Scrum Guidance Body

- Define objectives related to quality, regulation, security, and other key parameters
- Referred to by the Scrum Core Team as needed (as a source for best practices, regulations, guidelines, templates, trainings, etc.

Portfolios

- Manage all programs and projects
- Work to be done is contained in Portfolio Backlog
- Conduct Prioritized Portfolio Backlog meetings at 4 to 12-month-intervals

Programs

- Manage related projects
- Work to be done is contained in Program Backlog
- Conduct Prioritized Program Backlog meetings at 2 to 6-month-intervals

Projects

- Individual projects to which Scrum Teams are assigned
- A project may have one or more Scrum Teams
- Work to be done is contained in Product Backlog
- Work accomplished in Sprints of 1 to 4-week intervals
- Conduct Scrum of Scrums meetings to coordinate and communicate amongst Scrum Teams

Figure 3-8: Scrum across the Organization for Projects, Programs, and Portfolios

3.7 Summary of Responsibilities

Role	Responsibilities
Scrum Team	• Takes collective responsibility and ensures that the project deliverables are created as per requirements • Assures Product Owner and Scrum Master that the allocated work is being performed according to plan • Agrees Sprint duration with the Product Owner
Product Owner/ Chief Product Owner	• Creates the project's initial overall requirements and gets the project rolling • Helps appoint appropriate people to the Scrum Master and Scrum Team roles • Helps secure the initial and ongoing financial resources for the project • Determines Project Vision • Assesses the viability and ensures delivery of the product or service • Ensures transparency and clarity of Prioritized Product Backlog Items • Decides minimum marketable release content • Provides Acceptance Criteria for the User Stories to be developed in a Sprint • Inspects deliverables • Agrees Sprint duration with the Scrum Team(s)
Scrum Master/ Chief Scrum Master	• Ensures that Scrum processes are correctly followed by all team members including the Product Owner • Ensures that development of the product or service is progressing smoothly and the Scrum Team members have all the necessary tools to get the work done • Oversees Release Planning Meeting and schedules other meetings
Program Product Owner	• Defines the strategic objectives and priorities for programs
Program Scrum Master	• Solves problems and coordinates meetings for programs
Portfolio Product Owner	• Defines the strategic objectives and priorities for portfolios
Portfolio Scrum Master	• Solves problems and coordinates meetings for portfolios
Business Stakeholder(s)	• Is a collective term that includes customers, users, and sponsors • Frequently interface with the Product Owner, Scrum Master, and Scrum Team to provide them inputs and facilitate creation of the deliverables of the project.
Scrum Guidance Body	• Establishes overall guidelines and metrics for developing role descriptions for Scrum Team members • Acts as a consultant to projects across an organization at various levels • Understands and defines appropriate levels of grouping, roles, and meetings for Scrum projects

Table 3-4: Summary of Responsibilities Relevant to Organization

3.8 Scrum vs. Traditional Project Management

Organization structure and definition of roles and associated responsibilities are some of the areas where Scrum differs in a major way from traditional project management methods.

In traditional project management methods, the organization structure is hierarchical and authority for all aspects of the project: Scrum across the Organization for Projects, Programs, and Portfolios is delegated from higher level to lower (e.g., project sponsor delegates authority to project manager and the project manager delegates authority to team members). Traditional project management methods emphasize individual accountability for project responsibilities rather than group ownership or accountability. Any deviation from the delegated authority is looked at as a sign of issues and may be escalated to a higher level in the organization hierarchy. It is usually the project manager who is responsible for successful completion of the project and he or she takes decisions on various aspects of the project, including initiating, planning, estimating, executing, monitoring, and controlling, and closing.

The emphasis in Scrum is on self-organization and self-motivation where the team assumes greater responsibility in making a project successful. This also ensures that there is team buy-in and shared ownership. This, in turn, results in team motivation leading to an optimization of team efficiencies. The Product Owner, Scrum Master, and the Scrum Team work very closely with relevant business Stakeholder(s) for refining requirements as they go through the *Develop Epic(s)*, *Create Prioritized Product Backlog,* and *Create User Stories* processes. This ensures that there is no scope for isolated planning in Scrum. Team experience and expertise in product development are used to assess the inputs needed to plan, estimate, and execute project work. Collaboration among Scrum Core Team members ensures that the project is carried out in an innovative and creative environment that is conducive to growth and team harmony.

3.9 Popular HR Theories and their Relevance to Scrum

3.9.1 Tuckman's Model of Group Dynamics

The Scrum approach and method may initially seem quite different and difficult for a new Scrum Team. A new Scrum Team, like any other new team, evolves through a four-stage process during its first Scrum project. This process is known as Tuckman's Model of group dynamics (Tuckman, 1965). The main idea is that the four stages—Forming, Storming, Norming, and Performing—are imperative for a team to develop by mitigating problems and challenges, finding solutions, planning work, and delivering results. A Scrum Master should be aware of the stage that the Scrum team is in and help the team to become a better performing team.

The four stages of the model are the following:

1. **Forming**—This is often experienced as a fun stage because everything is new, and the team has not yet encountered any difficulties with the project.

2. **Storming**—During this stage, the team tries to accomplish the work; however, power struggles may occur, and there is often chaos or confusion among team members.

3. **Norming**—This is when the team begins to mature, sort out their internal differences, and find solutions to work together. It is considered a period of adjustment.

4. **Performing—**During this stage, the team becomes its most cohesive, and it operates at its highest level in terms of performance. The members have evolved into an efficient team of peer professionals who are consistently productive.

Figure 3-9 is a diagram of Tuckman's Stages of Group Development, covering forming, storming, norming, performing, and adjourning stages of team evolution.

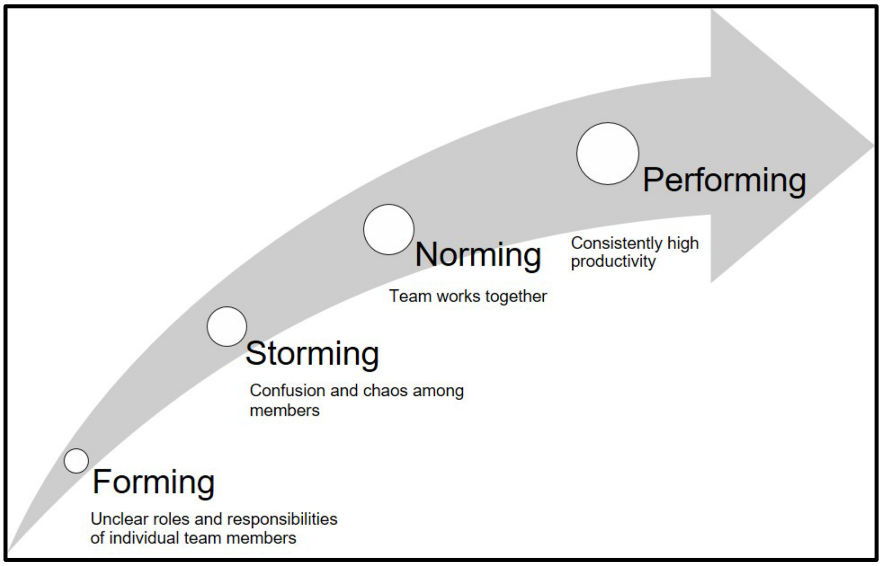

Performing
Consistently high productivity
Norming
Team works together
Storming
Confusion and chaos among members
Forming
Unclear roles and responsibilities of individual team members

Figure 3-9: Tuckman's Stages of Group Development

3.9.2 Conflict Management

Organizations applying the Scrum framework encourage an open environment and dialogue among employees. Conflicts among Scrum Team members are resolved independently, with little or no involvement from management or others outside the Scrum Team. Conflict can be healthy when it promotes team discussions and encourages debates, as this usually results in benefits for the project and the respective team members. It is therefore important that the resolution of conflicts be encouraged, promoting an open environment where team members feel welcome to express their opinions and concerns with each other and about the project, and agree on what is to be delivered and how the work in each Sprint will be performed. Team members use conflict management techniques to manage any conflicts that arise during a Scrum project. Sources of conflict evolve primarily due to schedules, priorities, resources, reporting hierarchy, technical issues, procedures, personality, and costs.

3.9.3 Conflict Management Techniques

Usually there are four approaches to managing conflict in an organization applying Scrum processes:

1. Win–Win
2. Lose–Win
3. Lose–Lose
4. Win–Lose

3.9.3.1 Win–Win

It is usually best for team members to face problems directly with a cooperative attitude and an open dialogue to work through any disagreements to reach consensus. This approach is called *Win-Win*. Organizations implementing Scrum should promote an environment where employees feel comfortable to openly discuss and confront problems or issues and work through them to reach Win-Win outcomes.

3.9.3.2 Lose–Win

Some Team members may at times feel that their contributions are not being recognized or valued by others, or that they are not being treated equally. This may lead them to withdraw from contributing effectively to the project and agree to whatever they are being told to do, even if they disagree. This approach is called Lose-Win. This situation may happen if there are members in the team (including managers) who use an authoritative or directive style of issuing orders and/or do not treat all team members equally. This approach is not a desired conflict management technique for Scrum projects, since active contribution of every member of the team is mandatory for successful completion of each Sprint. The Scrum Master should encourage the involvement of any team members who are withdrawing from conflict situations. For example, it is important for all team members to speak and contribute at each Daily Standup Meeting so that any issues or impediments can be made known and managed effectively.

3.9.3.3 Lose–Lose

In conflict situations, team members may attempt to bargain or search for solutions that bring only a partial degree or temporary measure of satisfaction to the parties in a dispute. This situation could happen in Scrum Teams where team members try to negotiate for suboptimal solutions to a problem. This approach typically involves some “give and take” to satisfy every team member—instead of trying to solve the actual problem. This results in an overall *Lose-Lose* outcome for the individuals involved and consequently the project. The Scrum Team should be careful to ensure that team members do not get into a Lose-Lose mentality. Scrum Daily Standup and other Scrum meetings are conducted to ensure that actual problems get solved through mutual discussions.

3.9.3.4 Win–Lose

At times, a Scrum Master or another influential team member may believe he or she is a de facto leader or manager and try to exert their viewpoint at the expense of the viewpoints of others. This conflict management technique is often characterized by competitiveness and typically results in a *Win-Lose* outcome. This approach is not recommended when working on Scrum projects, because Scrum Teams are by nature self-organized and empowered, with no one person having true authority over another team member. Although the Scrum Team may include people with various levels of experience and expertise, every member is treated equally, and no person has the authority to be the primary decision maker.

3.9.4 Leadership Styles

Leadership styles vary depending on the organization, the situation, and even the specific individuals and objectives of the Scrum project. Some common leadership styles are as follows:

- **Supporting Leadership—**Leaders employ listening, empathy, commitment, and insight while sharing power and authority with team members. Supporting leaders are stewards who achieve results by focusing on the needs of the team. This style is the embodiment of the Scrum Master role.

- **Delegating**—Delegating leaders are involved in the majority of decision making; however, they delegate some planning and decision-making responsibilities to team members, particularly if they are competent to handle the assigned tasks. This leadership style is appropriate in situations where the leader is in tune with specific project details, and when time is limited.

- **Autocratic**—Autocratic leaders make decisions on their own, allowing team members little, if any involvement or discussion before a decision is made. This leadership style should only be used on rare occasions.

- **Directing**—Directing leaders instruct team members which tasks are required when they should be performed and how they should be performed.

- **Laissez Faire**—With this leadership style, the team is left unsupervised, so the leader does not interfere with their daily work activities. Often this style leads to a state of anarchy.

- **Coaching**—Coaching leaders issue instructions and then monitor team members through listening, assisting, encouraging, and presenting a positive outlook during times of uncertainty.

- **Task-Oriented**—Task-oriented leaders enforce task completion and adherence to deadlines.

- **Assertive**—Assertive leaders confront issues and display confidence to establish authority with respect.

3.9.4.1 Supporting Leadership

The preferred leadership style for Scrum projects is Supporting Leadership. Larry Spears identifies ten traits that every effective leader should possess:

1. **Listening**—Leaders are expected to listen intently and receptively to what is being said or not said. They are able to get in touch with their inner voice to understand and reflect on their own feelings.

2. **Empathy**—Good leaders accept and recognize individuals for their special and unique skills and abilities. They assume workers have good intentions and accept them as individuals, even when there are behavioral or performance issues.

3. **Healing**—The motivation and potential to heal oneself and one's relationship with others is a strong trait of leaders. Leaders recognize and take the opportunity to help their colleagues who are experiencing emotional pain.

4. **Awareness**—Awareness and particularly self-awareness is a trait of leaders. This allows them to better understand and integrate issues such as those related to ethics, power, and values.

5. **Persuasion**—Leaders use persuasion, rather than their positional authority to gain group consensus and make decisions. Rather than forcing compliance and coercion as is typical in some authoritarian management styles, leaders practice persuasion.

6. **Conceptualization**—The ability to view and analyze problems (in an organization) from a broader conceptual and visionary perspective, rather than focusing on merely the immediate short-term goals, is a unique skill of good leaders.

7. **Foresight**—Their intuitive minds allow leaders to use and apply past lessons and present realities to foresee the outcome of current situations and decisions.

8. **Stewardship**—Stewardship demands a commitment to serving others. Leaders prefer persuasion over control to ensure that they gain the trust of others in the organization.

9. **Commitment to the growth of others**—Leaders have a deep commitment to the growth of people within their organization. They take on the responsibility of nurturing the personal, professional, and spiritual growth of others (e.g., providing access to resources for personal and professional development, encouraging workers to participate in decision making).

10. **Building community—**Leaders are interested in building communities within a working environment, particularly given the shift in societies away from smaller communities to large institutions shaping and controlling human lives.

Scrum ideology supports the belief that all leaders of Scrum projects (including the Scrum Master and the Product Owner) should be supporting leaders who have all the above traits.

3.9.5 Theory X, Theory Y, and Theory Z

Douglas McGregor (1960) proposed two management theories:

- **Theory X—**Theory X leaders assume employees are inherently unmotivated and will avoid work if possible, warranting an authoritarian style of management.
- **Theory Y—**Theory Y leaders, on the other hand, assume employees are self-motivated and seek to accept greater responsibility. Theory Y involves a more participative management style.

Abraham H. Maslow (1960) proposed Theory Z and William Ouchi (1980) provided another version of Theory Z, expanding upon Theory X and Theory Y:

- **Theory Z—**In Maslow's version, Theory Z leaders assume that employees are motivated by harnessing their drive for self-transcendence without ignoring their motivations related to the hierarchy of needs. In Ouchi's version, Theory Z leaders assume that employees can be motivated by promoting stability through job security, high morale, and satisfaction both on and off the job.

Scrum projects are not likely to be successful with organizations that have Theory X leaders in the roles of Scrum Master or Product Owner. All leaders in Scrum projects should subscribe to a Theory Y and Theory Z belief system, whereby the leaders view team members as important assets in the organization and support developing each team member's skills and empowering him or her by expressing appreciation for the work he or she has completed to accomplish the project objectives.

The Essential Guide to Successfully Deliver Projects using Scrum

A Guide to the Scrum Body of Knowledge (SBOK® Guide) provides comprehensive guidelines for the successful implementation of Scrum—the most popular Agile product development and project delivery approach. Defined in the SBOK® Guide as a flexible framework, Scrum can be applied to portfolios, programs, or projects of any size or complexity across industries to deliver products, services, or other results.

This Fifth Edition is based on the collective knowledge gained from thousands of projects across diverse organizations and industries. It reflects contributions from a large number of experts in Scrum and project delivery. Feedback from the global Scrum community played a vital role in shaping improvements and additions, making the SBOK® Guide a truly collaborative effort.

Unlike other Scrum references, the SBOK® Guide is available for free on Scrumstudy.com, along with free certifications, webinars, videos, and study guides. It is ideal for professionals seeking a foundational understanding of Business Analysis or exploring careers in related fields. The Guide addresses real-life challenges faced by Scrum practitioners and explains how to solve them using modern tools and Artificial Intelligence (AI).

Designed to be accessible and engaging, the SBOK® Guide follows the 80-20 rule—80% of key concepts can be learned by reading just 20% of the content, with the remainder available for deeper reference. It is more readable than most Scrum books, which are often either too simplistic or overly detailed.

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