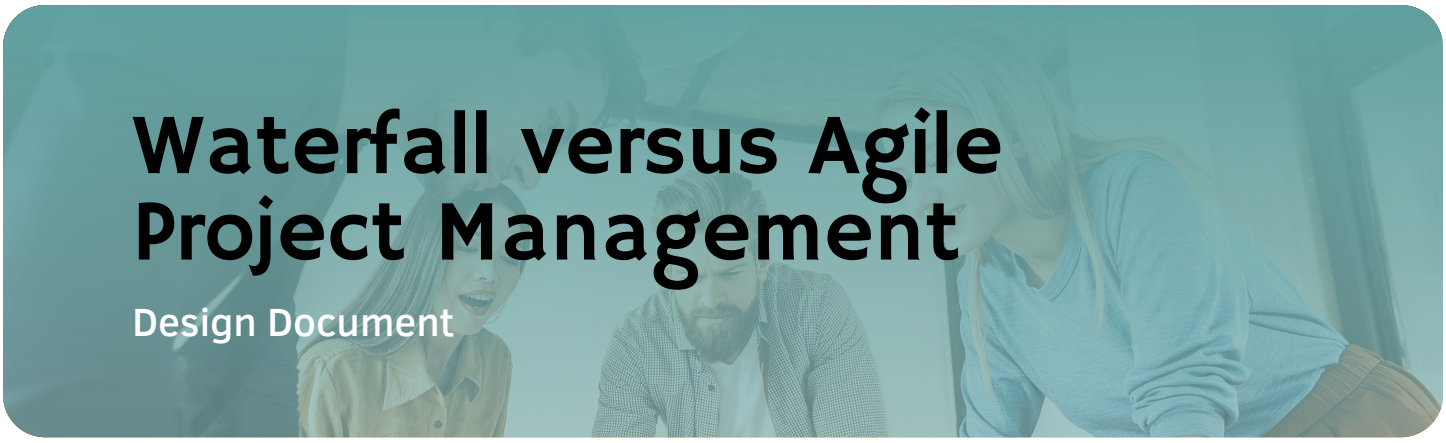


Waterfall versus Agile Project Management

Design Document

Designer	SME
Angelica Molocea	-

Course Description

This course provides a comprehensive comparison between Waterfall and Agile project management methodologies. Learners will explore the definitions, advantages and disadvantages of each approach, enabling them to choose the most suitable methodology for their projects.

Prerequisite: Learners to have previous knowledge related to Agile and Waterfall methodologies.

Brief Course Description

This course compares Waterfall and Agile Methodologies, highlighting their pros and cons to help learners choose the best approach for their projects.

Course Objectives

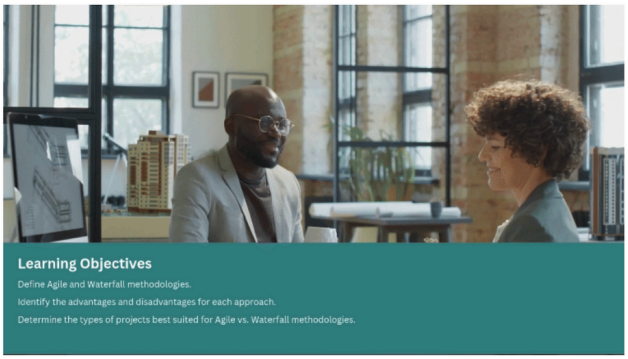
- Define Agile and Waterfall methodologies.
- Identify the advantages and disadvantages for each approach.
- Determine the types of projects best suited for Agile vs. Waterfall methodologies

Introduction

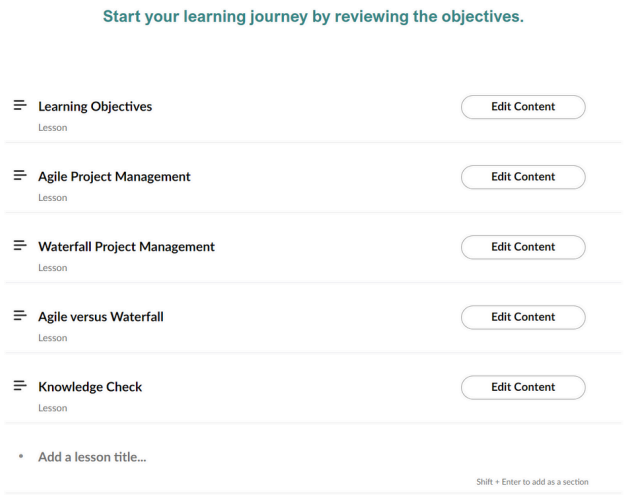
Content Block #: **1**	Title: **Introduction**

Learning Objective: **N/A**	LXD Design Ideas: **Use Rise cover, Start Course button included.**
Waterfall vs Agile Project Management *Start course (button)*	

Content Block #: **2**	Title: **Learning Objectives**

Learning Objective: **N/A**	LXD Design Ideas: **Use animated video to display Learning Objectives.**
Learning Objectives - Define Agile and Waterfall methodologies. - Identify the advantages and disadvantages for each approach. - Determine the types of projects best suited for Agile vs. Waterfall methodologies.	

Content Block #: 3	Title: **Learning Objectives**

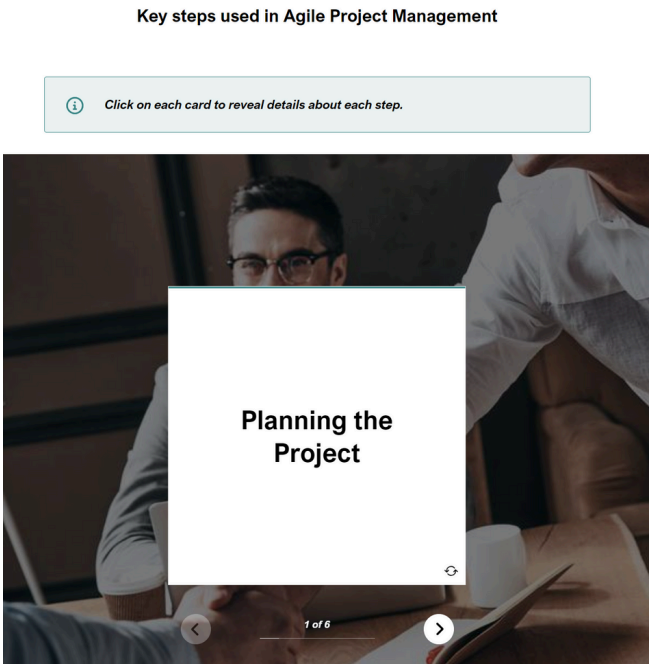
Learning Objective: **Describe the structure of the Course.**	LXD Design Ideas: **Select each module to learn more. Learner needs to visit each Module in order to be able to move to the next one.**
The Course is composed of three modules. Learners need to visit each module. **The Structure of Course is the following:** • Learning Objectives • Agile Project Management • Waterfall Project Management • Agile versus Waterfall • Knowledge Check *Select each module to learn more.*	

Agile Project Management

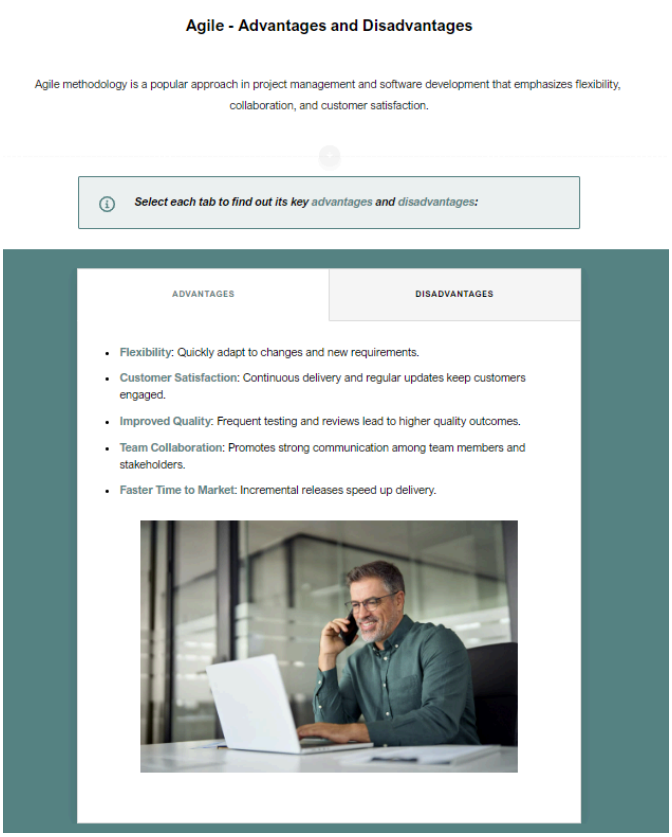
Content Block #: **4**	Title: **Agile Project Management**

Learning Objective: **Define Agile Project Management.**	LXD Design Ideas: **Use intro video for the title, add text block to display the Agile Project Management definition**
Agile Project Management Agile project management is a flexible and collaborative approach that breaks down **larger projects into smaller**, **more manageable tasks** and **shorter time frames** known as **sprints or iterations**. This method has gained popularity in recent years as teams seek to address project management challenges with greater adaptability and responsiveness.	 Agile project management is a flexible and collaborative approach that breaks down **larger projects into smaller**, **more manageable tasks** and **shorter time frames** known as **sprints or iterations**. This method has gained popularity in recent years as teams seek to address project management challenges with greater adaptability and responsiveness.

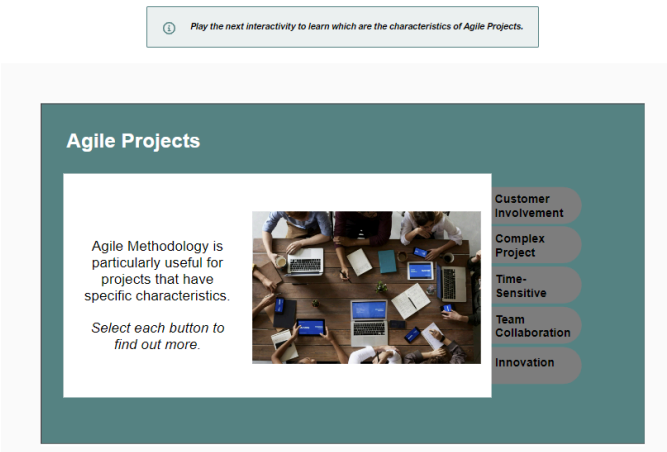
Content Block #: **5**	Title: **Use Process Block**

Learning Objective: **Describe key steps used in Agile project management.**	LXD Design Ideas: **Process Block**
Key steps used in Agile project management: 1. **Planning the Project**: Define the project's goals and value to ensure alignment with business objectives and stakeholder expectations. 2. **Creating the Product Roadmap**: Outline features and create a product backlog to prioritize tasks and guide development. 3. **Planning the Release**: Develop a high-level plan for feature releases to manage timelines and deliverables effectively. 4. **Planning the Sprint**: Hold sprint planning meetings to assign tasks and set goals for the upcoming sprint. 5. **Daily Stand-up Meetings**: Conduct short daily meetings to reassess progress, identify blockers, and adjust plans as needed. 6. **Sprint Review and Retrospective:** Reflect on the sprint process to identify successes and areas for improvement for future sprints.	

Content Block #: **6**	Title: **Key steps used in Agile project management**

Learning Objective: **Present what are the advantages and disadvantages for Agile usage.**	LXD Design Ideas: **Use text block and Accordion Block**
Agile – Advantages and Disadvantages Agile methodology is a popular approach in project management and software development that emphasizes flexibility, collaboration, and customer satisfaction. Select each tab to find out its key advantages and disadvantages: **Advantages** 1. **Flexibility**: Quickly adapt to changes and new requirements. 2. **Customer Satisfaction**: Continuous delivery and regular updates keep customers engaged. 3. **Improved Quality**: Frequent testing and reviews lead to higher quality outcomes. 4. **Team Collaboration**: Promotes strong communication among team members and stakeholders. 5. **Faster Time to Market**: Incremental releases speed up delivery. **Disadvantages** 1. **Lack of Predictability**: Challenging to predict timelines and costs. 2. **Customer Dependency**: Requires constant feedback and involvement. 3. **Scaling Challenges**: Harder to implement in larger teams or complex projects. 4. **Documentation Issues**: Focus on working software can lead to gaps in records. 5. **Scope Creep**: Continuous changes can lead to uncontrolled expansion if not managed properly.	

Content Block #: **7**	Title: **Use text Block and Storyline interractivity**

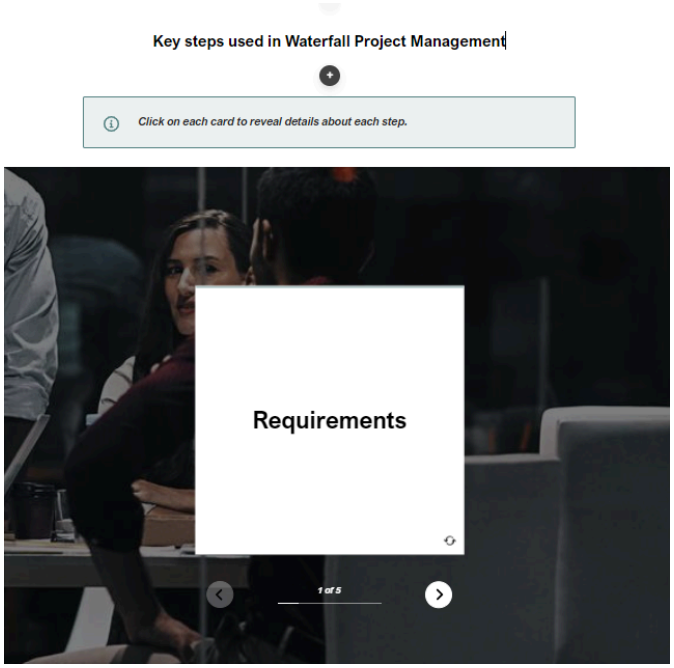
Learning Objective: **Explain to which type of projects Agile Project Management can be applied.**	LXD Design Ideas: **Storyline Interactivity, Click and reveal.**
Agile Methodology is particularly useful for projects that have the specific characteristics ***Select each button to find out more.*** • **Customer Involvement**: Facilitates regular feedback and adjustments. • **Complex Projects**: Manages complexity through iterative development. • **Time-Sensitive**: Ensures early and frequent delivery of usable features. • **Team Collaboration**: Suits highly collaborative, cross-functional teams. • **Innovation**: Supports experimentation and pivoting based on what works best.	

Waterfall Project Management

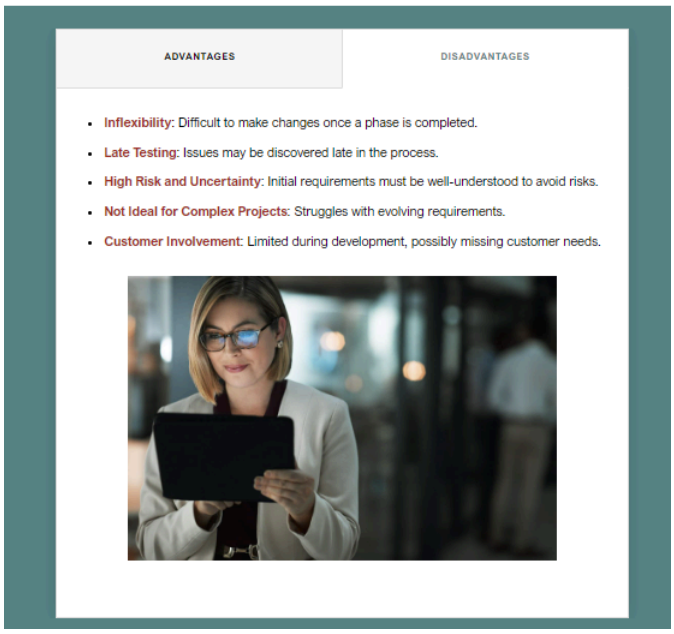
Content Block #: **8**	Title: **Waterfall Project Management**

Learning Objective: **Define Waterfall Project Management**	LXD Design Ideas: **Use intro video for the title, add text block to display the Waterfall Project Management definition.**
Waterfall methodology is a well-established project management workflow. Like a waterfall, each process phase cascades downward sequentially through five stages (requirements, design, implementation, verification, and maintenance). Once a phase is completed, it can be difficult and costly to revisit a previous stage.	 Add a caption Waterfall methodology is a well-established project management workflow. Like a waterfall, each process phase cascades downward sequentially through five stages (requirements, design, implementation, verification, and maintenance). Once a phase is completed, it can be difficult and costly to revisit a previous stage.

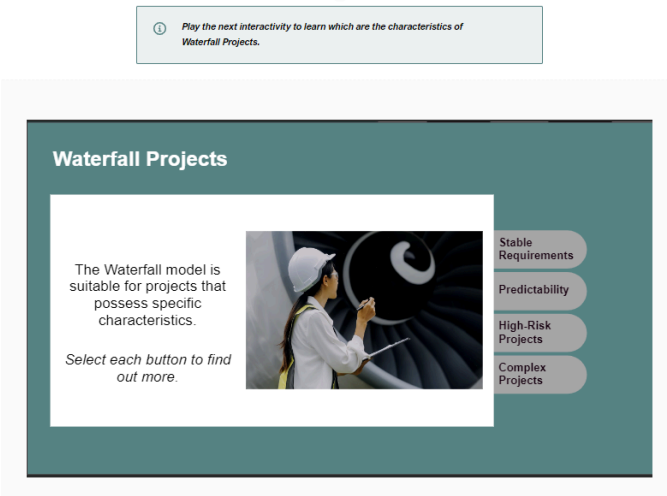
Content Block #: **8**	Title: **Key steps used in Waterfall Project Management**

Learning Objective: **Describe key steps used in Waterfall project management.**	LXD Design Ideas: **Process Block**
Key steps used in Waterfall project management: • **Requirements**: Gather and document all project requirements at the beginning. • **Design**: Develop the system architecture and design based on the requirements. • **Implementation**: Code and build the project according to the design. • **Verification**: Test the project to ensure it meets the specified requirements. • **Maintenance**: Provide ongoing support and maintenance after the project is deployed.	

Content Block #: **9**	Title: **Waterfall – Advantages and Disadvantages**

Learning Objective: **Present what are the advantages and disadvantages for Agile usage.**	LXD Design Ideas: **Use text block and Accordion Block**
Waterfall – Advantages and Disadvantages The Waterfall Model is a traditional project management methodology that follows a linear and sequential approach. Here are some of its key advantages and disadvantages: **Advantages** • **Clear Structure**: Straightforward and sequential, maintaining order and discipline. • **Defined Requirements**: Well-documented from the start, reducing ambiguity. • **Easy to Manage**: Rigid structure with specific deliverables and review processes. • **Documentation**: Emphasis on clear records for future reference. • **Milestones and Deadlines**: Helps in planning and executing within a timeframe. **Disadvantages** • **Inflexibility**: Difficult to make changes once a phase is completed. • **Late Testing**: Issues may be discovered late in the process. • **High Risk and Uncertainty**: Initial requirements must be well-understood to avoid risks. • **Not Ideal for Complex Projects**: Struggles with evolving requirements. • **Customer Involvement**: Limited during development, possibly missing customer needs.	

Content Block #: **10**	Title:

Learning Objective: **Explain to which type of projects can be applied Agile methodology.**	LXD Design Ideas: **Storyline Interactivity, Click and reveal.**
The Waterfall model is suitable for projects that possess specific characteristics. Select each button to learn more. • **Stable Requirements:** Ideal for projects with clear, unchanging requirements. • **Predictability:** Crucial for industries like construction, manufacturing, and aerospace. • **High-Risk Projects:** Suitable for defense or healthcare where rigorous testing is essential. • **Complex Projects:** Best for projects needing detailed design and coordination across stages.	

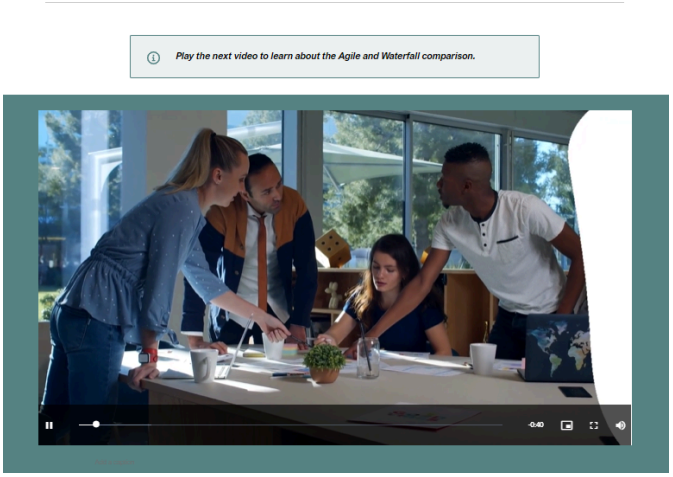
Agile versus Waterfall

Content Block #: **11**	Title: **Agile versus Waterfall**

Learning Objective: **Determine the types of projects best suited for Agile or Waterfall methodologies, based on category that is described.**	LXD Design Ideas: **Use intro video for the title, add text block to introduce the Agile and Waterfall comparison.**
One of the most critical components of project management is understanding various methodologies, their strengths and weaknesses, and knowing when those teachings are best applied.	 Add a caption One of the most critical components of project management is understanding various methodologies, their strengths and weaknesses, and knowing when those teachings are best applied.

Content Block #: **11**	Title:

Learning Objective: **Determine the types of projects best suited for Agile or Waterfall methodologies, based on each category.**	LXD Design Ideas: **Animated video.**

One of the most critical components of project management is understanding various methodologies, their strengths and weaknesses, and knowing when those teachings are best applied.
 	
● **Flexibility**:
  ○ **Agile**: Best for projects with evolving or unclear requirements. Agile Allows for flexibility and iterative progress.
  ○ **Waterfall**: Suitable for projects with well-defined stable requirements. Waterfall follows a linear and sequential approach.
● **Collaboration**:
  ○ **Agile**: Continuous collaboration and feedback among team members.
  ○ **Waterfall**: Limited collaboration, primarily at the beginning and end of phases.
● **Delivery**:
  ○ **Agile**: Frequent, incremental deliveries throughout the project.
  ○ **Waterfall**: Single, final delivery at the end of the project.
 	
Tools and Techniques
 	
Agile Project Management
 	
Tools:
 	
● Jira
● Trello
● Asana
● ClickUp
● Confluence
 	
Techniques:
 	
● Scrum
● Kanban
● XP
	

- Crystal
- DSDM

Waterfall Project Management

Tools:

- Microsoft Project
- Wrike
- Smartsheet
- Teamwork
- ClickUp

Techniques:

- Gantt Charts
- WBS
- Milestone Tracking
- CPM
- Requirements Documentation

Results:

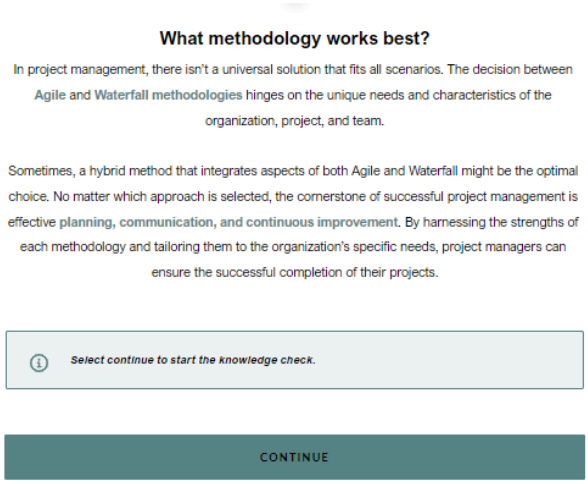
Agile:

- Success: 64%
- Failure: 9%

Waterfall:

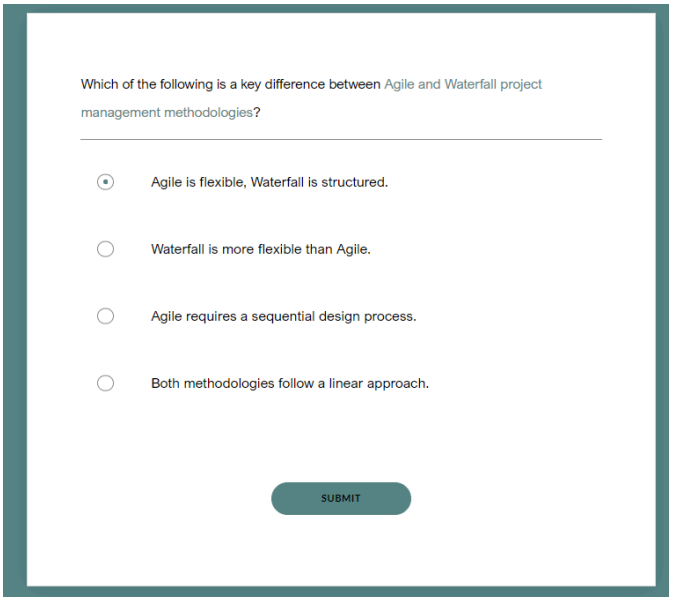
- Success: 49%
- Failure: 29%

Content Block #: **12**	Title: **What methodology works best?**

Learning Objective: **Evaluate and draw conclusions regarding Agile and Waterfall methodologies usage.**	LXD Design Ideas: **Text block; insert note for Knowledge check.**
In project management, there isn't a universal solution that fits all scenarios. The decision between **Agile** and **Waterfall methodologies** hinges on the unique needs and characteristics of the organization, project, and team. Sometimes, a hybrid method that integrates aspects of both Agile and Waterfall might be the optimal choice. No matter which approach is selected, the cornerstone of successful project management is effective **planning, communication, and continuous improvement**. By harnessing the strengths of each methodology and tailoring them to the organization's specific needs, project managers can ensure the successful completion of their projects.	

Knowledge Check

Content Block #: **13**	Title:

Learning Objective: **Highlight differences between Agile and Waterfall methodologies.**	LXD Design Ideas: **Multiple choice question**
Which of the following is a key difference between Agile and Waterfall project management methodologies? 1. Agile is flexible, Waterfall is structured. 2. Waterfall is more flexible than Agile. 3. Agile requires a sequential design process. 4. Both methodologies follow a linear approach. Feedback: 1. Agile allows for changes and iterations throughout the project, whereas Waterfall requires a sequential design process. 2. Waterfall is known for its rigid structure, making it less flexible compared to Agile. 3. Agile does not follow a sequential design process; it is iterative and allows for changes throughout the project. 4. Only Waterfall follows a linear approach, while Agile is iterative and flexible.	

Content Block #: **14**	Title:

Learning Objective: **Identify Waterfall methodology disadvantages.**	LXD Design Ideas: **Multiple choice question**
What is a significant disadvantage of the Waterfall Model? 1. It is highly flexible and adaptable to changes. 2. It requires extensive documentation. 3. It is difficult to make changes once the project is underway. 4. It encourages iterative development. Feedback: 1. This is incorrect. The Waterfall Model is known for its rigidity and difficulty in accommodating changes. 2. While extensive documentation is a characteristic of the Waterfall Model, it is not its most significant disadvantage. 3. Correct! The Waterfall Model's inflexibility makes it difficult to accommodate changes once the project is underway. 4. This is incorrect. The Waterfall Model follows a linear and sequential approach, not an iterative one.	